AN INTERPRETIVE EXPLORATION OF THE EXPERIENCES OF MOTHERS WITH OBESITY AND MIDWIVES WHO CARE FOR THE OBESE MOTHER DURING CHILDBEARING

Submitted in partial fulfilment for the award of Doctor of Philosophy

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June 2019

Abstract

Obesity, as defined as a BMI ≥ 30 (kg/m^2) had been established as a risk factor for increased morbidity and mortality during childbearing. There was a need for empirical research to explore the experiences of obese women and midwives during childbearing to stimulate debate and inform the delivery of care to this client group. This thesis provides a justification for a qualitative interpretivist study using semi-structured interviews with obese women and midwives.

This study found that once an obese mother has been placed on the high-risk medicalised pathway, her choices are reduced and the ability to bring a sense of agency and choice to promote and support her own health is limited. The relationship with the midwife, which could have been focused on promoting the health and wellbeing of mother and baby, instead becomes a relationship of managing risk in a reductionist way. This makes it harder for both mothers and midwives to raise the issue of obesity, resulting in a tendency not to deal with the issue. Subsequently, the opportunities for health promotion offered by the midwife-mother relationship sustained over 7 to 8 months are lost, so that encouraging self-understanding and self-help in managing and reducing obesity cannot be achieved.

The findings of this study suggest the need to enhance the health promotion role of the midwife. This thesis suggests reviewing the use of BMI, developing discussions about gestational weight gain and healthy lifestyle choices with women during antenatal care, and listening to mother's lay theories, perceptions and concerns around weight. Midwifery care, which uses positive discourses and forward-facing care approaches and supported by continuity of carer schemes and access to midwifery-led care, could enhance the midwife's health promotion role. This could lessen the risk of post-partum weight retention post-birth and enhance a new mother's physical and emotional well-being.

Acknowledgements

I would like to recognise a number of people without whom this thesis would never have been completed.

First, I would like to acknowledge the impact of my first-rate supervisory team. Dr Sally Ruane who has supplied consistent expertise, support, debate, patience and guidance; I remain in awe of your intellect and acumen. And Dr Tina Harris who is also a colleague, a brilliant midwifery academic and a dear friend; she has also provided unfailing and copious advice, expertise and support during this protracted journey. Your perspectives may differ, but this has enriched the journey and has always enhanced the debates during our tutorials. I thank you both.

Second, I would like to thank my family. My husband, Terence, has accompanied me on all my professional endeavours over the years and can consistently be relied upon to provide the voice of rationality when my confidence and drive deserts me. My brother, Cameron, who sadly died halfway through this journey, would have loved to have been the first to say, *"I told you that you could do this!"* I also hope to have been a role model for my sons, Christopher and Alexander, so they can see that anything is possible if you try hard enough!

Lastly, I would like to thank the mothers and the midwives who gave their precious time to tell me their stories and share their experiences and perspectives during their participation in this study. Their willingness to provide me with such rich data and their desire to improve and enrich the experience of others is both inspiring and humbling.

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Abbreviations

AMU: Alongside Midwifery Unit
BJM: British Journal of Midwifery
BMI: Body Mass Index – calculated and expressed as kg/m^2
CMO: Chief Medical Officer
CoC: Continuity of Carer – also known as relational continuity
DH/DoH: Department of Health
FMU: Free-standing Midwifery Unit
GWG: Gestational Weight Gain
ICM: International Confederation of Midwives
IoM: Institute of Medicine (US)
MBRRACE-UK: Mothers and Babies: Reducing Risk through Audits and Confidential Enquiries across the UK
NICE: National Institute for Health and Care Excellence
NMC: Nursing and Midwifery Council
PHE: Public Health England
RCM: Royal College of Midwives
RCOG: Royal College of Obstetrics and Gynaecology
RM: Registered Midwife; a healthcare professional regulated in the UK by the NMC
SoM: Supervisor of Midwives
SW: Slimming World© - a weight-loss commercial organisation
UK: United Kingdom
US: United States (of America)
WHO: World Health Organisation

Glossary of Terms

Alongside Midwifery Unit: a midwifery-led unit positioned alongside a consultant-led unit.

Cardiotocography (CTG): also known as electronic fetal monitoring. Uses technology to monitor and record the fetal heart and uterine contractions as part of antenatal and intrapartum care in high-risk care pathways.

Childbearing: a term denoting a period in a women's life covering pregnancy, birth and the postnatal period (usually from conception to 6 weeks post-birth). Childbearing age usually refers to women between 16-44 years.

Continuity of Carer: also known as relational continuity - a maternity system where the mother is cared for by a known midwife or small team of midwives.

Excessive Gestational Weight Gain: weight acquired by a mother during pregnancy, which is over and above gestational weight gain (see below).

Free-standing Midwifery Unit: a midwifery-led unit geographically situated away from a consultant-led unit.

Gestational Weight Gain: weight gained by a mother during pregnancy; this usually denotes weight gained through fetal development, maternal physiology changes e.g. uterine and breast development, and energy storage in readiness for labour and lactation.

Midwife: used to denote a midwifery practitioner, who is registered as a Registered Midwife (RN) with the Nursing and Midwifery Council (NMC) - a professional participant in this study.

Mother: used to denote a participant in this study.

Obesity: defined as a BMI ≥ 30 (kg/m^2) (WHO 2017a).

Obese Mother: used to refer to a woman who had a BMI ≥ 30 (kg/m^2) during childbearing.

Researcher: used to denote the PhD student who conducted the research detailed within this thesis.

Pre-Pregnancy Obesity: used to denote a woman who entered pregnancy already obese i.e. with a BMI ≥ 30 (kg/m^2).

Postpartum Weight Retention: used to denote gestational weight gain that is retained post-birth i.e. weight that is not lost following the birth of the fetus and the return of the woman's body to her pre-pregnancy state.

Senior Student Midwife: a final-year student on a pre-registration undergraduate midwifery programme at an Approved Educational Institution (AEI).

Supervisor of Midwives: an experienced midwife who had undergone a preparation course and was appointed by the LSA (local supervising authority) to support midwives and mothers. They had a role in protecting the public by promoting safe practice and investigating concerns of health, competence, behaviour or misconduct of midwives. Legislation changes resulted in midwifery supervision being removed from statute in 2017 (NMC 2017a).

Weight Stigma: this refers to the receiving of discrimination or stereotyping attitudes based on body weight. It has been shown to have a negative impact on an individual's psychological and physical health.

Chapter 1: Introduction

1.1 Introduction

The prevalence of obesity is rising across all the 'more economically developed countries' (MEDCs) i.e. United Kingdom (UK), North America, Europe and Australasia. The UK has obesity rates higher than the rest of Europe (Stephenson 2013), which has led to the problem of obesity becoming a high health-related priority of successive UK governments (CMO 2012; Wang et al 2011).

Within the NHS rising obesity levels adds extra pressures on already stretched resources (Van der Plight, Bick and Furber 2017). In 2016/17 there were an estimated 617,000 admissions to NHS hospitals where obesity was recorded as a factor and most occurred in the 35-64 years age group (National Statistics 2018a). It is estimated that overweight and obesity adds another £6.3 billion to the healthcare budget through direct medical costs of managing obesity-related disease and conditions and this is estimated to rise to £10 billion by 2050 (CMO 2012; Wang et al 2011). Obesity alone costs the NHS £3.9 billion and an annual economic loss of £47 billion, which is equivalent to 3% of the UK's gross domestic product (GDP) (McKinsey 2014). There are several reasons for these figures, such as the extra funds needed to manage the co-morbidities associated with obesity e.g. type-2 diabetes and cardiovascular disease and the provision of bariatric equipment, plus the provision of services targeted at treating obesity e.g. bariatric surgery. The loss to the economy is dependent on a rise in sick days through obesity-related illness and the loss of individuals from the workforce due to chronic ill-health. The provision of extra social care in later life also puts a strain on government expenditure (CMO 2012). Overweight and obese mothers are more likely to require extra resources through increased surveillance, investigations and the management of any pregnancy complications, which has been shown to result in significantly higher hospital costs, mainly through operative births, pre-term delivery and longer in-hospital stay (Solmi and Morris 2018). Infants of obese mothers have also been found to require extra healthcare resources during the first year of life through increased use of both inpatient and primary care services (Morgan et al 2015).

The incidence of obesity in childbearing age women reflects that of the general population, with rates increasing steadily across the UK population. Early reports from the National Maternity and Perinatal Audit (NMPA) show that in pregnancy fewer than half of all pregnant mothers have a normal BMI (47.3%) and just over a fifth (21.3%) have an obese BMI at booking (Blotkamp and Harris 2017; NMPA Project Team 2017). The increase in the number of obese mothers increases the risk of maternity complications and comorbidities associated with obesity, which adds to the resources needed to care for these mothers during childbearing and poses challenges for those professionals who care for them (NMPA Project Team 2017; RCM 2016; Robson 2013).

In the decade following the millennium several epidemiological reports highlighted the risk of obesity in childbearing on poor obstetric outcomes. Two Confidential Enquiry into Maternal and Child Health (CEMACH) reports highlighted obesity as a significant factor in maternal mortality (Lewis 2007; Lewis and Drife 2004) and a Perinatal Mortality Report in 2005 also found that obesity was a risk factor for stillbirth and neonatal death (CEMACH 2007). Several UK studies demonstrated a rise in cases of obesity during childbearing across several sites (Heslehurst et al 2007; Kanagalingam et al 2005). These reports initiated a plethora of research focusing on obstetric outcomes; however, the experiences of mothers and midwives were, at the time, largely missing from the literature. This study was intellectualised from the thought that there was a need to address this gap in the evidence.

The thesis will provide a justification for exploring obese women's experiences of childbearing and the experiences of the midwives involved in the care of obese mothers through a narrative review of the literature. It will outline the progress of a qualitative interpretivist study using semi-structured interviews to explore the experiences of a small group of obese mothers during childbearing and the experiences and perceptions of a small group of midwives experienced in caring for the obese mother. Through the interpretation of the data generated this study aims to provide original insights into the care of the obese mother, which can be used to scrutinise and potentially influence midwifery practice and maternity care provision.

This introductory chapter aims to provide the reader with the background in which this research study was conceptualised. It will begin by discussing obesity as a concept and provide an overview of obesity, including a discussion on current trends and causes of obesity and provide a critique the use of the Body Mass Index (BMI) to categorise body size and the diagnosis of obesity. It will then proceed to examine the concerns around pre-pregnancy obesity, the influence of gestational weight gain (GWG) and excessive GWG on pregnancy outcomes and the longer-term effects of any resulting postpartum weight retention. The chapter will then outline the NHS maternity service provision and the role of the NMC Registered Midwife. It will debate the concept of a risk-based approach to care provision and how this influences the range of services available for a mother with obesity during childbearing. The health promotion role of the midwife within the mother-midwife relationship will also be summarised within this chapter. Lastly, this introduction will provide an outline of the rest of the thesis.

1.1.1 Aims and Objectives of this Study

The overarching aim of this study was to capture, explore and interpret the experiences of obese mothers and the views of midwives who have experience of providing care for obese mothers during childbearing. There were several objectives expected of this study:

- First, the study would capture the experiences of obese mothers. The study would generate data on the mother's experiences of obesity and provide an understanding of the experiences of obese mothers during childbearing and her experience of the maternity services.

- Second, the study would capture the views and experiences of midwives who care for obese mothers during childbearing and provide an understanding of their experiences.

- Third, through the analysis of the data generated, the researcher would be able to contribute to theoretical and practice debates within academic and professional arenas. Implications for policy, including midwifery practice, would be identified and may influence future provision of maternity services and the practise of midwifery.

- ❖ Lastly, the study will identify areas worthy of further research.

1.2 Obesity

Obesity is defined as an abnormal accumulation of body fat: it is a medical term to describe a situation where an individual has accumulated excess body fat thought to have a significant negative effect on the person's health (WHO 2017a: Mills 2010). Obesity is considered to be one of the most important health problems in the UK; an individual's risk of significant morbidity and/or mortality is associated with their increasing weight, through the development of disease pathways directly attributable to obesity (Haslam and James 2005).

Obesity is an important risk factor in the development of disease; these include cardiovascular disease e.g. stroke, diabetes, weight-bearing conditions such as osteoarthritis and some cancers such as endometrial, breast, ovarian in women (WHO 2017b). Obesity has also been associated with the development of psychological disorders such as depression and anxiety (Hyungserk, Han and Kim 2017; Bjorngaard et al 2015; Zhao et al 2009). The risk of developing any of these diseases increases incrementally as the BMI increases (Haslam and James 2005). This sub-section will discuss obesity as a concept and provide an overview of obesity, including a discussion on current trends and causes of obesity and then provide a critique the use of the Body Mass Index (BMI) to categorise body size in the diagnosis of obesity.

1.2.1 Obesity - Rates and Trends

The rate of obesity in the adult population in the UK is increasing; in 1993 the rate of female obesity was 15%, while latest statistics state that the rate of obesity has doubled to a current high of 30% or 3 in 10 women in 2018: if you combine overweight with obesity i.e. a BMI ≥24.9 then the rate of obesity is 61.5% or 6 in 10 women (PHE 2019; National Statistics 2018b). This year-on-year increase is slowing, with overweight remaining static since the mid-nineties. The steepest rise in prevalence of obesity occurred during the nineties and again the prevalence of obesity is actually now slowing (National Statistics 2018b). Rates of normal weight and underweight are falling; currently, only 36.7% of women are classed as

having a normal BMI, with just 1.8% of women classed as underweight (PHE 2019; National Statistics 2018b). The UK has the greatest incidence of obesity when compared to the rest of Europe (Devlieger et al 2016).

During the childbearing years of a woman's life i.e. 16-44 years of age, the prevalence of obesity appears to be similar to those in the non-pregnant population with influencing variables of increasing age, increasing parity and social deprivation (PHE 2019; National Statistics 2018b). Rates of obesity during the childbearing years (18-44yrs) sees the incidence of obesity increasing with advancing age: from 20.4% between 16-24 years of age, to 26.6% between 25-34 years of age, rising to 28.4% between 35-44 years of age (PHE 2019; National Statistics 2018b). This makes overweight, obesity and fatness 'normal' within UK society, with the adult BMI distribution curve peaking at a BMI of around 25 for both men and women (National Statistics 2018b). This trend in the rate of obesity is estimated to rise to over 50% of women being classed as obese by 2050 (Butland et al 2007). Severe or morbid obesity i.e. a BMI equal to or greater than 40 is increasing more rapidly and is higher in women at 4% than in men at 2% (National Statistics 2018b). This is a tripling of morbid obesity rates since 1993 (PHE 2019) and studies have suggested there will continue to be a steady increase until 2035 (Keaver and Webber 2016).

The demographic characteristics between men and women show that men tend to be slightly more likely to have a BMI that puts them into overweight or obese categories, with higher rates in BAME groups, especially Black African, Black Caribbean and Pakistani ethnic groups (PHE 2019). However, between 16-24 years of age and >75 years of age, the prevalence is reversed with a higher prevalence of obesity in women than in men. In the UK obesity rates are also influenced by economic status and place of residence. For instance, 37% of women are obese in the West Midlands, compared to 25.4% in the South-West of England (PHE 2019). Obesity also increases with decreasing socio-economic status and decreases with rising educational attainment and social class (PHE 2019).

1.2.2 Obesity as a Concept

Obesity, as a concept, has evolved rapidly over the past few decades (de Vries 2007). Not that long ago being overweight was a subjective descriptor, now being overweight or obese

is not only an adjective used to describe a person's shape or size, it has a standardised measure i.e. the BMI tool and so has developed into a medicalised pathological state (Jutel 2006). By the end of the last century obesity discourse had changed from regarding obesity as a personal and private issue to becoming a public problem. Through pressure from the medical profession and public health researchers, obesity has become increasingly regarded as a disease process, focusing on the patho-physiological processes and becoming worthy of public policy (Jung 1997), finally leading the World Health Organisation (WHO) in 2000 to describe obesity as a disease (WHO 2002; WHO 2000). Obesity is currently considered to be a chronic, relapsing and progressive condition (Bray, Kim and Wilding 2017).

However, while obesity is linked with various diseases, obesity itself is not necessarily a disease (Friedman 2009; Gard and Wright 2005), although, especially with severe obesity, being obese increases an individual's risk of developing chronic diseases such as type 2 diabetes, arthritis, cancer and cardiovascular disease (Gluckman and Hanson 2012). There are many overweight and obese individuals who are well and lead happy and productive lives, just as there are many thin people who are ill; thinness itself is not afforded such a label, suggesting that the disease pathways are unclear as individuals with normal range BMI's also develop conditions such as type 2 diabetes, arthritis, cancer and cardiovascular disease (Gard and Wright 2005).

The WHO, however, states that obesity is a disease, because it contributes to ill-health. However, other 'conditions' such as poverty are not awarded such status. Within social science obesity is seen, by some, as being socially constructed as a disease, because obesity is considered abnormal in our current culture (de Vries 2007). Through the classification of obesity as a disease, the individual may be seen as less responsible for his/her obesity; this may reduce the stigma associated with obesity and offer possible treatments. However, obese individuals are often targeted by healthcare professionals and this may increase the risk of stigmatising encounters through engagement with health promotion strategies (O'Hara, Taylor and Barnes 2015).

The idea that obesity should be regarded as a disease has allowed for the growing medicalisation of obesity, where the obese individual is controlled and treated to reduce

their weight to acceptable ranges (Jutel 2006). Saguy and Riley (2005) argue that while the medicalisation of obesity may reduce individual blame, it does apply moral judgements on obese individuals and can lead to the development of eating disorders through the fixation on dieting, rather than the focus being on the development of healthy lifestyle behaviours for individuals and the creation of healthier communities. By naming obesity as a disease, it becomes legitimised and warrants concern and attention, but it may also be subject to exploitation for commercial profit, as seen within the burgeoning 'slimming market' (Jutel 2006). Labelling obesity as a disease may also lead to maternity care that is discriminatory and biased, resulting in psycho-social consequences for women during pregnancy (Deery and Wray 2009; Wickham 2009).

1.2.3 Causes of Obesity

At a basic level obesity is caused by an individual consuming a food energy intake that does not match energy expenditure and so the excess calories are stored as fat (Gluckman and Hanson 2012; Mills 2010). However, increasing evidence suggests that discrepancies between intake and output are not the only influences on the rates of obesity. Social scientists have observed increased rates of obesity in the lower socio-economic classes associated with poverty and deprivation, suggesting a politico-economic influence (Sellstrom et al 2009) and public health researchers have long recognised a range of interwoven social, psychological, physiological and genetic factors that have influence on the rates of obesity (Hruby et al 2016; Gluckman and Hanson 2012).

It has been suggested that we live in an obesogenic environment (Harrington and Elliott 2009; Butland et al 2007), where over the last few decades, there has been a rise in the number of fast food outlets, an increased abundance of processed foods, an increased consumption of sugars and carbohydrates and a decreased fibre intake, coupled with the constant availability of food, often with increased portion sizes (Gluckman and Hanson 2012). Changing social and family dynamics have also influenced the rates of obesity, with working mothers who may have less time to shop and cook and the requirement for two-incomes for instance (Chaput, Doucet and Tremblay 2012; Butland et al 2007). Evolution and the survival mechanisms have not kept up with the rapid advances in society (Gluckman and Hanson 2012). Also, as a species genetics and epigenetics play a significant role in

human propensity to store any excess calories, as well as how gender influences our basal metabolic rate (BMR) (Ng and Bowden 2013; Friedman 2009).

Increasing rates of obesity are considered to have been influenced by changes in exercise and physical activity. An obesogenic environment considers the impact that the urban landscape has on an individual's access to food and the ability to be physically active, such as the interconnection between the rise in car ownership, sedentary occupations and the lack of open spaces influencing activity levels (Chaput, Doucet and Tremblay 2012; Butland et al 2007). Statistics show that activity tends to diminish with increasing age, with a quarter of women being inactive as adults (National Statistics 2018a). This is influenced by ethnicity, with more exercise-related activity seen in white and mixed-ethnic groups. Less exercise-activity is observed in the lower socio-economic classes i.e. less in National Statistics Socio-Economic Classification (NS-SEC) 1-2 and more reported in NS-SEC 8 (PHE 2019; Ball and Crawford 2005).

Bogaerts et al (2013a) identified several sociodemographic trends that are associated with obesity in pregnancy that mirrors the non-pregnant data. In their study they found higher rates of raised BMI at 'booking' i.e. ≥ 30 (kg/m^2) are seen in mothers with lower educational attainment, a higher maternal age, increasing parity, belonging to a lower socio-economic class and within ethnic minority groups. However, increased rates of excessive GWG were seen in younger women i.e. < 24 years of age, in single mothers, in those with lower educational attainment and within ethnic minority groups. This, therefore, suggests similarities, but also differences between those mothers who enter pregnancy with a raised BMI and those mothers who are at risk of excessive GWG, both of which are at risk of exiting childbearing with a BMI within the obese category (Bogaerts et al 2013b).

This sub-section has outlined obesity as a concept and provided an overview of obesity, including a discussion on current trends and causes of obesity. The next sub-section will explore and critique the use of the Body Mass Index (BMI) to categorise body size in the diagnosis of obesity.

1.2.4 Body Mass Index (BMI)

Obesity is measured using the Body Mass Index (BMI) screening tool; a BMI score is ascertained by the calculation of weight in kilograms divided by the height in metres squared (kg/m^2) (WHO 2017a). A score of equal or greater than 30 (kg/m^2) would classify an individual as obese with three sub-divisions depending on the level of obesity (see table 1.1).

Table 1.1: The International Classification of adult underweight, overweight and obesity according to BMI (WHO 2017a)

Classification	BMI(kg/m²)	
	Principal cut-off points	Additional cut-off points
Underweight	**<18.50**	**<18.50**
Severe thinness	<16.00	<16.00
Moderate thinness	16.00 - 16.99	16.00 - 16.99
Mild thinness	17.00 - 18.49	17.00 - 18.49
Normal range	**18.50 - 24.99**	**18.50 - 22.99** **23.00 - 24.99**
Overweight	**≥25.00**	**≥25.00**
Pre-obese	25.00 - 29.99	25.00 - 27.49 27.50 - 29.99
Obese	**≥30.00**	**≥30.00**
Obese class I	30.00 - 34.99	30.00 - 32.49 32.50 - 34.99
Obese class II	35.00 - 39.99	35.00 - 37.49 37.50 - 39.99
Obese class III	≥40.00	≥40.00

The BMI tool was developed over 150 years ago as a way of measuring individuals' level of fatness (Gard and Wright 2005). It was based on a study of white Caucasian populations (Campbell and Haslam 2005). Since the 1970's it has been in common use to establish population-based categories and is used to influence public health policies (Nuttall 2015; NICE 2014a). It was originally designed to produce guidance to what was a healthy weight, by defining underweight and overweight. The basic categories of underweight, normal weight, overweight and obese were developed in 1995 and in 1997 obesity was sub-divided into class I obesity (30-34.9 kg/m^2), class II obesity (35-39.9 kg/m^2) and class III obesity (>40 kg/m^2). The subdivisions remain in place today, although the names may change. For instance a BMI ≥ 40 (kg/m^2) is often referred to as morbid obesity and the overweight BMI

category of between 25 to 29.9 (kg/m^2) has now been named pre-obesity – see table 1.1 (WHO 2017a) and, while it is part of an expected BMI distribution curve, is often amalgamated with obesity to demonstrate the gravity of the obesity problem (Nuttall 2015).

However, as a screening tool for individual fat mass, it is not particularly useful and is thought to be accurate in assessing body fat in no more than around 75% of cases at best (Chan and Woo 2010; Gard and Wright 2005). It does not account for variations in body fat, the amount of lean muscle and differences in bone density e.g. tall people have a lower risk of mortality when compared with a shorter person with the same BMI and as a population we are becoming taller with successive generations (Nuttall 2015). BMI does not differentiate between ethnic variations i.e. it has been shown that South Asian populations develop comorbid disease at a lower BMI than 30 (kg/m^2) and therefore the current thresholds for management may need adjusting (Campbell and Haslan 2005). Women have lower BMIs than men, yet their fat mass is greater than men, so BMI is not gender specific and does not take into account the effect of ageing on lean muscle and fat ratios (Siervo et al 2014; Nevill et al 2005).

The BMI classification is also limited in its effectiveness as a diagnostic tool, as it does not consider where an individual's fat is stored (Nuttall 2015). The distribution of body fat is thought to be a more significant indicator of future ill-health than BMI alone, as BMI fails to identify where in the body an individual has their fat deposits (Miazgowicz et al 2012). Visceral fat i.e. fat that is retained abdominally in a more android (male) pattern is thought to be more metabolically active and contributes to the development of 'metabolic syndrome', which is directly associated with cardiovascular disease and type 2 diabetes (Goncalves et al 2016; Gluckman and Hanson 2012; Miller and Mitchell 2006). Individuals with metabolic syndrome tend to have central obesity characterised by a waistline >80 cms, along with high triglycerides, raised blood pressure and raised fasting blood sugars, all of which results in increased insulin resistance and a pro-inflammatory state (Kaur 2014; Appel and Bannon 2007; Alberti, Zimmet and Shaw 2005). Women have a tendency to accumulate large amounts of fat during puberty; this is essentially oestrogen mediated and is focused in the peripelvic lower body. Fat in this area is less metabolically active, as it does not accumulate around the major organs (Nuttall 2015; Kaur 2014).

An increased level of visceral fat is thought to be more important than weight alone and is suggestive of a disordered glucose tolerance, which often leads to the development of medical complications attributed to obesity e.g. type 2 diabetes (WHO 2017b). However, calculation of waist to hip ratio, which is often used to assess visceral – abdominal – obesity, is inaccurate and cannot be used in pregnancy (Suchanek et al 2012). Other measurements that are considered useful in the appraisal of adiposity are the measurement of the waist-to-hip ratio and the waist-to-height ratio (Chan and Woo 2010) and assessing a person's Body Adiposity Index (BAI) is thought to provide a more accurate reflection of body composition (Suchanek et al 2012). Other technologies that can be used to determine the percentage of body fat and where the fat is accumulated are not routinely used and include skin-fold thicknesses, computed tomography (CT) and magnetic resonance imaging (MRI) scans of the abdomen (Nuttall 2015).

The relationship between BMI and mortality and morbidity is not clear, as it does not take into account genetic predisposition, family history and the presence of co-morbidities or lifestyle influences, when determining risk. The risks of morbidity and mortality are less for 'overweight' individuals i.e. individuals with a BMI between 25 – 30 (kg/m^2), than for individuals who have a BMI towards the lower end of the 'normal' classification i.e. with a BMI of 20 – 22 (kg/m^2) (Chan and Woo 2010; Schmidt and Salahudeen 2007; de Vries 2007), while a study by Barth et al (2017) found a decreased incidence of coronary heart disease in morbidly obese individuals.

Overweight and obese individuals who are active, but do not diet i.e. they maintain a static weight, are actually healthier in the long-term that those who have fluctuating weight or have lost weight through dieting (Sorensen et al 2005). Deery (2010) suggests that a well-nourished obese individual is healthier than a poorly nourished obese individual. All of these points highlight that there are many questions that still needs answering in order to provide individuals with evidence-based care, including a review of the evidence-base underpinning the categories of BMI. The effect of using the BMI classification on mothers and the influence on their experiences during childbearing has also been under-researched.

1.3 Obesity and Childbearing

Obesity in childbearing per se increases the risk of poor birth outcomes and these poor outcomes are directly attributable to maternal obesity (Poston et al 2016; Kriebs 2014; Scott-Pillai et al 2013; Chung et al 2013; Ruager-Martin et al 2010; Calloway et al 2006). This sub-section will examine the issues around entering pregnancy already obese i.e. with pre-pregnancy obesity, the concept of gestational weight gain (GWG) in pregnancy, the influence of excessive GWG on pregnancy outcomes and the effects of any resulting postpartum weight retention (see table 1.2).

Table 1.2: Key Terminology and their Meanings as Used in this Study

Criteria	Meaning
Pre-Pregnancy Obesity	Having a BMI ≥ 30 (kg/m^2) at conception i.e. entering pregnancy already obese. The mother may or may not already experience some health concerns/conditions attributed to obesity.
Gestational Weight Gain (GWG)	Weight gain which is attributed to the growth of the fetus, increase in uterine size, liquor volume and the physiological changes in pregnancy e.g. increases in plasma volume.
Excessive Gestational Weight Gain	Weight over and above that which is directly attributed to GWG; excessive gestational weight gain may result in a mother becoming obese during pregnancy, along with increased susceptibility to the risks associated with obesity during childbearing.
Post-partum Weight Retention	Post-partum weight retention is excessive gestational weight gain that is subsequently retained by the mother post-birth.

1.3.1 Pre-Pregnancy Obesity

Pre-pregnancy obesity is where a mother entering pregnancy is already obese i.e. a mother who has a BMI≥30 (kg/m^2) at conception. She has therefore already an increased risk of co-morbidity relating to obesity while non-pregnant and is entering pregnancy with established risk factors and in a potentially poorer state of health than a mother who has a BMI within the normal range, with a subsequent increased risk of pregnancy complications (Artal,

Lockwood and Brown 2010; Bianco et al 1998). Pregnancy complications are usually attributed to pre-pregnancy obesity (Poston 2017; Catalano 2007).

There is a plethora of quantitative studies, systemic reviews, prospective studies and case-control studies that have established a link between obesity, complications in pregnancy and birth and poorer birth outcomes (Poston et al 2016; Kriebs 2014; Scott-Pillai et al 2013; Chung et al 2013; Ruager-Martin et al 2010; Calloway et al 2006), although obesity alone is not associated with adverse perinatal outcomes (Sheiner et al 2004). This sub-section will provide a brief outline of the potential risks and complications involved when a mother enters pregnancy already with a BMI≥30 (kg/m^2).

Obesity causes a patho-physiological state, where inflammation and immune dysregulation results in raised levels of circulating inflammatory markers such as C - reactive protein and interleukin 6 and 8 (Zhang et al 2014). This is thought to explain the increased risks of developing co-morbidities such as diabetes and cardiovascular diseases. Pregnancy itself also alters the immune response and this coupled with the patho-physiology of obesity results in the development of pregnancy complications such as hypertensive disorders and gestational diabetes (GD) (Catalano and Shankar 2017a). The increased maternal insulin resistance in the obese mother results in hyperinsulinaemia, inflammation and oxidative stress. This contributes to placental dysfunction and results in the increased risk of complications seen throughout the childbearing episode and results in poorer pregnancy outcomes (Catalano and Shankar 2017a; Lim and Mahmood 2015; Schmatz et al 2010).

Obesity present prior to pregnancy can cause infertility in women. Wise et al (2010) conducted a prospective study on over 1600 women and found a significant delay in time-to-pregnancy with increasing body mass index. Once pregnant, maternal obesity increases the risk of spontaneous miscarriage and congenital anomalies (Catalano and Shankar 2017b; Jevitt 2009). Due to maternal physiological adaptations in pregnancy all mothers have increased insulin resistance; but this is accentuated in obese mothers, resulting in an increased risk of GD (Catalano and Shankar 2017a). GD is defined as glucose intolerance first appearing in pregnancy. It occurs in 1% of mothers but increases as BMI increases i.e. there is a 6.7% risk in obese mothers and a 9.3% risk in morbidly obese mothers (Chu et al 2007).

However, while an increased BMI has a low predictive value for GD (Thanoon, Gharaibeh and Mahmood 2015), obesity decreases the chances of achieving good glycaemic control and so obese mothers have an increased chance of a poor pregnancy outcome. One of the consequences of GD is fetal macrosomia, which increases the risk of shoulder dystocia, which in turn increases the risk of perinatal morbidity and mortality (Catalano and Shankar 2017b; Villamor and Cnattingius 2006). Fetal macrosomia is also particularly associated with not only a raised BMI, but also excessive gestational weight gain (GWG) (Zhao et al 2017; Bianco et al 1998).

Maternal obesity causes placental changes, which affect the development of maternal complications, such as hypertensive disorders of pregnancy (Poston et al 2016; Kerrigan and Kingdon 2010). The rate of hypertensive disorders in pregnancy is around 5-10% in normal weight women, but this increases to 15-30% in morbidly obese mothers (Jeyabalen 2014; Duckitt and Harrington 2005). Hypertensive conditions in pregnancy can cause fetal growth restriction and can affect the resilience of the fetus to withstand the stress of labour. Rates of venous thrombo-embolism (VTE) are also increased in obesity (Thanoon, Gharaibeh and Mahmood 2015), although multiparity is still the leading risk factor. Pregnancy is a hypercoagulable state, which increases a mother's risk; obesity increases the risk due to increased levels of immobility, impaired venous return due to increased adipose tissue and a more marked impact on clotting factors (Thanoon, Gharaibeh and Mahmood 2015). Pregnancy is also more prolonged in obese mothers (Catalano and Shankar 2017a; Bogaerts et al 2013a). The reasons for this observation are unclear, but is associated with lower levels of placental hormones such as corticotrophin-releasing hormone (CRH), which is synthesised by the placenta and cortisol, both of which are involved in the initiation of labour (Catalano and Shankar 2017a; Riley et al 1991). This leads to increased rates of induction of labour, with the resultant risks involved in artificially inducing parturition e.g. operative birth compounding the risks associated with obesity (Hermann et al 2015; Scott-Pillai et al 2013).

In labour obese mothers often experience dystocia due to fetal macrosomia and increased levels of adipose tissue in the pelvis impeding progress (Bogaerts et al 2013a). Active labour and the time to reach full cervical dilatation is almost two hours longer than in normal

weight mothers (Bogaerts et al 2013a; Nuthalapaty, Rouse and Owen 2004). This results in lower vaginal birth rates and an almost double operative birth rate; the latter is also riskier in mothers with obesity due to difficulties with the procedure and anaesthesia, excessive blood loss and higher rates of sepsis, as well as the subsequent risks of wound dehiscence and wound infection (Catalano and Shankar 2017a; Heslehurst et al 2007; Fraser and Chan 2003). Practical difficulties e.g. abdominal palpation and external cardiotocography are more difficult to undertake. In a population-based study conducted between 1988 and 2002 involving over 125,000 maternities, Sheiner et al (2004) concluded that maternity obesity is an independent risk factor for operative birth (Sheiner et al 2004).
There are higher rates of stillbirth and neonatal admissions in neonates of obese mothers (Scott-Pillai et al 2013; Kristensen et al 2005). Maternal obesity and fetal macrosomia can also influence fetal metabolic programming and negatively affect the health of the offspring in adulthood (Maffeis and Morandi 2017; Catalano and Shankar 2017a), which is not accounted for by socio-economic variables (Godfrey et al 2016).

1.3.2 Gestational Weight Gain and Excessive Gestational Weight Gain

Gestational weight gain (GWG), as the term suggests, is defined as weight gained during pregnancy, while excessive GWG is weight gained during pregnancy that is over and above the weight of the fetus and its environment and so is subsequently at risk of being retained by a mother post-birth (Swinburn et al 2011).

Schmitt, Nicholson and Schmitt (2007) in their meta-analysis suggest that weight gain in pregnancy is inevitable due to hormonal changes and lifestyle behaviour adaptations, plus the development of the fetal-uterine unit, as the pregnancy develops. Pregnancy itself could therefore be regarded to be a possible risk factor to the development of obesity (Van der Plight, Bick and Furber 2017; Sarwer et al 2006; Linne and Rossner 2003; Soltani and Fraser 2002). During pregnancy women usually expect to gain weight over and above the obvious increase provided by the fetus etc and many expect further weight gain following pregnancy (Faucher and Barger 2015; Groth and Kearney 2009). Mothers who have experienced weight cycling before pregnancy have been shown to have the highest rate of GWG (Heery et al 2016).

Schack-Nelson et al (2010) found that excessive GWG is more likely to be seen in mothers entering pregnancy with a low to normal BMI and therefore increasing evidence suggests that, while starting pregnancy with a normal BMI is the ideal, minimising excessive GWG is beneficial to all women including those with a raised BMI at 'booking' (Maffeis and Morandi 2017; Heery et al 2016; Cox Bauer et al 2016).

The US Institute of Medicine (IoM) has introduced guidance to attempt to control and minimise excessive GWG (ACOG 2013); these have not been widely adopted in the UK, yet studies suggest limiting weight gain in the obese pregnant woman improves birth outcomes (Ren et al 2018; Truong et al 2015; Kiel et al 2007). The recommendations for GWG are not evidence-based and not universally recognised or agreed; in the UK guidance from the National Institute for Health and Care Excellence (NICE) and the Royal College of Obstetricians and Gynaecologists (RCOG) discuss the importance of weight management during pregnancy, but they do not specify how much GWG is recommended. Suffice it to state that dieting in pregnancy is not advised (Modder and Fitzsimmons 2010; NICE 2010). The Institute of Medicine (IoM) in 2013, based in the United States (US), suggest differing levels of weight gain depending on a woman's BMI (ACOG 2013), which anecdotally midwives in the UK often used to inform their advice. It is also often used as the background GWG guidance for European-based studies into GWG (Christenson et al 2018).

Exercise appears to be a key component in minimising excessive GWG (Shieh et al 2018; Elliott-Sale, Barnett and Sale 2015; Muktabhant et al 2015). However, evidence suggests that mothers significantly reduce their amount of exercise during pregnancy, which is often not increased again post-birth (Abbasi and van den Akker 2014). Exercise in pregnancy has also been shown to improve glucose metabolism, which reduces the incidence of GD (Hayes et al 2015; Sanabria-Martinez et al 2013). The UPBEAT trial recruited women during early pregnancy and found that sustained physical activity resulted in more stable blood glucose levels (Poston et al 2013), which is considered important especially in obese mothers (Poston 2017). The National Institute for Health and Care Excellence (NICE) (2010) recommends thirty minutes of moderate exercise daily during pregnancy, but studies have shown that it is difficult to motivate mothers to increase their exercise levels during pregnancy (Martin, Duxbury and Soltani 2014; Poston et al 2013).

Managing and controlling GWG and preventing excessive GWG is important,t regardless of pre-pregnancy BMI, to decrease maternal and fetal risks (Poston et al 2016; Truong et al 2015; Haugen et al 2014). Reducing excessive GWG reduces the incidence of operative births, macrosomia (Muktabhant et al 2015) and pre-eclampsia (Ren et al 2018; Thangaratinam et al 2012b). Evidence has demonstrated that alterations in diet and exercise can prevent GD in pregnancy (Guo et al 2018). Studies and systematic reviews have also suggested that reducing excessive GWG reduces the overall risks associated with obesity (Faucher and Barger 2015; Truong et al 2015; Martin, Duxbury and Soltani 2014; Beyerlein et al 2011; Blomberg 2011), although there is a risk of a small increased risk of a small-for-gestational-age (SgA) or pre-term neonate if GWG is severely restricted (Cox Bauer et al 2016; Kiel et al 2007).

A joint guideline produced by Centre for Maternal and Child Enquiries (CEMACE) and the Royal College of Obstetricians and Gynaecologists (RCOG) have provided advice and management to support healthcare providers and professionals when caring for an obese woman during childbearing; the recommendations comprise of interventions prior to conception, during and after pregnancy (Modder and Fitzsimons 2010). This guidance considers the evaluation of medical intervention versus risk and the resource implications for maternity services. The National Institute for Health and Care Excellence (NICE) (2010) has also created guidance to support midwives and other health care professionals to provide advice about weight management before, during and after childbearing. This guideline provides advice as to how to assess and monitor maternal weight and how to prevent obesity during the childbearing period, with the aim to promote a healthy diet and physical activity. Neither organisation has made recommendations for optimum GWG.

A systematic review by Martin, Duxbury and Soltani (2014) reviewed 12 systematic reviews which had been published since the NICE guidance on weight management before, during and after pregnancy (Modder and Fitzsimons 2010) was published. They found that studies included were often of poor quality, but they did demonstrate that reducing excessive gestational weight gain in pregnancy may improve clinical outcomes through a reduction of the incidence of GD, gestational hypertension and shoulder dystocia (Martin, Duxbury and Soltani 2014). They also supported the implication that guidance is needed to identify

optimum gestational weight gain and that mothers, generally and irrespective of BMI, appear confused as to what GWG is expected and what is excessive (Martin, Duxbury and Soltani 2014; Groth and Kearney 2009). Further large-scale studies are needed to substantiate and determine the level of optimal GWG in order to improve maternal or neonatal outcomes at differing BMIs (Poston 2017).

Antenatal interventions such as classes to discuss diet, nutrition and activity have been shown to reduce excessive GWG and subsequent postnatal weight retention at six weeks post-birth (Shieh et al 2018; Haby et al 2015; Jewell et al 2014; Raul et al 2013; Thangaratinam et al 2012b; Johnson et al 2013). However, strategies to manage GWG need to consider psychological factors, especially in pregnancy, as interventions that solely focus on behavioural changes have been shown to have limited results (Gardner et al 2011; Skouteris et al 2010).

1.3.3 Post-Partum Weight Retention

Post-partum weight retention, as the term suggests, is weight gained in pregnancy that is not directly attributable to the pregnancy and so is more likely to be retained by the mother post-pregnancy. Mothers, on average, retain up to seven kilograms of weight post birth and almost seventy percent of mothers weigh more than they did pre-pregnancy at their six-week postnatal examination (Walker, Sterling and Timmerman 2004). Excessive GWG and postpartum weight retention increases the risk that the mother enters a subsequent pregnancy with a BMI ≥30 (kg/m^2) and may results in increases a mother's risk of complications in any subsequent pregnancies (Catalano and Shankar 2017a; Poston et al 2016). Excessive GWG that results in post-birth body dissatisfaction post-birth are also associated with higher rates of post-partum weight retention around nine to twelve months postnatal (Phillips, King and Skouteris 2014).

Breastfeeding has been shown to have a part to play in helping a mother lose any remaining GWG post-birth, especially if this is combined with a healthy eating programme (Bertz, Winkvist and Brekke 2015; Baker et al 2008). However, breastfeeding rates are lower in obese women with changes noted in the consistency of the breastmilk (Catalano and

Shankar 2017a; Heslehurst et al 2007). Exercise, when combined with diet, has also been shown to be effective in reducing any residual GWG post-birth (Poston et al 2016; Adegboye and Linne 2013).

Postpartum weight retention also increases the chances of a mother becoming obese in the long-term (Nehring et al 2011; Mamun et al 2010; Melzer and Shutz 2010; Vesco et al 2009; Walker 2007; Rooney et al 2005; Walker, Sterling and Timmerman 2004; Linne and Rossner 2003). Excessive GWG not lost by the end of the first-year post-partum predicts obesity fifteen years later (Nehring et al 2011). This results in a higher incidence of metabolic syndrome, type 2 diabetes and cardiovascular risks in later life (Catalano and Shankar 2017a; Poston et al 2016; Miller and Mitchell 2006), with raised risks for the development of diseases, which have implications for increased morbidity and mortality rates among older women with associated psycho-social implications and increased demands on the NHS (Fraser et al 2011).

This sub-section has outlined the risks for the mother and infant associated with entering pregnancy already obese on the development of complications and the effect on pregnancy outcomes. It has discussed the concept of GWG and the concerns for the future health for mothers who retain excessive GWG post-birth.

1.4 The Organisation of Maternity Care

This section aims to discuss the context of the current NHS-based maternity services within the United Kingdom (UK), the role of the Registered Midwife (RM) and the remit of the regulatory body of the Nursing and Midwifery Council (NMC). It will include a discussion on models of childbirth and the concept of risk, plus the health promotion role of the midwife within the mother-midwife relationship.

1.4.1 The NHS Maternity Services

For a woman between 16-44 years of age, childbearing is the most common reason for admission to a hospital environment in England. According to the Office of National Statistics latest report, there were 679,106 live-births in England and Wales in 2017; this is a

decrease of 2.5% since 2016 and the live-birth rate is now at its lowest since 2006 (ONS 2018; RCM 2016). Care in childbirth in the UK is predominantly provided by the NHS, although mothers can access the services of an obstetrician or a midwife on a private non-NHS arrangement. The Department of Health (DH) funds spending on maternity services: hospital birth with consultant-led care is the most expensive option at about £1630, with midwife-led care in an AMU at £1450 and a FMU at £1435. Homebirth is the cheapest option at £1066 (Schroeder et al 2012). However, there are rising financial and resource demands on providers of NHS maternity services, due to the increase in the number of complex births, such as the increases in multiple birth rates due to delayed childbearing and increased infertility treatments (RCM 2016).

Demographically women are delaying childbirth due to multiple factors such as increases in education and careers for women (Ni, Bhrolchain and Beaujouan 2012); the average age for a first-time mother is now twenty-eight (Blotkamp and Harris 2017). The rate of women having their first baby over the age of 40 is increasing too and this results in an increased risk of co-morbidity, which rises alongside age, including obesity (Kingsbury et al 2017). There are also more women with obesity or pre-existing medical conditions. These complexities amplify the risks associated with childbirth and result in care which requires increased technology and intervention from multiple healthcare professionals (RCM 2016; Robson 2013). Obesity adds to the cost of maternity care; mothers with obesity incur more costs associated with increased hospital stays and the care required to detect and manage obstetric and neonatal complications attributed to obesity in childbearing (Solmi and Morris 2018).

The commissioning of healthcare, which includes the maternity services, is detailed and regulated under the Health and Social Care Act (2008) and prior to the changes implemented in 2013, consisted of 151 primary care trusts who were responsible for commissioning maternity services and which were managed by ten strategic health authorities on behalf of the DH. The structure has been amended as part of the reforms introduced under the Health and Social Care Act 2012. Since March 2013, the responsibility for commissioning maternity services now rests with 211 clinical commissioning groups (CCGs), which are accountable to NHS England, but are operationally independent. CCG's

contract maternity services from local NHS Trusts and NHS Foundation Trusts. Care providers are monitored by the Care Quality Commission (CQC) (Bourne et al 2013).

Within the current maternity services, midwifery-led care is offered to low-risk mothers, both nulliparous and multiparous, due to the lowered intervention rates and similar outcomes when compared to consultant-led environments (NICE 2008). This type of care is recommended to be provided either at home or in a birth centre for low-risk multiparous mothers or in a birth centre for low risk nulliparous women (NICE 2014; Schroeder et al 2012).

Consultant-led care provides management for mothers considered to be 'at-risk' of poorer outcomes and requiring medically focused intervention to improve outcomes (Robson 2013). This includes mothers who have pre-existing disease e.g. heart disease, those who develop complications due to pregnancy e.g. anaemia and pre-eclampsia and those with risk factors that increase the probability of developing complications, such as obesity. Care is provided by a multi-disciplinary team led by an obstetrician and the birth is managed within a hospital environment where help and support is readily available. In England almost 87% of births occur in a consultant-led environment (Blotkamp and Harris 2017).

Hospitals and especially consultant-led environments can be anxiety and fear-inducing places for some mothers, due to feelings of loss of control and disempowerment (Lock and Gibb 2003; Steele 1995). Studies have demonstrated several important benefits to women of birthing in areas which provide midwife-led care, such as at home or in a birth centre, rather than consultant-led delivery suites. These include less intervention, more ability to remain mobile, less need for pharmaceutical analgesia such as epidurals, less likelihood of augmentation and fewer instrumental births (Brocklehurst 2011; Hodnett et al 2010). Midwife-led care, especially where this supports and promotes continuity of carer, has increased rates of spontaneous vaginal birth rates and maternal satisfaction (Sandall et al 2016a).

Birth centres are environments which support the philosophy of midwife-led care (RCM 2012) and are currently only available to mothers who are deemed to be at low risk of

complications during birth. There are two types of midwifery-led birth centre; one is an alongside midwifery unit (AMU), where the birth centre is located usually adjacent to a consultant-led unit, while the other type is a free-standing midwifery unit (FMU), which is located in the community away from the hospital environment. In England around 10% of births occur in an AMU and less than 3% occur in a FMU or at home (Blotkamp and Harris 2017). Not all Trusts provide all possible options, and both have similar criteria for use (Baston 2014). Hodnett et al (2010) and Walsh (2007) suggest that midwives who work in birth centre environments tend to subscribe to a midwifery-led care philosophy.

1.4.2 Models of Childbirth

Childbirth can be viewed through two opposing lens, namely via a social or a medical model (Bryar and Sinclair 2011). This sub-section aims to provide a succinct discussion on the two contrasting models of childbirth.

The social model is based on the supposition that pregnancy and birth is a natural physiological process with potentially positive outcomes for both mother and baby; it is a life event, which focuses on childbearing as a period of growth, where the mother is in control and the perspective is considered to be normal in anticipation, with childbearing based within the community and the family. The social model emphases a holistic perspective, where the health care provider focuses on the emotional, social, and spiritual aspects of pregnancy and birth, with a leaning towards salutogenesis (Bryar and Sinclair 2011). The social model provides the underpinning for the midwifery model, where birth is considered to be a physiological, rather than a pathological event (Walsh 2007). These are often referred to as uncomplicated pregnancies and midwives, as the recognised experts in normal midwifery (NMC 2009), are the lead professionals within this model.

Great improvements in maternal mortality and obstetric and neonatal outcomes have been realised through the advances in obstetric and neonatal medicine (Tew 1998). These have been possible through the medical model, which is underpinned by the notion that birth is only normal in retrospect and that childbirth requires medical input to promote a safe outcome for mother and baby. It sees childbirth as potentially pathological and one that often requires medical intervention to secure a live and healthy mother and child, therefore

the doctor is regarded as the lead expert within this model. The focus of the medical model is the assessment, management and reduction of risk, through screening and treating of childbearing complications and concentrates its effort on the physical aspects of childbearing (Bryar and Sinclair 2011). The social model recognises the importance of the maternal experience, while the medical model focuses on safety and the management of pathology (Bryers and van Teijlingen 2010) (see table 1.3).

Table 1.3: Contrasting the Two Models of Care in Childbirth (Walsh 2007: 7-8).

Social Model	Medical Model
Whole person approach – physiology, psychosocial, spiritual Respect and empower	Reductionist – e.g. labour – powers, passages and passenger Control and manage
Relational and subjective Environment is central	Expertise and objective Environment is peripheral
Anticipate normality	Anticipate pathology
Technology as a servant	Technology as a partner
Intuitive and meaning-making	Quantitative research – objective facts
Self-actualisation	Safety

The medical model sees the mind and the body as separate and regards the body as one would a machine i.e. with parts that can be mended or replaced (Nettleton 2013). The medical model is reductionist and focuses solely on biological processes, where the social and environmental causes of disease are not considered to be important. It fails to place the individual within its socio-cultural environment and the subjective interpretations and meanings of health of the individual are considered unimportant (Nettleton 2013). This results in individuals becoming less able to self-care and more dependent on medicine (Nettleton 2013; Engels 1981; Illich 1976). The model of childbirth is important to the current study as it underpins the system of care that is available to mothers during childbearing and provides the framework for midwives to practise within.

1.4.3 The Concept of Risk in the Maternity Services

This sub-section aims to explore the literature underpinning the concept of risk in maternity care. It will demonstrate how a mother with a BMI ≥ 30 (kg/m^2) will be risk assessed and allocated to a high-risk care pathway.

The predominant care model within current NHS Maternity Services is the medical model (Bryers and van Teijlingen 2010; Walsh 2007; Tew 1998). It is based upon a risk-adverse culture, with midwifery practice focused on the undertaking of risk assessment and risk systems. Throughout the last century maternity care and midwifery practice moved from a social model to a medical model, where childbirth is considered an event fraught with risks and where healthcare has become state organised (Bryers and van Teijlingen 2010). A major period of change to the structure of the maternity services occurred from 1960 to 1980, initiated by the Cranbrook Report (1959) and Peel Report (1970), both of which recommended that 100% of births should occur within maternity units (Tew 1998).

This resulted in a shift from birth occurring at home to birth within maternity units, moving the focus of birth from a social to a medical perspective and constraining the role of the midwife (Tew 1998). Childbirth became subject to medicalisation, where the focus became illness and the business of birth developed into a branch of medicine – obstetrics – where birth became a pathological condition to be cured by medicine (Nettleton 2013; Abbott, Wallace and Tyler 2008). Mothers were regarded as predominantly incubators for the fetus, resulting in healthcare based on the health of the developing fetus rather than the needs of mothers (Davis-Floyd 2001). Obstetrics increasingly saw pregnancy and childbearing as an illness and the focus of care aimed to reduce perinatal and maternal mortality. However, while mothers also want a healthy baby at the end of their pregnancy, they are also interested in the personal experience of labour and birth, the developing relationship with the baby and making the adjustment to motherhood (Abbott, Wallace and Tyler 2008; Parry 2008).

Bodies have become increasingly subject to biomedicalisation, where the functions of the body are classified either as healthy or pathological (Ettorre 1998). Women's health and reproduction are currently firmly embedded within the biomedical arena, yet research

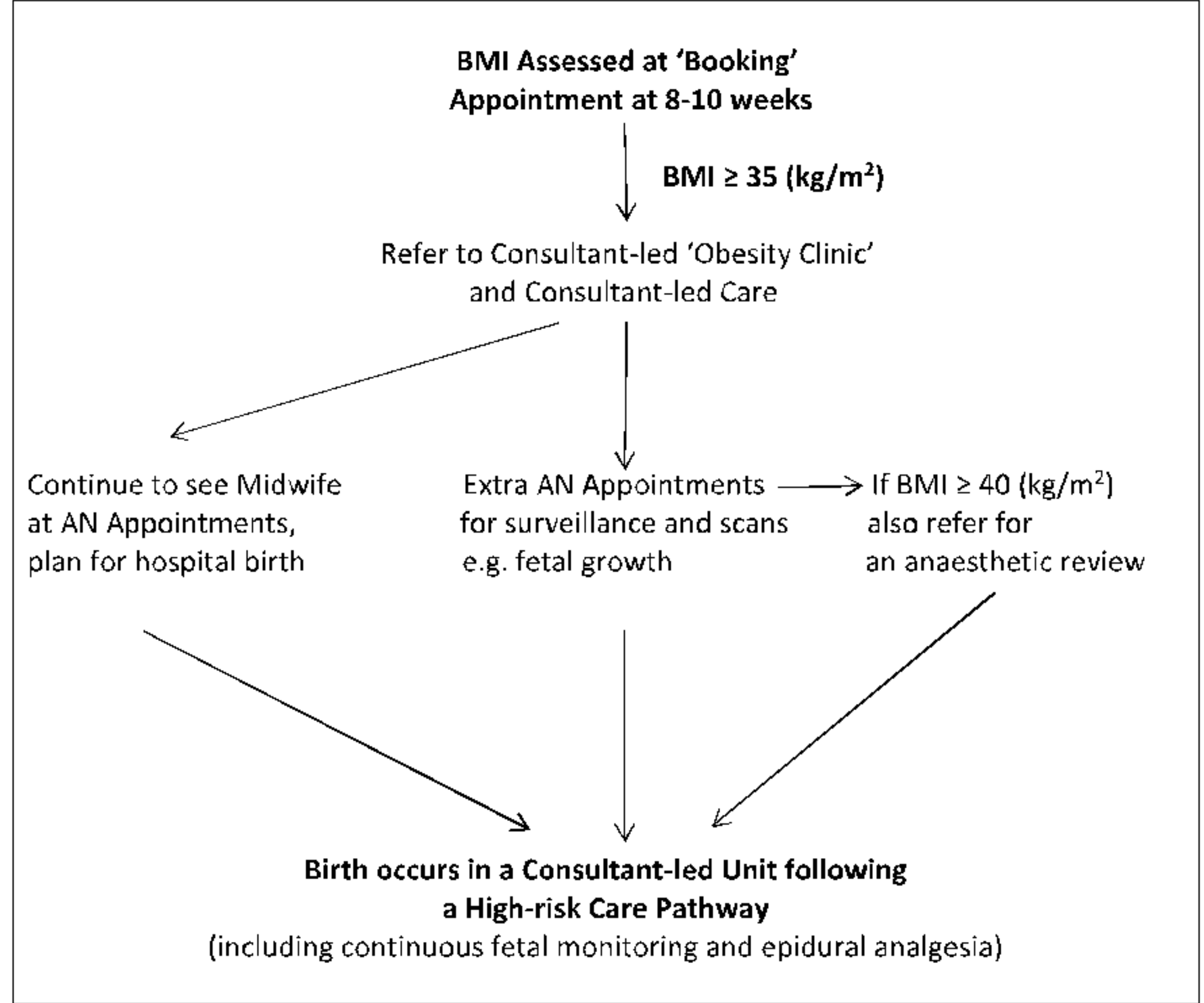
demonstrates the importance of the holistic perspective within healthcare (Einstein and Shildrick 2009). Davis-Floyd (2001) argues for childbirth to be managed in a way which is less dominated by the biomedical perspective and towards a more social model within a holistic and humanistic paradigm. However, the influence of sociocultural theories around risk in childbearing are considered to be significant influences on maternal choice and explain the continued high acceptance of consultant-led hospital birth (Coxon, Sandall and Fulop 2013).

The rise in obstetrics and the adoption of the medical model within maternity care has led to the development of risk management as a central theme of all care provision, including the maternity services (McIntosh 2017), which is monitored through agencies such as the NHS Litigation Authority (NHSLA) and the National Patient Safety Authority (NPSA). Pregnancy and birth are considered to be high risk activities (Browne et al 2014). The drive to reduce risk and improve safety is underpinned by the fact that in 2016 the NHS spent £1.7 billion on clinical negligence pay-outs (NHS Resolution 2017; NHS Litigation Authority 2016). Maternity care was associated with 10% of the claims for clinical negligence and the resulting pay-outs constituted 50% of the NHS litigation budget (NHS Resolution 2017). This has focused the attention on the importance of improving safety within maternity care (DH 2016). As part of this, midwifery practice and the maternity care system are subject to scrutiny from agencies such as the Care Quality Commission (CQC).

Risk is defined as *"a statistically-based statement around the likelihood of a given event occurring"* (McIntosh 2017: 142). While maternal mortality is currently at its lowest rate in England (Knight et al 2016), the drive to increase safety through the management of risk continues and is at the heart of the National Maternity Review (Cumberledge 2016). Within risk management individuals are risk assessed, with the aim of eliminating, reducing or removing hazards and harm, and counteracting any potential dangers (Renfrew et al 2014; Bryers and van Teijlingen 2010). Mothers during pregnancy are risk assessed in early pregnancy and categorised as low-risk or high-risk dependent on medical, obstetric and social criteria. Once risk-assessed and assigned to a low-risk or high-risk pattern of care mothers are allotted to a specific care pathway (McIntosh 2017).

Maternity care in the UK is structured around care pathways (McIntosh 2017; Renfrew et al 2014; Bryar and Sinclair 2011) (see appendix 11.1). A care pathway acts to direct a practitioner to screening, diagnosis, management and treatment options that are specific to a set of symptoms and related to a specific disorder. The aim of a care pathway is to improve the quality of care, promote improvements in patient outcomes, ensure patient safety and make effective use of resources (HEE 2016). In maternity care the obese mother would be allocated to a specific high-risk pathway based on her level of obesity and the associated medical risks. Therefore, a mother with a BMI ≥ 35 (kg/m2) would be excluded from a low risk birth pathway through these guidelines (NICE 2017; Ahluwalia 2015) and would be allocated to a high-risk pathway determined by BMI alone (see figure 1.1).

Figure 1.1: Example of a Care Pathway for a Mother with Obesity (BMI ≥ 35 kg/m^2)



Care pathways are usually multi-professional and aim to improve the quality and safety of care through the standardisation of outcome-driven healthcare (Shaw et al 2016; Schrijvers, van Hoorn and Huiskes 2012). They aim to encourage a consistent standard of communication and documentation and facilitating audit processes. They appear to be most effective where a patient's progress is predictable and has shown to lead to faster diagnosis and treatment, increased consistency, a reduction in errors and a reduction in costs (Schrijvers, van Hoorn and Huiskes 2012; Allen, Gillen and Rixson 2009). However, care pathways, in their desire to provide the best standard of care available, may fail to meet the concept of individualised care and may be too narrow to accommodate situations such as the presence of complex co-morbidities (Schrijvers, van Hoorn and Huiskes 2012). Neuberger (2013), while her criticism was aimed at the 'Liverpool Care Pathway', saw the concept of care pathways as becoming more of a tick-box exercise with 'too much pathway and too little care' (Neuberger 2013). If applied to obesity an allocation to a high risk pathway for all mothers with obesity does not take into account the mother's individual needs or perceptions and, for midwives, it reduces the level of choice and control they can provide for mothers (McIntosh 2017; Schrijvers, van Hoorn and Huiskes 2012). Allocation of an obese mother to a high-risk pathway leads to extra investigations and could give the obese mother an erroneous perception of risk where they believe that they are going to have a complicated birth (Furber and McGowan 2010).

This sub-section has provided a discussion on the concept of risk and the use of care pathways within the NHS maternity services in the UK; the next sub-section will discuss the role and scope of practice of the Nursing and Midwifery Council (NMC) Registered Midwife (RM).

1.4.4 The Role and Scope of Practice of the Nursing and Midwifery Council (NMC) Registered Midwife

Maternity care represents a unique area of the health care services provided by the NHS, as the provision supports primarily healthy women through a physiological and social life event, with midwives as the lead professional (ICM 2017a; EU Standard: Article 42 2009). Pregnancy and childbearing is the one area of healthcare that does not necessarily require

supervision or intervention by doctors, with midwives being accountable for their practice as an autonomous healthcare practitioner (NMC 2018; NMC 2017b). This sub-section aims to discuss the role and scope of practice of the NMC Registered Midwife (RM).

Childbearing women can receive care from a range of health professionals, and this is dependent on assessed clinical need. All childbearing women are initially allocated a named midwife at their first antenatal appointment, which is known as the 'booking' appointment (NICE 2008). This midwife is usually a community midwife. As part of this 'booking' appointment the named midwife will risk assess each mother presenting at 8-10 weeks gestation during the 'booking' appointment and will refer her to other healthcare professionals such as an obstetrician or dietician dependent on the risk assessment (NICE 2008). If the mother is considered low risk the care will be predominantly provided by midwives. If they are high risk the mothers named midwife will act as the coordinating professional (NMC 2017b). Midwives are therefore expected to be able to work alongside a range of healthcare professionals, referring to specialist services and professionals as required (NMC 2017b; NMC 2009). However, the midwife remains accountable for her/his practice as an autonomous practitioner (Lavender and Chapple 2004). Midwifery practice is increasingly involved in promoting health during childbearing; they can provide a range of advice and support to mothers during pregnancy e.g. smoking cessation and a healthy diet. Midwives often work in teams providing integrated services to mothers (Raynor, Mander and Marshall 2014).

Midwifery, as a profession, is unique and distinct, with its own standards of education and proficiency and a specific section of the Nursing and Midwifery Council (NMC) register. The title of 'Midwife' is protected, as is the function and scope of the title of midwife. Article 44 of the Nursing and Midwifery Order (2001) states that *"It is an offence for someone to practise as a midwife while not registered, to falsely claim to have a midwifery qualification, or to use the title 'midwife' when not entitled to do so. Only those recorded on the NMC's register as holding a qualification in midwifery may therefore use the protected title of 'midwife'"* (NMC 2017b).

Midwives in the UK are regulated by the NMC, who maintain a register of individuals allowed to practice as registered midwives in the UK. The NMC states that their primarily role is to protect the public: they do this by establishing standards for the education, training, conduct and performance to ensure that midwives have the framework to deliver high quality maternity care (NMC 2018; NMC 2017b; NMC 2009). In order to qualify as a midwife an individual must undertake a degree-level programme provided by an approved educational institution (AEI); these AEIs provide programmes of study and clinical practice opportunities to enable the student to meet the standards for admission to the NMC register as a RM (NMC 2009; NMC 2008a). The NMC also have processes in place to investigate midwives whose practise does not meet the standards (NMC 2017b). Midwives are therefore expected to conduct themselves as set out in the standards of the NMC *"The Code: Professional Standards of Practice and Behaviour for Nurses, Midwives and Nursing Associates"* (NMC 2018). Within the Code it states that as a nurse, midwife or nursing associate:

> *"You uphold the reputation of your profession at all times. You should display a personal commitment to the standards of practice and behaviour set out in the Code. You should be a model of integrity and leadership for others to aspire to. This should lead to trust and confidence in the profession from patients, people receiving care, other health and care professionals and the public"* (NMC 2018: 18).

The relationship between the patient and the healthcare provider is an important component of quality maternity and midwifery care (Furber and McGowan 2011). It is within this relationship that the midwife can fulfil her health promotion role. This section aims to explore the underpinning evidence relating to the midwife's health promotion role within this special and unique interpersonal relationship.

The WHO definition of health promotion was updated from the Ottawa Charter in 1986 and broadened to state: *"Health promotion is the process of enabling people to increase control over, and to improve, their health. It moves beyond a focus on individual behaviour towards a wide range of social and environmental interventions"* (WHO 2017c:1). There is scope within that definition for the role of the midwife to work to strengthen mother's capacity to

care for themselves (and their families) as suggested by the work of Renfrew et al (2014). The International Confederation of Midwives (ICM) statement on the definition of a midwife clearly appreciates the role of the midwife within the promotion of health:

The International Confederation of Midwives (ICM) specifies that:

> *"A midwife is a person who has successfully completed a midwifery education programme that is based on the ICM Essential Competencies for Basic Midwifery Practice and the framework of the ICM Global Standards for Midwifery Education and is recognized in the country where it is located; who has acquired the requisite qualifications to be registered and/or legally licensed to practice midwifery and use the title 'midwife'; and who demonstrates competency in the practice of midwifery.*
> *The midwife is recognised as a responsible and accountable professional who works in partnership with women to give the necessary support, care and advice during pregnancy, labour and the postpartum period, to conduct births on the midwife's own responsibility and to provide care for the newborn and the infant. This care includes preventative measures, the promotion of normal birth, the detection of complications in mother and child, the accessing of medical care or other appropriate assistance and the carrying out of emergency measures.*
> *The midwife has an important task in health counselling and education, not only for the woman, but also within the family and the community. This work should involve antenatal education and preparation for parenthood and may extend to women's health, sexual or reproductive health and child care…………"* (ICM 2017a)

Pregnancy is a period of time where women readily engage with the health services and midwives and are motivated to make lifestyle changes, which can have long-lasting effects. Behavioural and lifestyle changes instigated at this time i.e. early in life and before co-morbidities have occurred, could improve the health of mothers and their families and possibly reduce the incidence of intergenerational obesity (Adamo et al 2013). Therefore, if

midwives are not supported to enhance their health promotion role, then this becomes a lost opportunity (Murphy 2016).

There are three models of health promotion: the medical model, the social model and the client-centred model (Bowden 2006; Crafter 1997). The medical model of health promotion focuses on individuals and how they can lessen risky behaviours and increase participation in more healthy lifestyles to reduce disease. It relies on health education and uses public health campaigns. It focuses on the behaviour change approach, where if the individual has the correct knowledge, attitudes and skills, then change will occur. The social model of health promotion acknowledges the wider determinants of health. Rather than focusing on the individual, it looks to the socio-economic and environmental influences e.g. the reduction in social inequality. The client change model of health promotion understands the shared association between the individual and their health-related behaviours, and the environments in which people live. It utilises a shared framework for change at both individual and environmental levels (Bowden 2006). The predominant model used in healthcare and midwifery is the medical model of health promotion.

Health promotion is undoubtedly an important facet of the role of the midwife (Murphy 2016; Sakala and Newburn 2014) and is one aspect of the midwife's role that deserves to be more visible (McNeill et al 2012). It has been shown to reduce maternal and neonatal mortality and morbidity within CEMACH reports (Lewis 2007) and MBRRACE reports (Knight et al 2016), yet it is not always given the prominence in the maternity services provision (Crabbe and Hemingway 2014). Gomez (2016) suggests that as midwives care for mothers throughout the childbearing episode, this provides the midwife with an opportune environment to address many health promotion agendas, including weight, size and nutrition. A move away from the fragmented care of the mother and her newborn that is often seen in current maternity services, which focuses on risk and pathology, is recommended by researchers and the midwife's role should move towards a more preventative and supportive provision (Crabbe and Hemingway 2014; Renfrew et al 2014). Mothers should be encouraged to participate and be empowered to act to improve their health, through the holistic and salutogenic approach of midwives, which would move mothers forward towards improved health and wellness (Browne et al 2014). Salutogenesis

is the *"creation of well-being"*, where midwives and mothers work in partnership to improve and optimise health outcomes (Downe 2010: 291).

Mothers expect midwives to provide support and information during the antenatal period in order to enable them to make lifestyle changes for the benefit of their unborn child (Lavender and Smith 2015). Midwives have a relationship with mothers during childbearing care episodes and need to make good use of the opportunity for health promotion. The evidence base has demonstrated that to enable the midwife to undertake effective health promotion activities with mothers there needs to be a good quality relationship between the mother and the midwife. Health promotion is a well-established role of the midwife (ICM 2017a) and effective communication is an important factor to facilitate this. However, despite mothers being receptive to health promotion activities during pregnancy, there are problems that exist between mothers and midwives that need addressing before the impact of the health promotion role can be maximised.

This section has discussed models of childbirth and the concept of risk predominant within the medical model of childbirth, the context of the current NHS-based maternity services within the United Kingdom (UK), the role of the Registered Midwife (RM) and the remit of the regulatory body of the Nursing and Midwifery Council (NMC). It has included a discussion on the health promotion role of the midwife and the importance of the mother-midwife relationship.

1.5 Summary

This introductory chapter has provided an introduction with an underpinning discussion on which this research study was conceptualised. It has discussed obesity as a concept and provided an overview of obesity, including a critique of the definition of obesity using the BMI classification tool and a discussion on the trends and causes of obesity.

The chapter has outlined the remit of the NHS maternity service provision, the focus on risk within maternity care and the role of the registered midwife (RM). It has explored the concept of obesity in childbearing and how it is currently managed in the NHS maternity care system, plus the influence of the role of the midwife in health promotion within the

mother-midwife relationship. Through the discussion, this introduction provided the background as the justification for this research study and the aims of this study. The next sub-section outlines the structure of the thesis.

1.5.1 Structure of the Thesis

This sub-section provides an overview of the thesis, outlining the chapters and providing information on the content of each chapter.

Chapter 2 is the literature review chapter, which will discuss and explore the relevant evidence-base underpinning this thesis. It will focus on the experiences of mothers with obesity and the experiences of health professionals who care for mothers with obesity during childbearing. The reader will become familiar with the debates and evidence supporting the issue of obesity, which are relevant to this study, identifying the key themes that emerged from the literature review.

Chapter 3 is the methodology chapter, which will outline the methodological underpinnings of this thesis. It will provide a rationale and discussion of the research framework, the study design, the participants, the data collection method, the ethical issues, the transcription and analysis of the data collected and the limitations of the study.

Chapter 4 is a data chapter, which focuses on the reductionist approach to maternity care.

Chapter 5 is a data chapter, which focuses on the lost opportunities for health promotion.

Chapter 6 is a data chapter, which focuses on the experiences of mothers and midwives and the everyday theories of obesity.

Chapter 7 is the discussion chapter, which will provide the reader with an explanation and exploration of the findings of this study and how the interpretive conclusions were reached. It will discuss how the study contributes to the body of knowledge.

Chapter 8 is the conclusion chapter, where recommendations, practice implications and suggestions for future research will be identified and discussed.

Chapter 2: Literature Review

2.1 Introduction

A literature review is an exposition and critical examination of relevant primary and secondary research, including non-research evidence, relevant to a chosen topic (Fink 2014). It is a written appraisal of existing knowledge (Jesson, Matheson and Lacey 2012). Undertaking a literature review is an important pre-requisite of research studies; it enables the researcher to focus on the existing literature and identify gaps in the evidence-base (Thomas 2017; Bryman 2015), with the aim to establish the justification for further research (Aveyard 2014). Through undertaking a review of the existing literature, the researcher became familiar with the debates in the literature relevant to the current study.

The focus of the literature review was guided by the research question and the aims of the current study and to that end this chapter will explore and evaluate the existing evidence under two main headings: firstly, the experiences of mothers with obesity and secondly the experiences of midwives who have cared for mothers with obesity. From the mother's perspective this chapter will explore the literature on obesity stigma, the concept of body image and obesity, the influence of obesity on mental well-being and the impact of lay theory and obesity. It will explore key literature around the experiences of mothers who go through childbearing while obese and the current thoughts on antenatal interventions. This chapter will then explore key literature on the experiences of midwives who care for mothers with obesity in their professional role, focusing on their experiences, their perceptions of maternity care provision and their education requirements to fulfil their health promotion role. This chapter will conclude by identifying the gaps and debates in the literature, which originally influenced the design and development of this research study.

The review of the literature was undertaken using a narrative or traditional literature review technique and summarises the body of literature relevant to the thesis topic to enable themes to emerge. This chapter will begin with an outline of the literature search strategy employed by the researcher to access and critique the literature and research evidence.

2.2 Literature Review Strategy

This section aims to outline the literature review strategy employed within this thesis. Initially a discussion on the rationale behind the review strategy of narrative review will be provided, followed by a detailed summary of the data searching technique employed to access the literature. Lastly, an overview will be discussed detailing how the researcher critically appraised and synthesised the literature.

2.2.1 Narrative Literature Review

For this research study a narrative or traditional literature review technique was used to review the literature. The principal purpose of a narrative review is to provide the researcher with a comprehensive overview of the topic and to highlight significant areas requiring further research: narrative reviews can help to identify gaps in the evidence-base and help to define and refine research questions (Hart 2018; Jesson, Matheson and Lacey 2012; Ridley 2012; Grant and Booth 2009). A narrative review was chosen to facilitate a review of many types of literature, both qualitative and quantitative, and to include opinion and non-research where pertinent. The researcher reviewed existing knowledge and emerging themes from the literature, which using a narrative literature review facilitated (Hart 2018; Jesson, Matheson and Lacey 2012). Perceived strengths of this type of review include being able to identify themes from the existing literature and identify gaps in the literature, thus avoiding duplication, ahead of a further research study (Grant and Booth 2009; Cronin, Ryan and Coughlan 2008). However, the weaknesses of a narrative review strategy are cited as its lack of scope and depth of analysis of the data, areas where they are often considered to be biased (Hart 2018).

A narrative or traditional literature review technique was chosen over a systematic review of the literature in this study. Systematic literature reviews are intensive, and time consuming in their aim to systematically search the literature and draw together all existing knowledge on a specific topic; they are often publishable in their own right (Grant and Booth 2009). It is often employed by a team of researchers to create a research summary that identifies and analyses all relevant studies and is often constrained to a particular study design e.g. in health care policy this is usually the randomised control trial (RCT) research

design (Ferrari 2015). However, increasingly systematic reviews are acknowledging and including qualitative and mixed methods research (Hart 2018). Systematic reviews usually adhere to reviewing guidelines e.g. Cochrane Collaboration etc. and aims to aid researchers, clinicians and policy makers understand the state of knowledge of a specific topic area and contributes to 'evidence-based practice' guidelines (Jesson, Matheson and Lacey 2012). This strategy was not considered suitable here because this literature review aims to identify themes and gaps in the literature in preparation for a research study.

2.2.2 Literature Searching Strategy

At the initial stages of the research process a scoping literature review technique was employed. This is a preliminary review to ascertain the type and extent of the available literature and research, with the aim of informing the focus of the current research study (Grant and Booth 2009). A more in-depth review of the literature was then conducted to support the design and methodology of the study by identifying themes emerging from the literature warranting further empirical study. Further updates were undertaken regularly through the research process as the topic of obesity was of substantial interest to health and policy researchers throughout the timeframe of the current study, resulting in a plethora of research. Literature searching continued up to the 31st December 2018.

Qualitative research studies, systematic reviews and expert opinion papers were primarily accessed using library-based databases. Various databases were searched using key words and phrases: Cinahl Plus with Full Text, Scopus, British Nursing Database, Medline (PubMed), PsycINFO, Social Care Info, Cochrane Library, and the International Bibliography of Social Sciences (IBSS). Certain inclusion and exclusion criteria were employed in the literature search (see table 2.1).

Table 2.1*: Inclusion and Exclusion Criteria used within the Literature Search*

Inclusion Criteria	Exclusion Criteria
Research/papers written in the English language. Research studies published within the last fifteen years. Opinion papers from experts in the field. Some literature from earlier was included if relevant to the discussion. Research studies/papers published following peer review. Systematic reviews. Studies undertaken in More Economically Developed Countries (MEDCs) i.e. United Kingdom, North America, Europe and Australasia.	Research undertaken in low to middle income countries. Non-peer reviewed research/papers. Studies not written in English.

Keywords were used with the title fields when undertaking database searches. However, the number of 'hits' resulting from the database searches was often huge and unmanageable and so to narrow the search criteria, certain Boolean operators were used to improve the quality of the results of the search (Jesson, Matheson and Lacey 2012). Using 'AND' enabled the researcher to be more specific and narrow the search e.g. (obesity AND pregnancy) (obesity AND midwives). However, using 'OR', while this tended to broaden the search, enabled the researcher to search the literature using alternative synonyms e.g. obese (OR) fat (OR) overweight (see table 2.2).

Table 2.2: Literature Search Results

Search Keywords Used Within the Title Field	Number of Results	Narrowing the Search	Number of Papers Accessed
Obesity (AND) **Definition** (AND) **Causes** (AND) **Complications**	442,338; 144,936	To narrow the search 'hits' to a workable number of results: ➢ reduce time limit ➢ apply inclusion criteria ➢ apply exclusion criteria ➢ use a mixture of keywords ➢ access only full text journal articles	59
Maternal Obesity (AND) **Pregnancy** (AND) **Satisfaction** (AND) **Maternity Services**	50,645; 32,512; 7,191;		17
Maternal Obesity (AND) **Midwifery Care** (AND) **Midwives** (AND) **Pregnancy Outcomes** (AND) **Risk**	3,195; 4,053; 24,952, 6,604		22
Obesity (AND) **Childbearing** (AND) **Complications** (AND) **Pathology**	92,998; 24,731		34
BMI (AND) **Obesity** (AND) **Criticism** (AND) **Mortality** (AND) **Morbidity**	54,277; 754; 17,388; 13,880		12
Body Image (AND) **Women Childbearing** (AND) **Pregnancy** (AND) **Postnatal/Post-birth** (AND) **Motherhood** (AND) **Happiness** (AND) **Mental Health/Ill-Health**	23,911; 1,112; 6,424; 1,949; 1,146; 1,488; 26,174		26

Maternal Obesity (AND) **Stigma** (AND) **Discrimination** (AND) **Pregnancy**	7,747; 8,654;		9
Maternal Obesity (AND) **Public Health** (AND) **Health Promotion** (AND) **Lifestyle Interventions** (AND) **Healthy Eating**	46,002; 18,310; 17,076; 20,044		14
Midwives (AND) **Midwifery Care** (AND) **Stigma** (AND) **Discrimination**	1083; 666		25
Lay Beliefs (AND) **Lay Theory** (AND) **Obesity** (AND) **Pregnancy** **Lay Beliefs** (OR) **Lay Theory** (AND) **Obesity** (OR) **Pregnancy**	7825; 7117		9
Gestational Weight Gain (AND) **Pregnancy Outcome** (AND) **Midwives** (AND) **Midwifery Care** (OR) **Midwifery Management**	39,063; 2819; 23,604		18
Midwives (AND) **Nutrition** (AND) **Antenatal Interventions** (AND) (OR) **Pregnancy Outcomes** (AND) **Post-Partum Weight Retention**	16,644; 37,951		53
Gestational Weight Gain (AND) **Health Promotion** (AND) **Midwives** (AND) **Maternity Services** (AND) **Post-partum Weight Retention**	1955; 796; 935		12

MeSH (**M**edical **S**ubject **H**eadings) is the National Library of Medicine's controlled vocabulary thesaurus and is used for indexing articles for the MEDLINE/PubMED database. Each research article and journal reference are associated with a prescribed set of MeSH terms to identify the content of the reference. They are arranged in order of subject categories with more specific characteristics arranged underneath wider terms. Using

MeSH the researcher was able to enter phrases instead of using keywords to search for literature (see table 2.3). This helped to narrow down and focus the literature search and enabled the researcher to find more relevant literature.

Table 2.3: MeSH Example

BMI (Search Term)		
- Obesity		
	- Obesity Management:	
		(MeSH Tree Structures) - Pathological Conditions - Physiological Phenomena - Nutrition and Metabolic Disease - Diagnosis: - Morbid Obesity

Other websites were also searched such as Department of Health, NHS Digital, Nursing and Midwifery Council, Royal Colleges e.g. Royal College of Midwives (RCM) and Royal College of Obstetrics and Gynaecology (RCOG), Association of Radical Midwives (ARM), National Institute for Health and Care Excellence (NICE) and the World Health Organisation (WHO). On-line repositories were also accessed and where possible alerts were created e.g. PHE Obesity Intelligence Knowledge Hub. Through these alerts, literature was accessed and evaluated continuously throughout the doctoral programme.

Once the researcher became familiar with journals where relevant literature was often published, specific journal websites were accessed and searched. 'Back chaining' and 'author searching' strategies were also used to identify additional literature. Where an item was not available in full-text mode other search engines were employed such as Google Scholar and inter-library loans. Occasionally, articles were found within printed journal collections in the university library. A wide range of literature was accessed using the above strategy. Once accessed relevant papers were downloaded or printed and reviewed for relevance.

2.2.3 Critical Appraisal and Synthesis of the Literature

Once the literature was identified a critical appraisal of the research was undertaken. This is where a researcher systematically reviews the literature (Hart 2018; Jesson, Matheson and Lacey 2012). This process breaks down the published research to investigate its construction - initially, the research was reviewed for the quality of its methodology and this influenced the weighting of the research and the integrity of its findings (Cronin, Ryan and Coughlan 2008; Lee 2006). This was undertaken during the initial scoping review using the Holland and Rees (2010) framework. This framework enabled the researcher to review research papers and make a judgement as to its relevance and suitability (Holland and Rees 2010).

During subsequent literature reviews the CASP (critical appraisal skills programme) checklist for qualitative reviews (CASP 2018) was employed to provide a more in-depth analysis of the methodology and conduct of the research. Using ten questions, this checklist allows the researcher to focus on three areas when appraising a qualitative study: Are the results of the study valid? What are the results? Will the results help? (CASP 2018).

Synthesis of the narrative literature review describes how the literature review was put together and used to present ideas, arguments and debates (Hart 2018). In sub-sections 2.3 to 2.6, the researcher will provide a critical evaluation of the literature, where a summary of the current knowledge is presented, contributions to and the debates are discussed and gaps in the literature identified (Jesson, Matheson and Lacey 2012). Questions such as the following were used: How has the research increased our understanding of the topic? How does the research address the important issues in the debate? (Hart 2018). These were employed to convey a comprehensive knowledge on themes and concepts underpinning this study.

The majority of the research accessed and reviewed within the literature review was qualitative, notably when accessing literature on maternal experiences. Qualitative research takes an inductive view of the topic and stresses the understanding of the social world through an exploration of the participants experiences and is therefore an appropriate approach where concepts and hypothetical explanations emerge from the data collected (Bryman 2015). In the body of research exploring midwives' experiences of caring for obese

mothers as part of their professional role the literature was again predominantly qualitative; this is often seen in research that is capturing unfolding events and interactions between individuals (Bryman 2015). Limitations of qualitative research often focus on the issue of generalisation and whether findings from a small-scale study can be applied to other settings. However, qualitative findings are considered to be related to theoretical concepts rather than populations and enables comparisons to be drawn with other comparable groups (Thomas 2017; Bryman 2015; Clough and Nutbrown 2002).

This section has discussed the literature searching technique, strategy and analysis/synthesis. What follows next is an overview of current key literature relating to the experience of the obese mother and midwives who have experience in caring for obese mothers during childbirth. It will identify gaps in the evidence at the time of the study design and will identify current debates and arguments surrounding the topic area. How these were addressed within this study will be discussed in chapter 3. The findings from data collection will be discussed in chapters 4 to 6, and chapter 7 will advance the thesis by providing a critical discussion incorporating the findings from this study to stimulate theoretical debate and identify practice recommendations.

2.3 The Psychological Impact of Obesity

This section aims to provide an overview of how obesity influences the psychological concept of the self and how it impacts on emotional well-being. This will form the foundation on which the next few chapters will build upon through discussions on body image, weight stigma and lay theory. It draws upon predominantly qualitative research and opinion sources.

2.3.1 Obesity and the Concept of Self

The concept of self and body size is, according to feminist thinking, due to female oppression and control within our patriarchal society. Orbach (2006) sees obesity as the result of comfort eating, which reflects a woman's distress at her status within society on one level. Orbach (2006) also perceives women aiming to distance themselves from the

social pressure to be thin and the sexual gaze this creates, in order to compete on a more equal footing with men in the workplace for instance (Orbach 2006). This sub-section aims to explore obesity and the concept of self.

Low self-esteem is common in obese individuals (Gumble and Carels 2012; Myers and Rosen 1999); this may be partly because of the general body dissatisfaction seen in women who are obese. A qualitative study by Sonnerville et al (2012), who collected data from over fifteen hundred adolescent girls, through the administration of an annual questionnaire over a five-year period. They found that body satisfaction may protect young women from weight gain and obesity and protect them from binge eating (Sonnerville et al 2012). However, a US study by Carr and Jaffe (2012) conducted forty in-depth individuals with a range of bodyweight found that those individuals who have been 'persistently overweight' for a lengthy period of time appeared to have better levels of self-esteem than those who have recently become overweight or obese (Carr and Jaffe 2012). This could be partially explained by considering that if an individual has been overweight for a while, they are more likely to have accepted their size and weight as part of their identity.

The concept of self is also influenced by an individual's environment and interaction with that environment. Recognising oneself as 'fat' or 'obese' is mediated by exposure to society's messages about the current ideology relating to acceptable body size and shape. The rates of obesity within the UK have steadily increased over the last few decades (PHE 2017), with overweight and obesity found in over 60% of the adult population in England; therefore, obesity is a more common occurrence. There is evidence that obesity is becoming more accepted (Foster and Hirst 2014; Hodgkinson, Smith and Wittowski 2013). Research suggests that self-concepts have changed over recent decades, as the average size of the general population has increased (Keightley et al 2011; Burke, Heiland and Nadler 2010), although this is seen less strikingly in women, who can consistently and objectively identify obesity more accurately than men. Normalisation of obesity also influences how obesity is perceived within families and social networks. The weight of an individual's friends and family has been found to have a significant influence on his/her weight, as it is thought that people have a tendency to want to have a weight near to that of their significant others (Barbieri and Paolo 2015; Strulik 2014; Bagrowitz, Watanabe and Umezaki 2013;

Blanchflower, Oswald and Van Landeghem 2009). This may influence an individual's perception of the need to lose weight and affect the success of such endeavours.

There is an increasing body of evidence surrounding self-concept in women who were previously obese but are now of normal weight. While low self-esteem in obese individuals is well-documented, it could be assumed that once the individual becomes 'normal weight', this would automatically resolve itself as the weight was lost. Mustillo, Hendrix and Shafer (2012) studied over two-thousand young women and found that this does not seem to be the case, as lower self-esteem appears to persist long after the weight has been lost (Mustillo , Hendrix and Shafer 2012; Levy and Pilver 2012), although a study by Gumble and Carels (2012) found that self-esteem in normal sized women was enhanced by negative comparisons with their overweight counterparts. Gumble and Carel (2012) collated responses from eighty-five participants who completed a questionnaire, which focused on weight bias, body image and self-esteem. This effect was seen more in younger age groups and Caucasian women (Mustillo, Hendrix and Shafer 2012). This suggests that the effects of stigma experienced by an obese individual lingers, even after the weight is lost and accounts for the increased rates of anxiety and depression in these individuals (Levy and Pilver 2012). This can also lead to greater social distance between the formerly overweight and the still overweight, especially if the weight loss is temporary (Fee and Nusbaumer 2012).

2.3.2 Obesity and Emotional Well-Being

The relationship between food and emotions is complex. Sawkill, Sparkes and Brown (2012) conducted semi-structured interviews will eleven 'slimmers' and found that the use of food as therapy is commonplace (Sawkill, Sparkes and Brown 2012). This is commonly referred to as 'comfort eating'. Individuals are more likely to undertake comfort eating when experiencing psychological stress or physical discomfort, with the aim to ameliorate the symptoms (Darbor, Lench and Carter-Sowell 2016; Greenfield and Marks 2009) and so is often referred to in the literature as 'emotional eating'. Comfort eating is, therefore, often associated with negative mood states e.g. depression and anxiety and is thought to be an attempt by the individual to self-medicate (Finch and Tomiyama 2015). The type of foodstuffs usually consumed during comfort eating are those high in fat, sugar and

kilocalories e.g. cake and chocolate, and is therefore common in women with obesity. A review study by Pool and colleagues (2015) found that stressed individuals were more likely to crave and seek to eat, and often overeat, these high calorie-dense foods, but this was considered by the researchers to be a physiological, rather than a psychological mediated response.

There is a significant link between obesity and unhappiness (Ul-Haq et al 2014; Katsaiti 2012). Ul Haz et al (2014) undertook a large-scale cross-sectional study investigating the link between happiness and obesity. They found that there was a significant link between unhappiness and all levels of obesity in women (Ul-Haq et al 2014). For some individuals this may be because of health problems associated with obesity (Bockerman et al 2014), but for many it is the visual appearance of their obesity, measured against the social ideal of slimness, which has an effect on their emotional well-being and for many new mothers this is due to a change in body image, especially post-birth (Han, Brewis and Wutich 2016). A literature review by Wahedi (2016), who reviewed ten relevant studies, found an association between maternal obesity and psychological ill-health, which was probably bidirectional in its cause and effect (Wahedi 2016). However, the link between mental ill-health, especially depression and anxiety, is often unclear in the literature and often occurs independently of an individual's obesity (da Luz et al 2017). The obese person has also stereotypically been thought of as jolly and happy, such as the fictional character Santa Claus, yet studies have demonstrated that obese individuals, especially as they age, are at an increased risk of developing mental ill-health, especially depression (Ul-Haq et al 2014; Kelly et al 2011; Roberts et al 2002).

According to Morris (2008: 1) an eating disorder is defined as *"a misnomer for obsessive weight-losing disorders e.g. anorexia nervosa and other body image-related disorders e.g. bulimia and binge-eating"*. With bulimia and anorexia weight gain is restricted, but in binge-eating there are no compensatory strategies to prevent weight gain and therefore the resulting obesity will have originated from an eating disorder (Wolff and Treasure 2008). Within the childbearing age group eating disorders affect up to 7% of women (Micali, Treasure and Simonoff 2007). Eating disorders e.g. bulimia and anorexia are not usually associated with obesity, but obesity could be classed as an eating disorder if one believes it

is solely caused by eating more calories than is needed by the body resulting in the deposition of extra energy as subcutaneous fat (Cnattingius et al 1998). Interestingly, Whitehead and Kurz (2008) suggest that anorexia is considered to be more acceptable than obesity, as it conforms to the concept that anorexia is the result of an individual's control and power over their body as opposed to obesity, which reflects a perceived lack of control and power over one's body. Higher rates of disordered eating patterns and psychological consequences are often seen in young obese individuals. Research by Darby et al (2007) studied almost five thousand young Australian non-pregnant women and found that those who were obese had significant psychological distress and increased misuse of laxatives, diuretics and bulimic episodes to control their weight. These strategies are often promoted via Internet pro-eating disorder websites aimed at young people especially women (Riley et al 2007).

This section has provided the base from which the obese woman perceives the world and the often-negative impact on emotional well-being. It has provided a basis on which to evaluate the available literature on the effect of obesity on body image and the effect of stigma during pregnancy and how these impact on obese mother's experiences of childbearing.

2.4 The Experiences of Mothers with Obesity during Childbearing

This section will evaluate the available literature on the effect of obesity on body image in pregnancy and the effect of weight stigma and how these impact on obese mother's experiences of childbearing. It will then go on to discuss the literature on lay theory and obesity. Lastly, this section will provide a discussion of the literature which informs about mother's experiences the maternity services. The literature is predominantly qualitative.

2.4.1 Body Image, Body Weight and Pregnancy

Body image is the personal relationship a person has with their body and incorporates body perception and body satisfaction (Burrowes 2013; Cash 2008). It is a psychological perception of our shape, size and appearance (Burrowes 2013). It is not static, but ever

changing, due to the psycho-social and behavioural experiences across the lifespan of an individual (Cash 2011). Smith, Hulsey and Goodnight (2008) state that body image in women is the balance between what the woman's body actually is and what she would like it to be and the psychological adjustments the woman subsequently makes. Feminist opinion suggests that within a patriarchal society women are limited in the space they occupy, and this may be reflected in the drive for smaller body sizes (McLaren and Kuh 2004). Women are therefore pressurised to confirm to a stereotypical view and *"to be valued one must be aesthetically pleasing"* (Drury and Louis 2002:1); which, when attributed to weight and shape, is generally considered to be slimness (Whitehead and Kurz 2008). This sub-section aims to discuss the influence of body image and body weight in pregnancy.

Pregnancy takes a woman's body more and more away from the perceived ideal state as pregnancy progresses and these changes are relatively rapid. Physiological adaptations in pregnancy result in weight gain around the breasts and hips, coupled with an expanding waistline as the fetal-uterine environment develops and grows (Murray and Hassall 2014). However, in western cultures slimness during pregnancy is increasingly regarded as 'desirable', 'normal' and 'natural' and the attitudes towards body shape and weight seen in the non-pregnant woman appear to be encroaching into childbearing (Nash 2012a).

In pregnancy there is increasing research evidence to suggest that women are very aware of the changes to their body. Research by Earle in 2003 was one of the first studies to capture the perceptions by women about their body image during pregnancy and found that women are concerned about changes to their bodies during childbearing. This longitudinal qualitative study conducted forty in-depth interviews with nineteen women from the West Midlands, who were of varying size and weight. She found that women were concerned about changes to their bodies, especially around perception of 'fatness' during pregnancy (Earle 2003). Earle (2003) argued that this is in response to the prevailing attitude towards the desirability of female slenderness. She suggested that in pregnancy women are unhappy when considered to be 'fat' and were relieved when their pregnancy started to become obvious; they saw the changes as necessary and something to be endured temporarily.

Earle (2003) found that women were happy with their body image so long as society recognised their body shape as pregnant rather than fat. The uterus becomes an abdominal, rather than a pelvic organ, at around 12-16 weeks gestation (Baston 2014), when the pregnancy begins to "show" and the women, if she is a normal weight, is then recognised as pregnant. Obese women often do not outwardly appear pregnant until a much later gestation depending on their individual level of obesity. The concept that women regard the importance of being recognised as pregnant, rather than fat, was further developed by Nash (2012a). Nash (2012a) conducted a longitudinal qualitative research study, which focused on body image in pregnancy. With a sample of thirty-eight women during pregnancy, she used an in-depth semi-structured interview method, conducting four interviews per women at ten-week intervals across the childbearing period. She found that the period in early pregnancy resulted in significant anxiety for obese women. Nash (2012a) called this period, when the pregnancy has been confirmed but is not obvious externally, as a state of "in-betweenness" i.e. where the obese woman reports feeling fat rather than feeling pregnant. This state of anxiety tends to reduce as the pregnancy develops, as in the later stages of pregnancy feeling fat or bigger is considered to be okay because of the growing and developing fetus – the excess weight is thought of as not fat, but as baby (Lingetun et al 2017; Skouteris 2005). The public recognition of pregnancy i.e. a visible pregnant belly is regarded as confirmation of their pregnancy (Hodgkinson, Smith and Wittkowski 2014).

A recent Swedish study by Bergbom et al (2017) recruited twelve first-time non-obese pregnant women to explore and describe women's experiences about changes to their bodies in the first 10-14 weeks of pregnancy. They asked the participants to draw a picture of their experiences of their pregnant body, which was used as an opener for the subsequent semi-structured interview. The researchers found that the participants wanted to be pregnant and saw significant bodily changes, but they did not always recognise them as related to the pregnancy. Some participants were happy with these changes, but some struggled to cope with some of the more negative changes e.g. increased moodiness and short-temperedness. Carrying a new life inside them was empowering for some women, increasing a sense of contentedness and serenity, while for others the baby (fetus) was considered "alien". The researchers concluded that midwives should ask mothers in early

pregnancy about their perception of their bodies and provide knowledge and support to enable women to maintain a positive body image during pregnancy (Bergbom et al 2017).

Precisely where on the body weight is gained is also considered important i.e. weight gain around the abdomen is regarded by women as legitimate pregnancy-related weight gain, whereas weight gain on arms for instance, is considered less desirable and could lead to a poorer body image. Padmanabhan, Summerball and Heslehurst (2015) undertook a qualitative study, which explored women's views on weight gain in pregnancy, known as the BLOOM study. They interviewed nineteen women with differing BMIs in late pregnancy and focused on their awareness of their pregnancy body and their perceived level of control. They suggested that women make a distinction between weight gained 'for them' and weight gained 'for baby'. The former is seen to be less acceptable and implied a lack of control, whereas the latter was more acceptable. An increase in breast size, which is a physiological adaptation in pregnancy to prepare the body for breast-feeding, for example, was usually welcomed by women as it moves the woman closer to the perceived social ideal. However, there was an overall relaxation towards diet and exercise as weight gain was regarded as expected by the participants (Padmanabhan, Summerball and Heslehurst 2015). Therefore, women have been shown to experience a persistent mindfulness of this perceived social ideal body shape and are constantly comparing their changing bodies against this perceived social norm (Padmanabhan, Summerball and Heslehurst 2015; Hodgkinson, Smith and Wittkowski 2014).

Findings of an earlier phenomenological study of six women undertaken by Johnson, Burrows and Williamson (2004), suggested that women were very concerned about weight gain and body image during pregnancy and often held negative images of their pregnancy due to the attitudes of family and friends. The study focused on late pregnancy and concluded that pregnancy causes distress to women because of the perceived transgression from the accepted body image of women in society and concluded the importance of developing a positive image of the pregnant shape (Johnson, Burrows and Williamson 2004). Jordan, Capdevila and Johnson (2005) moved this debate forward by suggesting that it is the interpretation of received comments by the woman's internal narrative and the quality of

her supportive external relationships are important in determining whether women perceive their body image negatively or positively during parturition.

Skouteris et al (2005) carried out a study looking at changes in body image during pregnancy focusing on predictors of body dissatisfaction. They undertook a study using a questionnaire on 128 healthy pregnant women and found that body image pre-pregnancy had a huge influence on a woman's interpretation of the changes occurring during pregnancy. They found that early pregnancy changes e.g. weight gain around the abdomen caused most dissatisfaction, but as the pregnancy progressed this lessened, as the bodily changes were perceived as necessary for the growth and development of the child, although women still felt less attractive in late pregnancy than they did pre-pregnancy (Skouteris et al 2005). Their study contributed by arguing that body image is a complex interplay of personal, social and psychological factors and that actual weight, on its own, does not appear to be a predictor of body dissatisfaction (Skouteris et al 2005).

Their findings were subsequently substantiated by a study by Duncombe et al (2008), who captured data using psychometric tools once per trimester on a sample of 158 women. Their findings suggest that body image perception does not change perceptibly from that expressed pre-pregnancy, but that women with greater concerns pre-pregnancy carried these with her into pregnancy and that these women were at greater risk of poorer mental well-being. Clark et al (2009a) developed this theme and undertook a prospective study on 116 women to study the relationship between depression and poor body image during pregnancy. While the recollection by their sample of women was retrospective, the study suggested that changes to a woman's body during pregnancy was expected and supported the previously documented recognition of the functionality of pregnancy and psycho-social factors seen in earlier studies (DiPietro et al 2009). Early pregnancy was most often regarded as a stressful time due to the body changes; depressive symptoms reduced as pregnancy progressed and continued up to 12 months post-birth. However, they found that women's perception of body image was poorer post-birth, when the 'excuse to be larger' is no longer acceptable and participants reported feeling fat (Clark et al 2009a). A systematic review by Hartley et al (2015) found a direct link between excessive GWG and depression, body image dissatisfaction and a lack of social support. They concluded that further

research is warranted to identify how screening and management of psychosocial risk factors for excessive GWG can be implemented into antenatal care provision (Hartley et al 2015). This is supported by a later large-scale Australian study by Vincze et al (2017) who studied 874 postnatal mothers up to five years post-birth using self-reported socio-demographic, weight status and pregnancy characteristics, also concluded that women are more at risk of low mood if they are unhappy with their weight (Vincze et al 2017).

An earlier study by Haedt and Keel (2007), who undertook a qualitative study of 196 women, identified that dissatisfaction with body image was associated with poorer mental well-being, although they do not specify a definitive cause i.e. did the changes in body image cause the depression or did the depression cause dissatisfaction with body image. They also suggest that body image does not just have an influence on maternal well-being: Haedt and Keel (2007) found that having a negative body image post-partum was also associated with weaker maternal-infant attachment. The qualitative study by Duncombe et al (2008) also found that those women with negative body image reported poorer mental well-being and a tendency to eat a poor diet, try to reduce calorie intake and smoke more during pregnancy, all of which could negatively impact on birth outcomes.

However, further research has supported the idea that a woman's body image changes as pregnancy progresses. A small qualitative study of nineteen women during pregnancy by Watson et al (2016) found that experiences of women during pregnancy were complex and ever-changing as the pregnancy progressed. Women's body image perceptions were specific to certain parts of the body and, as pregnancy progressed, the women were more attentive to the functionality of their bodies as their focus shifted towards the developing fetus (Watson et al 2016). Other studies, however, suggest that this does not represent the whole picture as women's perceptions of weight gain and body image in pregnancy appear to depend on several factors, such as pre-pregnancy body image, whether women had previously attempted weight loss regimes or had been successful in reducing their BMI, how they regarded pregnancy as a temporary state and how aware they were of the social stigma associated with obesity. How much a woman is influenced by the cultural ideal towards slimness also appears to have a significant influence on her perception of her body image during pregnancy; a study by Mehta, Siega-Riz and Herring (2010) used the Body

Image Assessment for Obesity tool with almost 1200 women to ascertain the relationship between body image in early pregnancy and GWG. They found that the correlation was complex, such as the findings that excessive GWG in normal weight mothers is usually more than in obese women (Mehta, Siega-Riz and Herring 2010).

Watson et al (2015) undertook a systematic review of ten qualitative studies from across the childbearing period, although most of the studies focused on the postpartum period. They concluded that women accepted that pregnancy represented a temporary transgression from the ideal female body image and that the functionality of the pregnant body took precedence over body image. Body image in pregnancy was also specific to certain body parts and some changes e.g. increases in breast size was more accepted that stomach size, for example (Watson et al 2015). A study by Siervo et al (2013) used the 'Body Dissatisfaction Scale of the Eating Disorder Inventory-2' and the 'Body Image Assessment for Obesity silhouette charts' to assess body dissatisfaction in forty-four young women. The found that young women are more interested in body image, over health (Siervo et al 2013). Dissatisfaction with body image postpartum was also identified as a finding in the systematic review by Watson et al (2015). This theme has been explored further by a recent study by Lovering et al (2018), who conducted a study of 474 mothers under a year post-partum, using an on-line survey. They found that post-partum mothers reported significant and varied socio-cultural pressures post-birth to adhere to a more accepted body size and weight. These pressures came from the media, peers, family and partners and contributed to increasing levels of body image dissatisfaction (Lovering et al 2018). Post-birth many mothers appear to be more motivated to lose weight: a study by Avery et al (2016) found that mothers have a renewed sense of urgency to lose weight and that this was aimed to improve body size and shape and increase self-esteem, rather than for health reasons.

Hodgkinson, Smith and Wittkowski (2014) undertook a meta-synthesis to review the prevailing literature relating to body image of women during pregnancy. They included pregnancy and post-partum periods and, using seventeen papers, undertook an interpretive thematic synthesis approach. Three themes emerged: *Appearance* i.e. how the body is perceived by others, *Control* i.e. how much control the woman has over the developing pregnancy, and *Role* i.e. how much the woman perceives herself as a woman and as a

mother (Hodgkinson, Smith and Wittkowski 2014). They concluded that the post-partum period was the time of greatest dissatisfaction as women have unrealistic perceptions for their post-birth body and that midwives need to incorporate the women's narratives about their body image and provide support within postnatal midwifery care.

Boscaglia et al (2003) undertook a study of body image satisfaction during pregnancy with a focus on exercise, by comparing those women who exercised to those who were more sedentary during pregnancy. They generated data from women in the second trimester and found that women who exercised were able to adapt to pregnancy with less negative changes in their body image. This could have been because of there was less pressure to conform to the ideals of thinness during pregnancy, but it also could be because of the well-documented positive benefits of exercise on mental well-being. However, it has been documented in the literature that more and more women are concerned about their weight gain during pregnancy (Nash 2012a; Cohen and Kim 2009) and often fear becoming fat during pregnancy, especially in the early months when they are least likely to be recognised as pregnant. An Australian study demonstrated that many affluent women actively aimed to maintain their bodies during pregnancy through aerobic classes during pregnancy (Nash 2012b), perhaps reflecting the growing fear of the risk and effect of maternal obesity, but also echoing the desire to exert some control over their bodies during childbearing. Approximately 40% of childbearing age women are trying to exert some control over their weight and in a study of over 8,000 pregnant women aged eighteen to forty-four years of age around 8% reported to be on a calorie-controlled diet during pregnancy; this was specifically associated older mothers (>35 years of age) and those who were also obese (Cohen and Kim 2009). This has implications for midwifery practice should women be undertaking strategies such as smoking, excessive exercise and restrictive diet during pregnancy in an effort to maintain or lose weight and the possible negative outcomes on the pregnancy that such behaviours risk (Duncombe et al 2008; Darby et al 2007; Boscaglia, Skouteris and Wertheim 2003). Health care professionals need to be aware of the negative effects of the alterations in body image during pregnancy may have on women with pre-existing eating disorders and treat women with sensitivity when discussing body changes during childbearing (Stringer et al 2010).

During pregnancy women with a history of an eating disorder may experience concerns due to the increase in weight and changes in body shape usually associated with pregnancy and continue or start to use laxatives etc. to control their weight during pregnancy; relapse of the eating disorder was also common during the postpartum period (Micali, Treasure and Simonoff 2007). In some cases, women will go to an extreme length to maintain a slim figure, even to the detriment of the developing fetus (Bainbridge 2008; Duncombe et al 2008). Pregorexia is a term used to describe:

> *"Pregnant women who will reduce calories and exercise in excess in an effort to control pregnancy weight gain"* (Mathieu 2009:976).

This condition is increasingly of concern in maternity settings as limiting GWG and weight loss during pregnancy has been associated with intra-uterine growth restriction (IUGR) resulting in low birth weight (LBW) infants (Cox Bauer et al 2016; Oza-Frank and Keim 2013), which increase the risk of perinatal mortality and chronic ill-health in later life for the child (Cohen and Kim 2009; Cnattingius et al 1998).

Clark et al (2009b) conducted in-depth interviews with twenty women (ten in late pregnancy and 10 in the early postpartum period) to assess mood changes with body image. They found the increase sense of connectedness that women feel during pregnancy is not present post-birth and may have an effect on post-birth body image. They found that during the postpartum period women are concerned about their body image and shape and size resulting from childbearing. The researchers concluded that the immediate postpartum period was associated with significant negativity towards their body image, which was not mediated by former positive perceptions of the function of their bodies in producing new life, for instance that were present during pregnancy (Clark et al 2009b). The perceived body image of mothers' post-birth is considered in some studies to be unrealistic, which can lead to depressive symptoms in new mothers (Hodgkinson et al 2014; Fern, Buckley and Grogan 2014) and could be ameliorated by interventions by midwives during pregnancy (Han, Brewis and Wutich 2016).

Olander et al (2011) undertook an exploratory study using two small focus groups; one antenatal group of nine women and one postnatal group of fourteen mothers. They found that mothers did not worry about excessive GWG, as they expected to lose any post-partum weight retention post-birth through activities such as breastfeeding. Excessive GWG is hard to lose postpartum due to lifestyle behaviour changes, although evidence suggests that this could be reversed if breastfeeding rates and duration increased (Fern, Buckley and Grogan 2014; Baker et al 2008). A later small-scale qualitative study by Lingetun et al (2017) studied thirteen social media 'blogs' written by overweight and obese women during pregnancy. The participants wrote about how they did not worry about GWG, as they thought it was out of their control, but stated that thought they would be able to lose any post-partum weight retention after the baby was born and that GWG was not a problem.

A poor body image during the postpartum period has also been demonstrated to influence breastfeeding rates and duration. Breastfeeding, as identified earlier, can aid weight loss post-birth, but a study by Brown, Rance and Warren (2015) found that new mothers who were keen to lose weight cited weight loss as a reason to cease breastfeeding. They used a questionnaire-based study of 128 new mothers and found that new mothers felt under pressure to return to a more culturally acceptable shape and size quickly after childbirth and stated that breastfeeding interfered with their ability to lose weight through a calorie-restricted diet (Brown, Rance and Warren 2015).

Support by midwives to aid mothers adapt to changes in their body image during pregnancy has been demonstrated to be important to reduce the risk of the development of postnatal depression. There is a well-established relationship between depression and obesity and this link has been shown in research to be present in childbearing (La Coursiere et al 2010). Researchers from the Norwegian Mother and Child Cohort Study followed almost 40,000 mothers and studied having a positive body image protected new mothers from depressive symptoms even if they had gained significant GWG. Women who entered pregnancy already obese are more at risk of depression and any subsequent weight gain increased the incidence of depression. The researchers concluded that interventions by midwives during childbearing to support a more positive body image during childbearing may help lessen the risk of postnatal depression (Han, Brewis and Wutich 2016). This study supports the findings

of a systematic review by Silveira et al (2015) who reviewed nineteen studies in the literature on body image and postnatal depression. While they were not focusing on obese women, they found that cross-sectional studies unfailingly reported an association with poor body image (Silveira et al 2015) and findings could be applied to obese women who already have an increased risk of depression. Negative body image as a result of childbearing has also been shown to impact on a woman's experience of their sexual function during childbearing. An Australian study by Khajehal and Doherty (2018) explored women's changes to their sexual function during childbearing. They undertook an on-line qualitative survey of women who had birthed within the past year. They used 273 responses from women who fulfilled their study criteria. One of the main findings was the impact of negative body image on sexual desire – several participants reported that GWG and bodily changes during pregnancy and birth had a deleterious impact on their body image and this negatively affected on their sexual function (Khajehel and Doherty 2018).

This sub-section has explored the literature underpinning the concept of body image in women. It has also evaluated the effect of childbearing on body image and the specific influence that body changes in pregnancy and weight gain has on a woman's body image during childbearing. Body image in women is an individual concept and is, for most mothers, a time when they report that they can be more relaxed about weight as they are pregnant and expected GWG and change shape. The literature shows that it is important for the obese mother to be recognised as pregnant, as it is more acceptable in society to be larger if pregnant. However, the desire to remain slim is encroaching into childbearing, with mothers in later studies increasingly reporting being unhappy with their body image during pregnancy. Post-birth, the literature shows that mothers undergo renewed impetus to lose weight and regain control over their bodies. There is a need to further evaluate obese women's experience of weight gain and body image in pregnancy and the mother's perception of the role of the midwife in minimising excessive GWG as a tool to reducing maternal distress about postpartum weight retention.

2.4.2 Weight Stigma and its Influence on Mothers during Childbearing

Stigma and discrimination are often experienced by the obese individual within our society (Bannon et al 2009; Goffman 1963). Social stigma is defined as *"a socially constructed phenomenon that may serve as a constant reminder to persons with visible disabilities that society views them as 'different' and devalues them as a result"* (Phemister and Crewe 2004:33). Obesity is a body state that cannot be hidden: a stammer or a limp can be hidden yet obesity is constantly visible. There is some debate around whether obesity should be classed as a disability and, although this will not be addressed here, it should be noted that the effects of obesity e.g. oppression and social exclusion are very similar to the experiences of individuals with a disability (Thomas 1999). During pregnancy, obese mothers report that they are acutely aware of their 'condition', because of the increased observation of the body that occurs during pregnancy through the interaction with caregivers. Obese mothers feel the gaze of society on them more acutely during childbearing as a result (Nyman, Prebensen and Flesner 2010). The literature discussed in this sub-section was predominantly from qualitative research.

Goffman's (1963) seminal work on stigma, which, when applied to the concept of obesity, identifies obesity as a substantive and potentially stigmatising condition. He described stigma as being associated with three issues: physical appearance, behaviour and ethnicity, which are at odds with social norms and expectations (Goffman 1963) and which devalue the individual (Puhl and Brownell 2003; Page 1984). These are variable and will change depending on the culture and the values of any given group (Davidson and Knafl 2006). Goffman (1963) discusses the attachment of blame and its relationship to the amount of stigma a person is subject to, as he thought that the perception of blame greatly influenced the application of stigma. Through Goffman's work, it could be deduced that obesity is a condition that is readily visible to all and one that is considered to be solely the individual's fault alongside other conditions such as lung cancer caused from smoking (Gluckman and Hanson 2012; de Vries 2007; Greenfield and Marks 2009). Other conditions e.g. blindness is considered by Goffman (1963) to be more discreditable and is generally seen as a misfortune.

Anti-fat attitudes send messages that support what some would see as the predominant ideology of self-contained individualism seen in western cultures i.e. the individual is responsible for his/her fate (Puhl and Brownell 2003; Crocker, Cornwell and Major 1993). Therefore, the stereotypical attributes commonly attributed to obese individuals such as lazy, greedy, unintelligent, lacking self-discipline and unattractive are appropriate (Brown 2008; Bordo 1993). These assumptions largely go unchallenged and may result in inequalities in paid employment and treatment within healthcare settings (Puhl and Heuer 2009). This was seen in a study by Bannon et al (2009); they conducted a qualitative study with 374 participants, who were asked to read a scenario about binge-eating and then asked to complete a questionnaire to assess attitudes. They found that obese individuals who admitted to binge-eating were rated more negatively than obese individuals who did not binge-eat, thus suggesting that obesity is less tolerated if the cause seems to be under an individual's control i.e. self-inflicted (Bannon et al 2009). Their findings supported an earlier study by Hilbert, Rief and Brachler (2008), which collected data from one thousand participants with a range of demographics such as BMI, using a computer-assisted telephone interview. They found that increased rates of weight stigma were related to linking the cause of obesity to individual behaviour, lower education, and older age, while attributing obesity to genetic causes and considering obesity as an illness was associated with reduced weight stigma (Hilbert, Rief and Brachler 2008). Crandall (1994) suggested that 'fatism' is similar to symbolic racism, where non-white individuals do not emulate the social norms of the prevalent culture of the society, which may reflect individual's and society's intolerance to difference. Therefore, the perceived cause of obesity is significant to the stigmatising ascription attributed to obese individuals.

'Social Identity Theory' suggests that individuals develop social identity by making comparisons with others and that the stigmatisation of others is necessary to secure a positive social identity (Puhl and Brownell 2003; Tajfel and Turner 1986). However, this does not explain the self-stigmatisation that obese individuals experience. A study by Wang, Brownell and Wadden (2004) explored the anti-fat bias present in 116 obese participants and their findings suggested that obese individuals do not hold more favourable opinions of other obese individuals i.e. they exhibit in-group devaluation (Wang, Brownell and Wadden 2004). However, one could argue that negative attitudes to obesity are endemic, for

example, Rogge, Greenwald and Golden (2003) undertook a small phenomenological study and through the lived experiences of their study group they concluded that weight stigma was *civilised oppression*, where stigma towards obese individuals is considered to be a socially acceptable form of discrimination.

Thomas et al (2008) undertook a qualitative study with seventy-six obese adults using an in-depth semi-structured interview to explore the lived experiences of "being fat in today's world". This Australian study concluded that the stigma obese individuals are exposed to results in discrimination and social isolation, but that the experiences of obese individuals are diverse. Obese individuals tend not to demonstrate in-group cohesiveness and therefore group strategies to support obese individuals are not particularly effective (Crandall 1994), probably as it is argued that groups are only beneficial if the members identify with each other, which does not appear to happen with obese individuals.

Weight stigma is associated with lowered self-esteem, poorer social functioning and increased mental ill-health (Zhao et al 2009; Darby et al 2007; Puhl and Heuer 2010). A large-scale Australian study of 630 obese women of childbearing age found that obese women experienced poorer mental health and, in particular had increased rates of anxiety and depression (Darby et al 2007). However, while obesity is associated with poorer mental well-being, Marcus and Wildes (2009) in a large-scale literature review did not find enough evidence to include obesity as a mental disorder, although the evidence does not clearly differentiate whether obesity pre-dates the development of mental ill-health or is a direct consequence of mental ill-health. Findings of poorer mental health were especially demonstrated in those who had experienced obesity stigma from childhood. A study by Annis, Cash and Hrabosky (2004) conducted a study with 165 women subdivided into currently overweight, never overweight, or formerly overweight subgroups. They found that within the overweight, but not previously overweight women, if they were exposed to more frequent stigmatizing experiences during childhood, adolescence, and adulthood they were more likely to have a poorer body image and psychosocial functioning (Annis, Cash and Hrabosky 2004). This built on an earlier study by Myers and Rosen (1999) who studied the coping strategies of obese individuals and the link with mental health. They found that individuals who were exposed to stigmatising incidents had poorer mental health, especially

in those individuals who were less well-adjusted, suggesting that the stress associated with weight stigma contributes to the pathophysiology of obesity (Muennig 2008).

It has also been suggested that shame and guilt over body size and the negative influence of weight stigma often has damaging influences on any weight loss goals (Conradt et al 2008; Latner et al 2009; Wott and Carels 2010). Ogden and Clementi (2010) studied forty-six obese individuals and explored the effect of stigma and how it influences the motivation to lose weight. They found that the influence of stigma was complex, but that stigma tended to have a negative influence on weight loss attempts due to how it undermines motivation (Ogden and Clementi 2009).

Stress due to obesity is considered commonplace, yet some research suggests that stress may be a cause of obesity and may directly influence the development of obesity-related pathology due to the effect of stress on neuro-hormonal interactions e.g. cortisol levels (Muennig 2008). It has been suggested that obese individuals tend to internalise any received personal criticism of their weight: findings from a small study by Crocker, Cornwell and Major (1993) suggest that obese individuals do not attribute any negativity to the person making the criticism. It has been suggested that this propensity to internalise all criticism has the effect of increasing individual stress levels and results negatively on the emotional well-being through lowered self-esteem of obese individuals (Miller et al 1990). It could be inferred from this that it would be useful to consider how individuals cope with the stigma of obesity when evaluating strategies to reduce it. For instance, it could be deduced that it would be useful to employ strategies to raise self-esteem and reduce the depression and anxiety that obese individuals may experience through stigmatising events. Cognitive behavioural therapy (CBT) has been shown to decrease the impact of obesity stigma (Walker, Sterling and Timmerman 2004) and improve the success of weight reduction strategies by reducing the negative cognitive effects (Puhl and Brownell 2006).

Stigma and discrimination appear to be present within the NHS, in primary and secondary care and in the private health sector (Heslehurst et al 2013a; Poon and Tarrant 2009; Brown et al 2006; Epstein and Ogden 2005; Drury and Louis 2002). Stigma and discrimination have been shown to be present in the attitudes and behaviours of health care professionals.

Brown et al (2006) undertook a small qualitative study using purposive sampling and semi-structured interviews of twenty-eight obese patients from five GP practices in a northern UK city and found high levels of dissatisfaction from the participants of the study. Participants in the study experienced ambivalence from the GP about weight issues, which resulted in a reluctance to discuss weight issues during consultations. Compare this to the results from other small qualitative studies, which investigated the attitudes of General Practitioners (GP's) (Epstein and Ogden 2005) and Registered Nurses (Poon and Tarrant 2009). These studies highlight that there is a clear ambivalence at the very least, and fat phobia at the very most, on the part of health professionals towards obese individuals. An earlier US-based small-scale qualitative study by Drury and Louis (2002) conducted a study with twenty-six obese non-pregnant women using a questionnaire and found that being obese and the effect of experiencing weight stigma by healthcare professionals was also associated with obese individuals delaying and avoiding accessing health care.

Even healthcare professionals with an interest in supporting the obese person to improve their lifestyle are not immune to stereotypical beliefs; a study by Berryman et al (2006) demonstrated that some dieticians consider obese clients less favourably than their normal weight clients. This was substantiated in a small-scale qualitative study by Hodgkinson et al (2017), who captured the perceptions and attitudes of ten obese mothers and eleven obese midwives, looking for similarities and differences. They found that midwives were conscious not to appear judgemental but regarded obese mothers as less health-conscious and unconcerned about obesity. Both midwives and mothers acknowledged weight-related stigma and stereotypical values regarding obesity (Hodgkinson et al 2017).

It was clear that weight stigma was present in maternity care when this study was designed, and as obesity in childbearing had become a key concern and focus within maternity care provision, it is prudent to conclude that this is still present. Obese mothers have reported feelings of embarrassment (Heslehurst et al 2011) and the perception of negative treatment from healthcare providers (Furber and McGowan 2011), which suggested the presence of weight stigma during childbearing. A study by Mulherin et al (2013) also researched the influence of weight stigma in maternity care. They studied responses from a survey of 627 Australian women and measured two aspects; perceived positive treatment and perceived

negative treatment. Mulherin et al (2013) found that mothers with higher BMI's perceived less positive and more negative treatment during their maternity care encounters. They also studied a sample of medical and midwifery students (N=248) to ascertain their attitudes towards obese mothers and found less positivity towards obese mothers. The researchers concluded that weight stigma is present in maternity care (Mulherin et al 2013). An in-depth qualitative study using telephone interviews was conducted with sixteen pregnant women in a US study by DeJoy, Bittner and Mandel (2016). They reported that all their participants had experienced at least one stigmatising encounter e.g. experiencing humiliating and insensitive treatment during antenatal and postnatal appointments with the maternity services during their pregnancy. This resulted in psychological sequelae e.g. distress and influenced the women's perceived satisfaction with their childbearing experiences (DeJoy, Bittner and Mandel 2016). While weight stigma has been shown to be associated with poorer mental health (Heslehurst et al 2011; Schmied et al 2011), commentary by DeJoy and Bittner (2015) concluded that obesity stigma is also a determinant of poor birth outcomes, especially if the sufferer used alcohol, drugs or food to ameliorate their symptoms (Duncombe et al 2008).

A study by Bombak, McPhail and Ward (2016) researched obese women's experiences of weight stigma during childbearing. They undertook a qualitative study of 24 women using semi-structured interviews and focused on their experiences of care during pregnancy and how it influenced their perception of their bodies. They concluded that weight stigma was present; it can be overt, where healthcare professionals show disgust or covert where care is based on the perception of risk and certain care pathways are denied (Bombak, McPhail and Ward 2016). In a New Zealand study Parker (2017) conducted semi-structured interviews with twenty-seven postnatal mothers. He concluded that weight stigma was an experience lived by his participants and these experiences influenced their perceptions of their childbearing experiences. He suggested that weight stigma is endemic and well-established within maternity services and it would be better use of resources if time and effort was made to recognise and address weight stigma with healthcare providers (Parker 2017). Being identified as obese, especially seriously obese, can be stigmatic for women during childbearing. Lauridsen, Sandoe and Holm (2018) conducted a qualitative study using semi-structured interviews with 21 women to ascertain their perceptions of being identified

as obese during pregnancy. They interviewed the participants 4-5 years after their childbearing experiences and their retrospective accounts identified that labelling women as obese was stigmatic and concluded that midwives need to consider how women will react given the differences in how the women identified themselves and the presence of weight stigma in society (Lauridsen, Sandoe and Holm 2018).
There is a correlation between weight stigma and mental health concerns and pregnant women are already at increased risk of depression throughout childbearing, there is potential increased vulnerability. In a study on the impact of a weight management programme shame about weight and size, which is often exacerbated by exposure to stigma, has also been shown to negatively impact on the resolve of the obese individual to manage their weight (Duarte et al 2017). While this study focused on non-pregnant obese women, their findings can be applied to the pregnant obese mother, who is attempting to control GWG. Studies have demonstrated that experiencing stigma and discrimination from healthcare professionals encouraged comfort eating and other less healthy activities and potentially increased GWG (DeJoy and Bittner 2015; Puhl and Heuer 2010). Experiencing humiliating treatment by health care professionals e.g. not being treated like other women could be assumed to add to their sense of shame and guilt, yet affirming encounters, as described by Nyman, Prebenson and Flesner (2010), may empower women with obesity. Mothers want to be *"seen behind the fat"* (Nyman, Prebenson and Flesner 2010: pg 427).

This sub-section has explored the well-established literature – base on the concept of obesity stigma. It has reviewed the evidence on weight stigma and its negative effect on the psychological well-being of the obese individual. Weight stigma has been shown in the literature to be present within encounters with healthcare professionals and in the maternity services and midwife-mother care encounters. However, the evidence reviewed has identified gaps in the literature relating to weight stigma in reproductive healthcare, especially regarding how midwives could address weight issues within mother-midwife care encounters that does not further contribute to weight stigma.

2.4.3 Lay Theory and Obesity

Lay theories, when applied to health, are the beliefs that individuals construct to explain aspects of their well-being, such as obesity (Wang, Keh and Bolton 2010; Forshaw 2002). Thibodeau and Flusberg (2017) consider it important to acknowledge and understand the specific lay theories which underpin individual or community beliefs around obesity, so that public health strategies develop appropriate and evidence-based interventions to address them. If the cause is believed to originate with the individual then the health promotion strategies need to focus on how to support individuals to make healthier lifestyle choices, whereas if the cause is believed by lay people to lie within the environment, public policy is considered to be of paramount importance in order to activate change (Thibodeau, Perko and Flusberg 2015). The literature discussed in this sub-section was predominantly from qualitative research and expert opinion.

Thibodeau and Flusberg (2017) discussed the importance of understanding how much an individual considers themselves to be responsible for their obesity i.e. how the individual is blamed for their obesity through over-eating or eating the wrong foods i.e. energy dense foods which are high in sugar or fat, coupled with a lack of willpower and poor exercise adherence. At the other extreme is the perspective that obesity is caused by factors outside an individual's control e.g. genetics. The concept of an obesogenic society where a combination of a readily available food supply, urbanisation and more sedentary jobs and lifestyle, set against a background of evolution that aims to protect against famine by a propensity to conserve energy, has resulted in the upward trend towards obesity BMIs (Butland et al 2007). A cross-sectional market research study by Beeken and Wardle (2013) collected data from almost 2000 UK adults and found that the food environment and lack of willpower were perceived as more significant causes of obesity than genetic influences, which supported policy changes e.g. food labelling (Beeken and Wardle 2013).

Despite the medical discourse towards regarding obesity as a disease, the belief that obesity is the fault of the individual continues to be a commonly held prevailing theory of obesity (McFerran and Mukhopadhyay 2013). This is thought to be responsible for the failure of many public health strategies over recent decades, which have focused on the role of health policy to influence individual behaviours (Hruby et al 2016). Where an obese individual sits

on the continuum, between total personal responsibility at one end and as an unwilling player in an obesogenic environment at the other, will influence how they judge their obesity and their individual power to address their obesity. This knowledge should also influence public health interventions, by providing the evidence-base to support decisions around what strategies will motivate and empower an individual to eat less and move more, as compared to what society-level policy change is required. Thibodeau and Flusberg (2017) support a 'bottom-up' approach as this considers the prevailing lay theory of obesity underpinning how the individual regards the cause of his/her lifestyle causes the obesity and what would motivate and support the individual attempts to lose weight. This perspective is set against a background of increasing rates of obesity, with an increasing normalisation of obesity influencing lay beliefs, resulting in evidence that obesity is becoming more accepted (Foster and Hirst 2014; Keightley et al 2011; Hodgkinson, Smith and Wittowski 2014; Schmeid et al 2011).

Due to the medicalisation of obesity, lay theories of obesity have largely been neglected from a social research perspective. Thibodeau and Flusberg (2017) suggest that, as lay theories are what people use as a basis for their health-focused behaviours, it is vitally important to understand them in order to effectively address the obesity public health predicament. An Australian study by Dryer and Ware (2014) used a questionnaire survey of 376 individuals (three-quarters were female) and found that they had a sound understanding of the relationship and influence of internal and external factors that impact on weight management (Dryer and Ware 2014).

A series of qualitative studies across five countries on three continents was undertaken by McFerran and Mukhopadhyay in 2013. They aimed to investigate the lay beliefs held by individuals about the cause of obesity and how these beliefs influence the weight of the individual. They demonstrated that individuals' lay beliefs did influence their current weight; if they believed that diet and exercise were more influential then that individual was more likely to have a lower BMI than the individual who believed that genetics is to blame. Therefore, McFerran and Mukhopadhyay (2013) concluded that an individual's lay beliefs about the cause of obesity had a direct influence on his/her level of obesity and suggested that lay beliefs have a direct and important impact on personal health behaviour; a

deduction that health care providers could utilise in their management of obesity. This finding is supported by the findings of Beruchashvili, Moisio and Heisley (2014), whose qualitative study with dieters found that the impact of the lay theories held by the participants, they concluded, need to be acknowledged and taken into account when health professionals attempt to encourage individuals to change their health-related behaviour e.g. to lose weight, as individuals will probably not comply with advice and support if it does not fit in with their lay beliefs. This supports the earlier study by Sawkill, Sparkes and Brown (2012), who interviewed eleven female 'slimmers' and found that behavioural causes e.g. beliefs about food, personal histories and childhood experiences were very relevant to individual weight loss success (Sawkill, Sparkes and Brown 2012).

An early study by Ogden and Flanagan (2008) compared the perceived causes and solutions regarding obesity held by a sample of GP's (N=73) and patients (N=311). Using a questionnaire, they found that the GP's believed that the causes of obesity were behavioural and psychological, but the patients tended to discuss biological causes e.g. genetics. This identified the importance of understanding the perspectives of the individual and has an influence on possible solutions (Ogden and Flanagan 2008). This echoes the findings of a later study by Brogan and Hevey (2011) who used a questionnaire to ascertain the beliefs of 72 obese individuals (three-quarters were female). They found that the perceived causes of obesity held by these individuals were complex and include circumstantial events such as traumatic events and passive behaviours such as lack of exercise and comfort eating. The researchers concluded that health professionals would benefit from this understanding to achieve behaviour change (Brogan and Hevey 2011). Lay beliefs in pregnancy are commonplace and many focus on weight and nutrition. Common beliefs such as 'eating for two' and 'eat whatever you want as its baby weight' prevail with the literature, despite a plethora of evidence to counter these myths. Research has shown that mothers still use these to explain their lifestyle behaviours (Atkinson and McNamara 2017; Padmanabhan, Summerball and Heslehurst 2015). How a person regards his/her health is also important to this discussion. Constantinou (2014) suggests that health is viewed by the individual as the ability to undertake the activities of daily life, engage in social activities and achieve personal goals. In a younger aged mother especially, obesity does not often produce any discernible symptoms of ill-health and so the mother will

describe herself as healthy and have a reduced perception of obesity as a risk factor (Lauridsen et al 2018; Visscher et al 2017).

The US study by Ledoux et al (2017) found that the health beliefs of mothers during pregnancy significantly impacted on rates of GWG. They surveyed 159 antenatal women who were overweight in early pregnancy. They used a survey method that reviewed demographics with GWG alongside knowledge of the health risks associated with excessive GWG. They found that low levels of knowledge and erroneous health beliefs increased the risk of excessive GWG. The researchers concluded that maternal knowledge could be an adaptable influence in preventing excessive GWG (Ledoux et al 2017). A study by Keely et al (2017) investigated the experiences and attitudes of eleven pregnant mothers with a BMI ≥ 40 (kg/m^2) through the use of semi-structured interviews during the antenatal and postnatal periods. They wanted to ascertain what shaped the mother's beliefs about health, pregnancy, diet and weight/obesity. One of the findings was that the mothers intended to lose weight and make lifestyle behaviour changes once the baby was born; they regarded pregnancy as a time in their lives where they did not have to consider lifestyle changes e.g. eating healthily. The participants also described how important the influence of their partners was about health-related behaviour during childbearing. The researchers concluded that models of care are needed that focus on relationships and self-efficacy to facilitate a discussion about lay beliefs (Keely et al 2017). This builds on the study by Olander et al (2011) who conducted research with a focus group of fourteen postnatal mothers. They found that the mothers did not monitor their GWG during pregnancy and subscribed to the lay belief that they would lose any GWG post-birth mainly through breastfeeding (Olander et al 2011). This supports the findings from an earlier study by Weir et al (2010), who also found that their participants were waiting until post-birth to lose any excess weight. This study investigated the beliefs that obese mothers held in relation to exercise in pregnancy and found that the participants lacked the information and support to exercise in pregnancy (Weir et al 2010).

This sub-section has explored the evidence-base and literature underpinning the concept of lay theory and applied the discussion to obesity. There is less direct research on lay beliefs and obesity in maternity care and this represents a gap in the literature. Within this study

the concept of lay theory may be useful to interpret the narratives of the mothers and midwives' experiences.

2.4.4 Obese Mothers Experiences of the Maternity Services

Since the inception of this study there has been an increasing body of predominantly qualitative literature documenting the experience of pregnancy and birth by mothers with obesity. This section aims to explore the available literature on obese mothers' experiences of their encounters with the maternity services and healthcare professionals. The literature predominantly consisted of qualitative studies.

A study by Nyman, Prebenson and Flensner (2010) aimed to capture obese women's experiences of care provided by midwives and doctors during childbearing. This Swedish study used a phenomenological approach, undertaking interviews with ten women with a BMI ≥30 (kg/m^2) during the puerperium. The participants discussed how being obese and pregnant served to be a constant reminder of their obesity as they were always being observed and under scrutiny by professionals. They reported feelings of discomfort and these produced negative emotions, which were exacerbated by receiving humiliating treatment by midwives and doctors. The researchers concluded that care providers needed to understand the perspective of the obese woman. This would promote an individualised care approach for obese pregnant women, facilitating the telling of their own story (Nyman, Prebenson and Flensner 2010).

A study by Heslehurst et al (2013a) explored pregnant women's experiences of the maternity services. It was a qualitative study, which used low-structured in-depth interviews to allow the participants freedom to share their experiences. They concluded that using women's perspectives when developing maternity service provision for the mother with obesity would encourage increased participation by the mothers and lead to a more effective antenatal weight management service. The study by Lauridsen, Sandoe and Holm (2018), who conducted a qualitative study using semi-structured interviews with 21 women to ascertain their perceptions of being identified as obese during pregnancy using retrospective accounts 4-5 years after their childbearing experiences, also found that

midwives need to consider how women will react given the differences in how the women identified themselves and the presence of weight stigma in society (Lauridsen, Sandoe and Holm 2018). Obese mothers are considered to be a vulnerable group, due to the visibility of their obesity, but also because they are entering childbearing with a lifetime of experiences, which may be less than positive (Bombak, McPhail and Ward 2016; De Joy, Bittner and Mandel 2016; Nyman, Prebenson and Flensner 2010).

Research focusing on women's experiences during childbearing has suggested that often the communication during interpersonal encounters is of a poor quality, with care providers making assumptions and judgments about individual causes and behaviours (De Joy, Bittner and Mandel 2016; Furber and McGowan 2011). As obese mothers may have already experienced stigma and discrimination in other areas of their lives, they may arrive at the maternity services expecting negative treatment, which may impact on their readiness to engage in appropriate self-care or make the necessary lifestyle and behaviour changes (De Joy, Bittner and Mandel 2016; Heslehurst et al 2013a). Pregnant women consider themselves to be vulnerable due to being self-conscious about their weight and size (Hodgkinson, Smith and Wittkowski 2014; Furber and McGowan 2011) and are hyper-sensitive to weight stigma when entering the maternity services due to previous negative encounters with healthcare professionals (Heslehurst et al 2013a). They often suffer guilt at being obese and pregnant (Arden, Duxbury and Soltani 2014). Furber and McGowan (2011) undertook a UK based qualitative study on nineteen mothers using semi-structured interviews. The participants were interviewed twice; once during the third trimester and once between three- and nine-weeks post-birth. The mothers reported feeling humiliated during antenatal care encounters and reported experiencing stigma during pregnancy, which they attributed directly to their weight. Interactions with their healthcare providers re-enforced these feelings; they perceived that they were discriminated against by lack of helpful advice and medicalised pregnancies and often interactions between obese mothers and midwives were less than empowering (Furber and McGowan 2011).

The theme of discriminatory treatment was developed by the study by DeJoy, Bittner and Mandel (2016) who also found that the participants in their study expected to experience discriminatory treatment due to their size and the care they received was depersonalised.

They stated they experienced discriminatory treatment, which contributed to a poor maternity experience (DeJoy, Bittner and Mandel 2016). In an earlier study DeJoy and Bittner (2015) discussed how obese mothers bring a lifetime of weight bias to their first booking appointment; they feel powerless, receive shorter visits, and undergo disparity regarding treatments, which may all lead to suboptimal care and poorer outcomes. They also experience subtler forms of discrimination through perceived disgust towards obese individuals, which can have a negative effect on mental health. While these impacts appear to reduce with age, it means that obese women during childbearing are more at risk of poorer outcomes due to these factors (De Joy and Bittner 2015). An Australian study by Knight-Agarwal et al (2016) researched 16 obese mothers during pregnancy using an in-depth interview to ascertain their experiences of antenatal care. Using interpretive phenomenological analysis, they identified four themes. They also found that women entering pregnancy bring with them a previous history of obesity which influences their perceptions and experiences, women often lack knowledge about GWG, and when women had received communication about GWG it was often judgmental and confusing. They also found that most obese women want to make lifestyle changes to promote good pregnancy outcomes (Knight-Agarwal et al 2016).

A meta-analysis of six databases resulting in six qualitative papers undertaken by Smith and Lavender (2011) found that antenatal appointments were an opportune time for midwives and other health professionals to discuss lifestyle changes as women were receptive to behavioural advice and support to promote pregnancy outcomes. An Australian-based study by Mills, Schmied and Dahlen (2011) researched the experiences of fourteen mothers in their third trimester. They found that mothers wanted support from midwives to make lifestyle changes, but they wanted advice that was individualised (Mills, Schmied and Dahlen 2011). The theme of pregnancy as a time for change and the receptiveness of pregnant women to making changes were further investigated by Lavender and Smith (2015). They undertook a qualitative study using semi-structured interviews and focus groups with thirty-four postnatal women. The participants highlighted that they were ready to make dietary and behavioural changes during pregnancy but were disappointed not to have received support to make even small lifestyle adjustments. They were acutely aware of the midwife's reluctance and unease when discussing weight-related topics during maternity

care encounters (Lavender and Smith 2015). A recent study by Cunningham, Endacott and Gibbons (2018) who interviewed eleven mothers during pregnancy using a standardised framework, reported that mothers do their best to follow advice provided by midwives during antenatal appointments, but often feel judged during communications with midwives and healthcare professionals.

Jones and Jomeen (2017) undertook a systematic review and meta-ethnographic synthesis and reviewed twelve qualitative studies on obese women's experiences of maternity care. They concluded that women are dissatisfied with how midwives discuss weight during antenatal appointments; there was an agreed need for sensitive and practical advice concerning diet and exercise. There was also an over-emphasis on risk, and this often resulted in a denial of a 'normal' pregnancy experience. The theme of risk was researched by Keely, Gunning and Denison (2011). They used semi-structured in-depth interviews with eight women who were in their third pregnancy trimester and had a BMI ≥40 (kg/m^2). They were unaware of the risks involved with obesity in pregnancy and they felt that the support and advice provided during pregnancy was inadequate and this provoked increased anxiety. A qualitative study by Dinsdale et al (2016) conducted semi-structured interviews with twenty-four postnatal mothers and found that the mothers were not opposed to receiving discussions about risk, but concluded that this communication must be effectively undertaken.

There have been several qualitative studies that have studied the quality of GWG counselling, support and information-giving during pregnancy, which support findings which highlight that obese mothers state that they felt they would benefit from in-depth and regular discussions regarding GWG during pregnancy. Stengel et al (2012) conducted semi-structured interviews with twenty-four mothers post-birth using a grounded theory approach and also found that the mothers valued advice regarding GWG but stated that the information and support that they received was inadequate. They discussed how the participants did not perceive their care givers to be overly concerned about weight gain in pregnancy and generally reluctant or unable to provide evidence-based advice or support (Stengel et al 2012). This was substantiated by a further study by an Australian study by De Jersey et al (2013) who recruited fifty-eight women during pregnancy and, using a semi-

quantitative questionnaire, assessed their knowledge and behaviour related to nutrition and activity during pregnancy. They found that mothers with increased BMI were less likely to have knowledge of evidence-based advice about healthy eating or required activity during pregnancy. However, most of the participants would have liked to receive education on healthy eating and physical activity, less than half reported actually receiving support and information (De Jersey et al 2013).

Shub et al (2013) also researched the level of knowledge of 364 pregnant women about GWG and risks of obesity during pregnancy, with fifty percent of the participants having had an obese BMI. They found that all mothers, regardless of their BMI, had a poor knowledge of the risks with excessive GWG or weight management strategies in pregnancy, suggesting that the provision of information by healthcare providers such as midwives could be enhanced to counter this finding (Shub et al 2013). An interpretative phenomenological study by Atkinson and McNamara (2017) undertook semi-structured interviews on a purposive sample of fifteen postnatal participants. Their findings also highlighted a lack of information, or if it was given, conflicting information provided to mothers from midwives about BMI or weight management in pregnancy.

There is clearly a requirement for mothers with obesity to experience non-discriminatory and non-judgemental care during childbearing. Midwives need to be able to provide good quality information to mothers during pregnancy, with midwives not making pre-judgments about an individual based on their BMI alone, but rather seeing the mother as an individual. Effective communication by midwives could counter the effects of previous poor encounters with healthcare providers and services and provide an opportunity for effective health promotion. Further research is required to identify how best to communicate with mothers during pregnancy.

2.5 The Professional Perspective

The previous section discussed several relevant aspects relating to mothers with obesity and their perceptions of the care they received as an obese mother by the maternity services. This section will explore the literature that has been undertaken with midwives working within their professional remit. The literature on midwives' experiences was limited when the study was conceptualised. However, this has been in part remedied over the past decade, which has seen more published research studies capturing the midwife's perspective. The literature discussed in this sub-section was predominantly from qualitative research.

This section will start with providing an overview of the research and literature available which has captured midwives' experiences and perceptions of caring for mothers with obesity, including the counselling role of midwives. It will provide an exploration on the confidence of midwives in addressing the unique needs of mothers with obesity regarding nutrition and GWG and highlight educational gaps in midwife's knowledge and skills.

2.5.1 Midwives Perceptions of Caring for Mothers with Obesity

The rates of mothers with obesity are rising and therefore midwives are increasingly required to provide care and support to obese mothers during their professional role. Midwives are in a prime position to provide public health information and advice to provide optimal maternal physical and emotional well-being (Orbach and Rubin 2014). This sub-section will encapsulate the available literature on the experiences of midwives who have been involved in caring for mothers with obesity during childbearing, including the impact of communication on the midwife-mother relationship.

Knight-Agarwal et al (2014) captured the views and attitudes of health professionals when providing antenatal care to obese Australian women. This was a phenomenological study, conducted using three focus groups, one with ten hospital midwives, one with eighteen continuity of care midwives and one with five obstetricians. The data was analysed using interpretive phenomenological analysis (IPA). Six themes emerged. Obesity was regarded by all the focus groups to be associated with short- and long-term health risks and that

healthcare professionals need to manage maternal obesity. They found that there was a requirement for healthcare professionals to provide advice and support about weight in pregnancy, but that communication regarding weight needed to be provided sensitively and consider significant barriers to weight control in pregnancy e.g. cooking and budgetary influences. The focus groups suggested that weighing mothers in pregnancy needed to be re-introduced into routine antenatal care.

A small-scale qualitative study exploring the experiences of midwives when caring for the obese mother during the intrapartum period found that midwives generally find caring for obese mothers challenging (Singleton and Furber 2014). Singleton and Furber (2014) conducted semi-structured interviews with eleven midwives who had experience of providing intrapartum care for the obese mother during labour and used an interpretive phenomenological framework to analysis their data. They found an emerging *'heart-sinking phenomena'*, where midwives expressed a sense of frustration and helplessness when caring for the obese mother, which was underpinned by the drive for normality underpinning midwifery practice and philosophy. This study built on the findings of a study by Schmied et al (2011). This was an Australian descriptive qualitative study which used focus groups and interviews to collect data from thirty-four midwives and three other health professionals (senior obstetricians and anaesthetists). Three themes emerged; a sense of an increasing normality of obesity in pregnant women, the challenges of caring for these mothers and how rapidly the phenomenon of obesity has impacted on the maternity services. Midwives reported feeling overwhelmed by this rise in obesity during childbearing and the requirements for midwives to manage and support this group of mothers through their birthing experience (Schmied et al 2011).

A qualitative study by Kerrigan, Kingdon and Cheyne (2015) developed this theme further. They used focus groups and interviews to explore obesity and normal birth with a range of healthcare providers (N=24) i.e. sixteen midwives, six consultant obstetricians and two consultant anaesthetists. They found that the provision of normal birth for obese mothers was challenging as the care of obese mothers in labour tended to be highly medicalised due to the increase risk that obesity presented. However, several of the participants strived to provide care that maximised normal birth e.g. encouraging mobility. The researchers

suggested that a more positive approach to birth towards the obese mother could offset the frustration and helplessness often expressed by midwives (Kerrigan, Kingdon and Cheyne 2015).

Communication is a key component of healthcare provision and underpins the health promotion role of healthcare professionals and effective communication encompasses the understanding of content, culture and language, and increasing an understanding of health literacy and health numeracy (Murphy and King 2013). Murphy and King (2013) identified health literacy as how an individual obtains and processes information in order to make informed health-related decisions, while health numeracy is their understanding of numerical data. There is an expectation that midwives will discuss weight-related topics during antenatal care and provide information and advice on diet, lifestyle and exercise, as recommended by National Institute for Health and Care Excellence (NICE) (2010). However, a government report commissioned by the Government Equality Office and prepared by Orbach and Rubin (2014) highlighted that this important role is one where midwives and other healthcare professionals receive very little training to support a woman's body image or to advice mothers on healthy eating.

Research into the relationship between the midwife and the mother with obesity, especially regarding the quality of the communication, is available to inform midwifery practice. Keenan and Stapleton (2010) undertook a UK qualitative study using a longitudinal cohort of 30 pregnant women who were concerned about their weight, body image or health during pregnancy (Keenan and Stapleton 2010). They found that healthcare professionals often did not mention obesity as a risk factor during the initial (booking) interview, but used their obesity to limit choices available to these women; this findings was supported by a more recent study by Heslehurst et al (2015), who reviewed how midwives felt about care pathways and found that midwives were generally happy with the use of care pathways for women with obesity, despite their restrictive impact on maternal choice. The research identified the conflicting values of both the healthcare professionals to the causes of obesity and the socio-cultural beliefs of the participants, often resulted in communication that was *"crude, blame-inducing, highly insensitive"*, which had the effect of *"hardening and disenfranchising women"* (Keenan and Stapleton 2010:381). The earlier study discussed

previously by Nyman, Prebenson and Flensner (2010) concluded that in order to promote health and reduce stigma midwives and doctors must avoid judgmental attitudes (Nyman, Prebenson and Flensner 2010).

Midwives, however, can find it difficult to raise the topic of obesity with mothers; a study by Stotland et al (2010) conducted seven focus groups with doctors and midwives to investigate how professionals approached counselling women about GWG during antenatal care encounters. They found that midwives were unsure of how to approach the topic of weight or exercise and that they were concerned about how such counselling was perceived by mothers. Knight-Agarwal et al (2014) in their qualitative study discussed earlier also identified that weight and obesity was regarded as a sensitive topic for midwives. This sensitivity originated from the midwife's own feelings around obesity and demonstrated that midwives with a higher BMI find it difficult to discuss obesity in antenatal appointments. The researchers concluded that obstetricians, who were predominantly male in this study, were more willing to raise the topic with mothers and less concerned about the effect on the mother-professional relationship (Knight-Agarwal et al 2014). This relationship between the weight of the midwife and her perceived ability to discuss weight issues with obese mothers was highlighted in a study by Wilkinson, Poad and Stapleton (2013). This Australian-based study used an on-line survey to capture, among other things, staff characteristics including lifestyle behaviours, body image and BMI of health care professionals e.g. midwives and obstetricians. They aimed to evaluate the relationship between these characteristics and the perceived impact of health promotion advice. They achieved a 59.6% response rate with seventy-seven completed surveys. The researchers found an interplay between staff confidence and personal characteristics that would benefit from recognition in education and training strategies (Wilkinson, Poad and Stapleton 2013).

An UK-based qualitative study by Smith, Cooke and Lavender (2012) used semi-structured interviews with 30 healthcare professionals, including midwives, to assess their views of appropriate care for obese mothers during pregnancy. This was an in-depth, but small, qualitative study conducted with a range of health providers i.e. midwives, sonographers and obstetricians. They found that communication with mothers with obesity is difficult and was described as a *'conversation stopper'* and this attitude posed significant challenges

when trying to discuss weight with pregnant women. The participants recognised that as it impacted on maternity care and outcomes, it was important that maternal obesity was managed through appropriate intervention. The researchers concluded that midwives need training and support to undertake this part of their professional role (Smith, Cooke and Lavender 2012). Christenson et al (2018) developed this theme further in their Swedish qualitative study, using semi-structured interviews, with seventeen midwives with varying experience. They identified that midwives worry about stigmatising obese mothers and use *'avoidant behaviours'* to manage their concerns over inflicting shame and guilt when providing care for the obese mother. These included underestimating risks associated with maternal obesity and avoiding discussing weight during antenatal care encounters (Christenson et al 2018). They concluded that more research evidence is required to evaluate the resources required and the training needs of midwives to initiate and communicate more effectively with women about issues of weight during pregnancy.

An Australian-based study by Willcox et al (2012) interviewed a cohort of fifteen midwives who worked predominantly within antenatal care. They found three dominant themes arose from their study; that GWG was low priority for the midwives and that discussion around weight was perceived to have a negative impact on the mother-midwife relationship (Willcox et al 2012). The study by Schmied et al (2011) also raised the issue that midwives felt unsure how to communicate with women about weight without it negatively impacting on the mother-midwife relationship. An Australian study by Biro et al (2013) investigated how midwives manage the care of obese women during pregnancy. They conducted a cross-sectional survey of midwives using an on-line questionnaire. They found that there was a significant variation in the care and management of obese mothers and concluded that midwives require further support and training to effectively manage the obese mother (Biro et al 2013). These findings were similar to those found in a UK based study by Heslehurst et al (2013b), who used an integrative constructionist approach, using focus groups with 46 community and hospital-based midwives. Their most prominent theme which emerged in their research was that midwives needed support and training to effectively communication about weight with the obese mother (Heslehurst et al 2013b). This theme was further development in a mixed methods qualitative and quantitative study by Heslehurst, Dinsdale and Sedgewick (2015). They used semi-structured interviews, a case-note audit and a postal

survey that asked for qualitative and quantitative data with midwives and women. They found that mothers felt that communication was generally considered to be poor, especially around GWG, while midwives reported that they needed more training in this area (Heslehurst, Dinsdale and Sedgewick 2015).

A qualitative study which focused on mother's perception of GWG, interviewed mothers three years post-birth (Dencker et al 2016). They found that obese mothers who had been enrolled on a lifestyle intervention programme during pregnancy with the aim of reducing GWG to below 7 kg, recognised the importance of counselling, but stressed that this needs to in partnership with the midwife – a collaborative venture with continued support. This study supported the findings from a study by Wennberg et al (2013) who found that midwifery input is very important to enable mothers to make the necessary dietary changes to lessen GWG. Extra support and increased resources are necessary to improve the realisation of maternal achievement of nutritional and weight goals by mothers with obesity in pregnancy (Knight-Agarwal et al 2016).

Through reviewing the literature, the role of the midwife appears to be focused on providing support and advice, which is underpinned through good communication and a robust mother-midwife relationship. It appears that midwives require more support in order to develop this part of their professional role. This sub-section has provided a review and evaluation of the antenatal interventions which have been trialled and instigated to manage weight during pregnancy and so reduce excessive GWG.

2.5.2 Midwives Knowledge of Nutrition

In order to provide good quality support and information to mothers with obesity during childbearing midwives need to have the knowledge and skills to be able to deliver this aspect of their professional role. There is a requirement for in-depth education and training on counselling and communication skills to support midwives caring for obese mothers during childbearing (Holton, East and Fisher 2017; Wennberg, Hornsten and Hamberg 2015; Biro et al 2013; Furness et al 2011). A plethora of studies have identified the educational requirements of midwives to improve the support, care and management role of the

midwife and meet the needs of mothers with obesity during childbearing and this sub-section aims to explore key studies to inform the reader and the study.

Enhancing public health education for midwives through embedding the topic within pre-registration curricula was researched through a mixed methods study by McNeill et al (2012). They surveyed HEI's across the UK and undertook focus groups with midwives and midwifery students. Twenty-nine HEI's completed the survey (53% response rate) and nine focus groups were undertaken (59 participants overall). They concluded that midwives are in a prime position to have an impact on maternal and neonatal health, but that there also needs to be a better understanding of the role of the midwife in health promotion (McNeill et al 2012).

Many qualitative studies suggest that in order for midwives to feel confident and competent in their health promotion role, more preparation is required to meet the specific requirements of the mother with obesity (Chrisenson et al 2018; Holton, East and Fisher 2017; Hodgkinson et al 2017; Wennberg, Hornsten and Hamberg 2015; Arrish, Yeatman and Williamson 2014; Knight-Agarwal et al 2014; Foster and Hirst 2014; Biro et al 2013; Wilkinson, Poad and Stapleton 2013; Smith, Cooke and Lavender 2012; Wilcox et al 2012; Furness et al 2011; Schmied et al 2011; Olander et al 2011). This is underpinned by a general consensus that midwives feel under-prepared to have a discussion with obese mothers about the nutritional changes required to minimise excessive gestational weight gain (Arrish, Yeatman and Williamson 2014; Olander et al 2011). These were against a backdrop where women were regarded as knowledgeable and informed, but who required support to guide and interpret guidelines and incorporate these into their lives (Wennberg, Hornsten and Hamberg 2015).

An Australian based study by Arrish, Yeatman and Williamson (2016) undertook a web-based survey with midwives to assess their knowledge of nutrition during pregnancy. They secured a low completion rate of just under seven percent, but were able to collect data from 329 midwives. They found that the level of confidence reported by the midwives was low, with around half stating that they had received nutrition education during their pre-registration education or after qualification. This identified a need for further education to

improve Australian midwives' knowledge and confidence around providing nutritional advice to women during pregnancy (Arrish, Yeatman and Williamson 2016). Similar educational curricula exist in the UK and so these findings may be attributable to UK-based midwives and support research findings, which also conclude that a training gap in midwives' education around nutrition (Smith, Cooke and Lavender 2012).

Christenson et al (2018) undertook a small-scale qualitative study using interviews with seventeen midwives in Sweden; they have suggested that the education and training of midwives to address the attitudes and preconceptions of midwives and other healthcare professionals would be beneficial when considering service improvements to meet the specific needs of mothers with obesity in childbearing. De Jersey et al (2018) also saw training and education as a strategy to increase midwives' knowledge of nutrition, physical activity and GWG and recommended that this become part of mandatory training for all staff. Increasing maternal awareness of the risks of excessive GWG, antenatal weight surveillance and a programme of advice throughout pregnancy for all mothers may make this aspect of care routine and so reduce the reluctance to engage by mothers and midwives (Atkinson 2018).

To try to address the lack of nutritional knowledge, a study by Basu et al (2014) developed and evaluated a training package. The training package was aimed at midwives and covered topics such as nutrition, physical activity and weight management guidance and forty-three Welsh midwives undertook this training. The researchers evaluated the training package using questionnaires to assess knowledge pre and post training and achieved a 74% response rate. Almost 100% of respondents stated that their knowledge had improved, with 83% rating their confidence at explaining and discussing weight and exercise during pregnancy had improved. The researchers suggested that training packages such as these are worth investment by NHS Trusts and should be cascaded across the maternity service (Basu et al 2014).

A recent study has also shown positive results when aimed at student midwives. A mixed methods study by Hart et al (2018) used an on-line training intervention with 67 registered third year students. The aim was to increase their knowledge of behaviour change

techniques (BCT's) and whether the students subsequently felt more confident in their ability to have conversations about weight during pregnancy. They used questionnaires and semi-structured interviews to collect data post-intervention and this occurred during their education programme and as a newly qualified midwife; 78% completed the training and the post-training questionnaires and out of these 8 students completed the semi-structured interview. The researchers concluded that this type of learning activity was beneficial and enhanced the student's skills and knowledge, although it did not identify an increase in their attitude or intention towards engaging in conversations with mothers about weight during pregnancy (Hart et al 2018).

This sub-section has provided a review and evaluation of research which has been undertaken to assess midwife's educational knowledge of nutrition and their education requirements to manage weight management during pregnancy. Recent studies, which focused on the benefits of enhanced educational input around weight management has clearly been demonstrated as beneficial for midwives.

This section has explored and discussed key literature on the experiences and perceptions of midwives who provide care for mothers with obesity. The next section will explore key literature on the role and impact of antenatal interventions utilised to manage weight in pregnancy and minimise excessive GWG.

2.6 Antenatal Interventions

Pregnancy is regarded as a time when a mother is receptive to suggestions to improve her health with the goal to optimise pregnancy outcomes (O'Brien et al 2017; Smith, Cooke and Lavender 2012). This section will explore the research available which evaluates the role and impact on antenatal interventions to manage weight in pregnancy and minimise excessive GWG. Research evidence around antenatal interventions was varied and included systematic reviews and quantitative studies which evaluated the interventions. However, there were some qualitative studies which explored the mothers' experiences of such interventions.

A study by Davis et al (2012) concluded that obese mothers were keen to engage in antenatal interventions and that the higher a mother's BMI the more likely she is to engage with interventions to minimise GWG (Davis et al 2012). A more recent study has suggested that this is not just a phenomenon seen in overweight or obese mothers, but is a theme encompassing mothers across the whole of the BMI spectrum (Warren, Rance and Hunter 2017). However, a study by Atkinson, Shaw and French (2016) suggests that an individual mother's experience of pregnancy exerts more of an influence on her motivation to engage with advice and support from a health care professional. They suggest that an obese mother who had no trouble conceiving and has had no complications during pregnancy was less motivated to change their diet or activity level and so pregnancy alone is not a 'teachable moment' (Atkinson, Shaw and French 2016). This concept of pregnancy being a 'teachable moment' has also been challenged in the study by Lauridsen, Sandoe and Holm (2018) who conducted a study using semi-structured with twenty-one mothers four to five years post-birth. They concluded that often any interventions during pregnancy have very little long-term impact and mothers do not sustain any short-term changes made during pregnancy into the postnatal period due to the impact of work, relationships and family commitments (Lauridsen, Sandoe and Holm 2018). This finding supports the qualitative study by Dencker et al (2016) who interviewed a cohort of mothers three years post-birth and found that the mothers had difficulties maintaining any short-term lifestyle changes and concluded that support would be required into the post-birth period to make the most of the perceived window of opportunity (Dencker et al 2016).

Several systematic reviews carried out to address whether changes in diet and/or physical activity could affect GWG all concluded that dietary advice and support during the antenatal period to make dietary changes does have a positive effect on managing and minimising excessive GWG (Shieh et al 2018; Fieril et al 2017; Warren, Rance and Hunter 2017; Muktabhant et al 2015; Thangaratinam et al 2012a; Dodd et al 2010). Dieting in pregnancy, in its usual sense of restricting overall calorie intake to secure weight loss, is not advocated in the literature due to risk of causing fetal growth restriction (Cohen and Kim 2009); rather a change in dietary habits and an overall improvement in the nutritional quality of a mother's diet is advised (Modder and Fitzsimons 2010). A low glycaemic index (GI) diet, with a focus on vegetables, wholegrains, beans and lentils, is optimally effective as the rate of

glucose absorption is low, which reduces weight gain in the mother and the fetus (Moses, Luebecke and Davis 2006). However, whether any antenatal intervention to manage GWG influences pregnancy outcomes is less clear (Poston 2017). The UPBEAT intervention did not show a reduction in GD or fetal macrosomia (Poston et al 2013), despite reducing dietary glycaemic load (Poston et al 2015; Thangaratinam et al 2012b). The LIMIT trial by Dodd et al (2014) was a multicentre randomised controlled Australian study with over 2000 overweight and obese mothers. They randomised half to standard care and half to a dietary and lifestyle intervention. They also found no difference in pregnancy outcomes (Dodd et al 2014). The lack of clear evidence as to whether reducing GWG can improve pregnancy outcomes, apart from reducing the risk of operative birth, is discussed in the systematic review and meta-analysis by The International Weight Management in Pregnancy Collaborative Group (2017).

Lifestyle interventions, however, have been demonstrated in studies to lower GWG in the participants of antenatal invention initiatives (Haby et al 2015; Bogaerts et al 2013b), with pleasing side-effects such as reduced anxiety seen in participants (Bogaerts et al 2013b). This may be in part because of the social support available for the mothers who were involved antenatally, that then moved forward into postpartum friendship groups (Smith, Taylor and Lavender 2014). The concept of social support was a finding in a qualitative study by Fieril et al 2017, which looked at obese women's experiences of participating in a lifestyle intervention during pregnancy. This Swedish study used in-depth interviews with eleven mothers and found that like-mindedness with other pregnant women in an exercise class or healthy eating group was beneficial for the participants (Fieril et al 2017). This finding built on a study by Smith, Taylor and Lavender (2014) who suggested that obesity could provide the reference for a support group strategy to support the adoption of healthy lifestyle behaviours during pregnancy, which could be facilitated by midwives during the antenatal and postnatal periods (Smith, Taylor and Lavender 2014).

Antenatal control of GWG and less post-partum weight retention has been demonstrated in mothers who were involved in an antenatal intervention (Haby et al 2015) and so any antenatal intervention needs to be able to sustain nutritional or exercise-based changes into the postpartum period and beyond (O'Brien et al 2017; Dencker et al 2016; Adamo et al 2013). However, in an on-line survey of over one thousand postnatal mothers who had

joined a commercial slimming group found that there was a shift of focus post-birth in the mother's motivations for weight loss from considerations around health and pregnancy outcomes seen during pregnancy to desires to improve appearance, body image and self-esteem as taking priority post-birth (Avery et al 2016). The LIMIT trial also concluded that advice and support provided antenatally generally improved knowledge and provided reassurance for obese women without negatively impacting on their well-being through increased anxiety or worry (Dodd et al 2016).

Increasingly studies are suggesting that antenatal interventions to minimise excessive GWG should be led and managed by midwives as part of routine antenatal and postnatal care (Daemers et al 2017). The focus should be on providing non-judgemental and sensitive support, while being specific enough to meet individual mothers' requirements based on their BMI (Daemers et al 2017; Fieril et al 2017; Dencker et al 2016; Knight-Agarwal et al 2014; Powell and Hughes 2012). An exploratory cohort study in the Netherlands suggested that midwife-led antenatal support does not significantly add to a midwife's workload, although as extra antenatal appointments are usually recommended in mothers with a raised BMI this could increase pressure on available resources (Daemers et al 2017). They advised further study into midwifery-led care.

There has been a call to re-introduce routine antenatal maternal weighing as a strategy to monitor and control GWG (Preston and Norman 2015; Knight-Agarwal et al 2014; Richens 2008). However, the evidence-base to support the efficacy of routine maternal weighing throughout pregnancy is less clear (Devlieger et al 2016). As a strategy to raise the opportunity to discuss GWG and counsel a mother about healthy eating and minimising gestational weight gain, there may be advantages to re-introducing routine weighing back into antenatal care (Allen-Walker et al 2015; Daley et al 2014; Knight-Agarwal et al 2014). In studies that looked at this topic they found that routine weighing did not have an influence on reducing GWG (Fealy et al 2017; McCarthy et al 2016; Brownfoot, Davey and Kornman 2015) and may cause distress and anxiety in the mothers (Steer 2015; Warriner 2000), although a study by Heslehurst et al (2017) found that obese mothers would welcome frequent weight monitoring during pregnancy and some mothers expect that routine weighing should be part of antenatal care during pregnancy (Allen-Walker et al 2017).

Midwives appeared less sure and often cite the response of the mothers if weighing was re-introduced, although this was not substantiated in the current literature (Allen-Walker et al 2017). A qualitative study by Hasted et al (2016) interviewed forty-four healthcare professionals using four mixed professional focus groups with the aim of assessing the attitude of staff to the potential re-introduction of maternal weighing into antenatal care. They found that most staff were receptive and supported of the idea. However, there were some concerns voiced about the possible impact on the relationship between a woman and her carer. There is, therefore, a gap in the research evidence on midwives' views of re-introducing routine weighing during pregnancy and whether it would support their ability to counsel mothers on GWG.

The role of exercise to prevent excessive GWG has also been researched. Exercise was also considered to be an important component of maternity care. A qualitative study on the attitudes and barriers to exercise in obese women was conducted by Denison et al (2015). They used in-depth semi-structured interviews with thirteen severely obese mothers (BMI ≥ 40 kg/m^2) during pregnancy. The researchers found that exercise programmes could be involved in antenatal interventions to control GWG and would be more successful if they provided personalised support specific to the needs of the obese woman but suggest that further studies need to address feasibility and acceptability (Denison et al 2015). A meta-analysis of randomised controlled trials into the effect that exercise has on the prevention of GD by Sanabria-Martinez et al (2015) found that moderate physical activity can reduce the incidence of developing GD through a reduction in excessive GWG. This has been substantiated through a systemic review and meta-analysis by Davenport et al (2018a) who found that exercise in pregnancy can lessen the risk of GD and hypertensive disorders.

What midwives tell a woman about exercise in pregnancy is also important to enable women to reduce their risk of developing GD through excessive GWG. Findings from the UPBEAT pilot trial (Hayes et al 2015) found that women who exercised during early pregnancy was more likely to have good glucose metabolic control and that this should be encouraged to continue throughout pregnancy. These findings were substantiated by a study by Elliott-Sale, Barnett and Sale (2015) who undertook a systematic review and meta-analysis on exercise interventions for weight management during pregnancy. Five studies

were included in this review. They found that exercise statistically significantly reduced excessive GWG and concluded that exercise interventions should be used to control maternal weight gain in pregnancy. It may not be the case that midwives do not understand the positive impact of physical activity on minimising GWG, but that the maternity service configuration does not support this aspect of care. A UK-based study by McParlin et al (2017) supported this assumption. They conducted a questionnaire-based study evaluating the facilitators and barriers to the implementation of physical activity guidelines for obese mothers during pregnancy by midwives during the antenatal period. The study found that midwives had the necessary knowledge but lacked the skills to raise the issue or the resources to refer obese women (McParlin et al 2017). A systemic reviews and meta-analyses by Davenport et al (2018b; 2018c) found that exercise in pregnancy is safe.

This section has evaluated the role and impact of antenatal interventions used by healthcare professionals to minimise excessive GWG during childbearing. While it has not been clearly demonstrated that reducing excessive GWG can improve pregnancy outcomes, it has been shown to reduce post-partum weight retention, which could improve the long-term health of the mother.

2.7 Summary

The review of the literature was undertaken using a narrative or traditional literature review technique and summarised the body of literature relevant to the thesis topic to enable themes to emerge. This chapter began with an outline of the literature search strategy employed by the researcher to access and a critique the literature and research evidence.

Following an initial outline of the psychological impact of obesity on the concept of 'self' and its influence on emotional well-being, this chapter has discussed some common themes underpinning this study and was structured under two main headings; the experiences of mothers with obesity during childbearing and second the perspectives of midwives who have cared for mothers with obesity. From the mother's perspective this chapter explored key literature on weight stigma, the concept of body image, obesity and childbearing, and the impact of lay theory. It evaluated key literature on the experience of mothers who go

through childbearing while obese within the current maternity services and a review of studies on the role of antenatal interventions. The chapter then explored key literature on the perspectives of midwives who care for mothers with obesity in their professional role, focusing on their communication and public health role and their perceptions regarding their nutritional knowledge and education requirements to fulfil their health promotion role.

The next sub-section will provide an overview of how the literature review informed the development and design of this study, including how themes arising from the literature were embedded into the aims of the study and the interview schedules.

2.7.1 How the Literature Review Informed the Study

This subsection will conclude the Literature Review Chapter by identifying the debates in the literature and gaps in the evidence-base, which were present and how the review of the literature influenced the design and development of this study.

Between 2009-2011 when this study was being conceptualised, the literature available to support midwives in their practice tended to focus on the medical and obstetric risk of complications associated with obesity and how medicine and obstetric care could influence and promote good obstetric and neonatal outcomes for women presenting with obesity during childbearing. Available research tended to be quantitative and focused on the management of complications such as GD and pre-eclampsia. The qualitative perspective, exploring and interpreting the mothers' experiences childbearing, was only just starting to be heard at this time and while maternal satisfaction surveys were readily available to inform the maternity services, the voice of the obese mother was not clear within this data. Within the available research on women's experiences of childbearing while obese, support and communication by midwives was shown to be inadequate and invariably it did not meet women's needs. More research was needed to understand obese women's experiences of childbearing and capture their opinions and views of the maternity services.

There was a well-established evidence-base on body image per se and body image in pregnancy, but this tended to focus on mothers with a BMI in the normal range. The impact of weight retention postpartum from excessive GWG was again unclear, although this has been evidenced since inception of this study. Weight stigma was again a topic with a well-established literature-base, but the influence of weight stigma in pregnancy was less well-evidenced during the design period of this study. Lay theory as applied to pregnancy lacked the perspectives of obese mothers.

The exploration of midwives' perspective of providing care for obese mothers during childbearing was also in its infancy at the time this study was conceptualised. The literature was starting to demonstrate how midwives perceived caring for mothers with obesity, how they wished to be able provide more effective care for women with obesity but found the day-to-day reality stressful. Research has since highlighted that midwives feel ill-prepared and tend to avoid the topic of weight and obesity and this may be because of fear of a negative impact on the midwife-mother relationship.

What appeared from the review of the literature was a need to design a study which could combine the experiences of obese mothers with the perspectives of midwives who provide care to the obese mother during childbearing, with an aim to inform the provision of maternity services. It was envisaged that interpreting data collected from both mothers and midwives would provide new insights into the phenomena and inform maternity practice and the maternity services. The literature review therefore informed the decision to develop a qualitative framework for the study.

From the review of the literature in 2009-2011, the interview themes for the semi-structured interviews with obese mothers focused on the woman's weight journey across her lifespan, her perceptions of body weight and body image during pregnancy and post-birth, the experience and influence of any weight stigma experienced before or during childbearing. Themes around the care she received from midwives and her perceptions of the maternity service provision, including the use of the BMI screening tool, also arose from the review of the literature at the time.

The interview themes for the professional participant's semi-structured interviews focused on the midwife's perception and experience of caring for the obese mother during childbearing. Themes emerged which addressed thoughts about the BMI screening tool and their perceptions of obesity i.e. social norms and women's perspectives on their bodies during pregnancy. There were themes around the provision of maternity service for the obese woman such as risk management and care pathways and a broad theme of their views of caring for the obese mother, which included communicating with women with obesity and the challenges of meeting the needs of the obese mother. The midwives were also asked about their weight journey as an optional closing/end of interview theme.

The next chapter is the methodology and methods chapter. It will present and discuss the rationales and justifications for the chosen methodology of the current study, which was interpretivist and explorative and interpretive, using a qualitative framework. It will also provide the reader with details of the research design and process and discuss how the philosophical underpinnings have informed the chosen method for data collection and analysis.

Chapter 3: Methodology and Methods

3.1 Introduction

Chapter one has introduced the study, including the aims of the study and the context of obesity, while chapter two has explored and evaluated the key bodies of literature that support this study. This chapter will present and discuss the rationales and justifications for the chosen methodology and research design used in the study, which was ultimately explorative and interpretive, using a thematic analysis. It will also provide the reader with details of the research design and process, discussing the chosen method for data collection, namely semi-structured interviews. Data analysis using thematic analysis and the concept of trustworthiness will also be discussed within this chapter. Initially, a consideration will be given for the choice of an interpretivist qualitative framework and how it compared to other interpretive research frameworks.

Methodology has been likened to the plan for a journey, where the researcher designs the route to ensure the best course is taken (Sinclair 2007). When considering the design for the current study a review of the existing literature identified the focus. The researcher found that, in the field of maternal obesity, positivist research evidence was well-established and served to inform the medical profession on the management of co-morbidities associated with obesity in childbearing. However, the subjective experiences of the obese mother were only just starting to be explored and interpreted. Yet to be able to meet the needs of the obese mother it was considered important to be able to understand the experiences and perspectives of obese mothers during childbearing. Central to this study, therefore, was the requirement to generate data from women with experiences of obesity during their childbearing episode(s). Midwives are the healthcare professionals who are most involved in the care of the childbearing woman and so this study also wanted to collect data on the experiences of midwives who have been involved in the care of the obese mother during childbearing.

3.2 Methodology

It is important to have a theoretical base for any research study (Bondas 2011) and discuss philosophical influences which influenced the study design. This section will initially make the distinction between positivist and interpretivist research approaches and explore philosophical research influences that were considered and explain why they were ultimately discarded. It will conclude by providing a justification for using an interpretivist qualitative approach to explore obese mothers' experiences of childbearing and midwives' experiences of caring for the obese mother in this study.

3.2.1 Philosophical Influences

All research methodologies are premised upon a set of assumptions about what knowledge and truth are; methodological positions are often polarised using the terms positivism and interpretivism. Positivism and interpretivism entail differing epistemological and ontological perspectives and these are reflected in the design of the research and the methods employed to collect and analyse data (Dean 2018; Weber 2004). Positivists consider that the 'real world' is separate from the individual experience, while interpretivists regard an individual's experience and understanding of the 'real world' as intertwined and take the viewpoint that to truly understand a topic, research needs to collect data from the individual's perspective (Dean 2018; Rees 2011; Weber 2004). Therefore, positivism aims to create knowledge of a 'real world' that exists independent of the individual mind, while interpretivists aim to make sense of the world through a person's experience of that world. Positivists study 'objects' or 'subjects' considered to be independent of the researcher, while an interpretivist researcher believes her own role within the research method is inevitable and fundamental to the interpretation process (Bryman 2015; Rees 2011; Weber 2004) (see table 3.1).

Within research, interpretivism enables the researcher to understand the subjective sense of social behaviour and action (Dean 2018; Mason 2018; Patton 2015; Bryman 2015). Positivists see the world as fixed and similar for all individuals, while interpretivists would regard reality as subjective, socially constructed and context-generated (Denzin and Lincoln 2011). Interpretivism takes a more humanised, contextual and reflexive approach to

research (Yanow and Schwartz-Shea 2014). It provides an alternative methodology to understand social action and reach an underlying explanation of its cause and effect (Mason 2018; Bryman 2015).

Table 3.1: Overview of the Differences between Positivism and Interpretivism (adapted from Weber 2004)

Concept	Positivism	Interpretivism
Ontology	The researcher and the 'real world' are separate.	The researcher and the 'real world' are inseparable.
Epistemology	There is an objective reality outside the human mind.	Knowledge is subjective – constituted through an individual's experience.
Research Subject	Exists independently of the researcher.	Interpretation occurs within the structure of the researcher's own experience.
Method	Experimental. Questionnaires.	Interviews, especially semi-structured or unstructured. Focus Groups. Observation – participatory and non-participatory.
Validity and Reliability	Produces 'results'. Statistical Analysis. Replicability.	Produces 'findings'. Trustworthiness. Awareness of subjectivity.

Data collection methods chosen also reflect the research methodology; positivist researchers will typically design a study which seeks to collect large amounts of empirical data through the use of laboratory experiments and randomised trials on which to apply statistical analysis, whereas interpretivist researchers will often use case studies and unstructured or semi-structured interviews to collect data and analyse their data using a thematic analysis framework (Bryman 2015; Rees 2011; Weber 2004).

There are two main contributors to the epistemology underpinning health care; medically orientated effectiveness research and social science-orientated research, although outside formal research there is also the knowledge and beliefs of the patients (Munro and Spiby 2010). Medically orientated effectiveness research favours the positivist approach using a quantitative research design such as the randomised controlled trial (Rees 2011).

Quantitative research is seen by its practitioners to be objective and scientific, as it studies the real world outside of the individual (Rees 2011) and is favoured within the medical model of healthcare, which is dominant within modern healthcare research (Bryar and Sinclair 2011). However, the positivist approach has its limitations and has been shown to provide minimal insight into phenomena such as those affecting the human experience (Rees 2011; Walsh 2007). Walsh (2007) suggests that determining set clinical outcomes, for example, the effect of an antihypertensive drug on mother's blood pressure readings provides only part of the picture, as it does not capture the subjective experience of mothers taking the drug. The social science-orientated approach is more attuned to researching the human experience and has been shown as able to provide midwives with the mothers' perspectives to understand the unique and personal experience of childbirth, which can inform maternity policy and midwifery practise to help provide an appropriate service to meet the needs of childbearing women (Rees 2011; Bryar and Sinclair 2011; Walsh 2007).

It was important to consider the topic under investigation of the research when deciding on the methodology to be used within this study (Munro and Spiby 2010; Walsh 2007). When studying the experiences of mothers with obesity and midwives caring for obese mothers during childbearing, it was decided that a positivist approach would not allow for the subjective experiences of mothers and midwives to be explored and interpreted within the study. The aim of this project was to explore the experiences and perspectives of obese mothers during childbearing and midwives who care for obese mothers within their professional role and so an interpretivist approach was considered essential; this made an interpretivist approach the best methodology through which to undertake this study, using a qualitative framework. Blumer (1992) sees the actions of individuals as having meanings i.e. how the world is constructed as being worthy of research i.e. what the individual thinks, how they form those ideas and how their worlds are constructed. The key concept here is to gain understanding (Thomas 2017). The aim of this study was to explore obese mothers' experiences of childbearing and the experiences of the midwives involved in the care of obese mothers: through the interpretation of the data generated this study aimed to provide original insights into the care of the obese mother, which can be used to develop and influence midwifery practice and maternity care provision.

The next three sub-sections will evaluate ethnography, grounded theory and phenomenology as possible alternative methodologies within an interpretivist paradigm. The final sub-section will also provide a justification for the adoption of the principles of interpretivism within this research study.

3.2.2 Ethnography

Ethnography was considered as a possible research framework for this study, as it is a framework that would have provided a research design to explore the experiences of mothers with obesity during childbearing. It has its origins in anthropology and focuses on the culture of a group of people; ethnography relies on the premise that every human community will eventually form a culture (O'Reilly 2012; Rees 2011; Polit and Beck 2008; Parahoo 2006). Studying groups of participants within their environment is considered important in ethnographic research to make sense of their behaviour (Denscombe 2014), so fieldwork and observation are usually used to collect data in ethnographic studies, where the researcher focuses on questioning the purpose and meaning of behaviour among the participants through studying them in their everyday settings (Bryman 2015; Denscombe 2014; Rees 2011). This study did not focus on groups of mothers and midwives as existing evidence already suggests that obese individuals do not form a homologous group (Thomas et al 2008; Drury and Louis 2002), although midwives are socialised into their professional role. This study did not aim to produce evidence of an obese culture, but rather it intended to capture and interpret the experiences of obese mothers and the midwives who care for obese mothers during childbearing. It was also considered to be unfeasible to study mothers within their everyday settings, therefore this research framework was considered, but rejected.

3.2.3 Grounded Theory

Grounded theory was another framework considered for this study. This framework was designed in the 1960s by Glaser and Strauss developed from sociology where symbolic interaction is an inductive strategy to obtain knowledge (Rees 2016; Denscombe 2014; Baker, Wuest and Stern 1992). This research framework aims to describe and explain, with the aim to create a theory or model to explain the phenomenon being studied (Oktay 2012; Rees 2011; Clark 2005), and through the research process grounded theory seeks to explain

the underpinning processes. In grounded theory data collection and analysis occur at the same time, where emerging themes steer the study as it progresses (Corbin and Strauss 2015; Rees 2011; Edwards and Titchen 2003; Baker, Wuest and Stern 1992). This approach was dismissed for the study; the long-standing status as a qualified midwife posed challenges in relation to the grounded theory preference for disregarding prior knowledge and the researcher wished to remain at the inductive level long enough to facilitate the collection of a wide range of data.

3.2.4 Phenomenology

Phenomenology provides a framework for a qualitative methodology (Mapp 2008), which is increasingly being employed within healthcare research to understand the experiences of patients and inform healthcare practice (Flood 2010; King and Horrocks 2010; Smith, Flowers and Larkin 2009; Edwards and Titchen 2003; Maggs-Rapport 2001) and has been employed successfully in research in midwifery (Cowan, Smythe and Hunter 2011; Berg and Wigert 2011; Rees 2011).

Phenomenology originated as the study of phenomena (Bondas 2011). However, it is more than just the recording of the presence of a phenomenon; a qualitative study which has a phenomenological attitude is more interested in how a person experiences the event and the consciousness or meaning of that experience on the individual (Denscombe 2014). Phenomenology is considered to be the *"study of experience"* (Langdridge and Hagger-Johnson 2009:386), where it introduces a perspective often missing from positivist research i.e. that of the person living the experience (Rees 2011; Sadala and Adorno 2002) and phenomenological research aims to provide an understanding of how individuals make sense of their lived experiences (Rees 2011; Flood 2010; Van der Zalm and Bergum 2000).

Phenomenology was conceived in reaction to the prevailing ideology of the positivist paradigm at the end of the nineteenth century (McConnell-Henry, Chapman and Francis 2009), where positivism appeared to be unable to answer many of the questions asked of it, especially in relation to the human sciences. The idea that the mind and body were united entities, under the influence of experiences with the social context, lent itself to the conclusion that individuals make sense of their experiences from a unique and personal

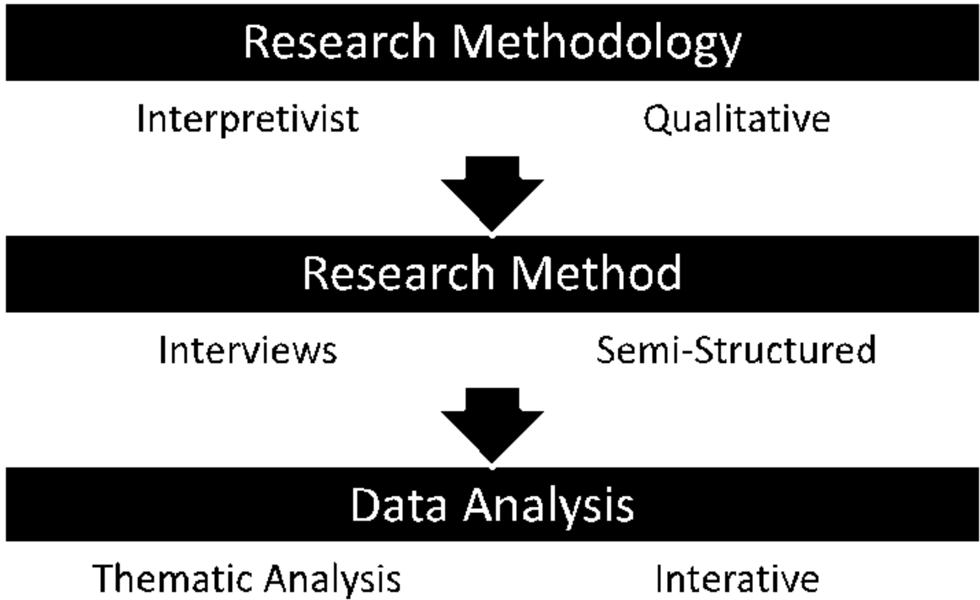
perspective (Standing 2009). Phenomenology was seen as a way of bridging the gap between science and philosophy, by linking 'being' and 'phenomenon' together, replacing the statistical correlations and general causations of positivist research with individual experiences influenced by culture, society and politics (Sadala and Adorno 2002).

The original research was a longitudinal study design aimed to investigate the experiences of obese mothers who were experiencing pregnancy and birth. It was envisaged that phenomenology would provide the qualitative framework best placed to capture and interpret the 'lived' experiences within the original study design. However, the study was restructured into a retrospective study which also aimed to explore the perspectives of midwives who have provided care and support to the obese mother during childbearing and gain insights from their experiences to inform midwifery practice and develop maternity service provision. Therefore, the phenomenological approach, while initially contemplated, was not adopted in the final retrospective study design.

3.2.5 Justification for the Chosen Methodology

An interpretivist epistemology facilitated the study to be constructed around creating an understanding of a certain situation, rather than just describing or measuring it (Dean 2018; Patton 2015). A study based upon an interpretivist approach allowed the researcher to collect wide-based and multi-layered descriptions of women's experiences of childbearing when obese and the experiences of midwives who have provided care for the obese woman during childbirth. It would facilitate the use of qualitative methods such as semi-structured interviewing in data collection, which will provide a wide variety of data necessary for interpretivists to fully appreciate situations and contexts (Mason 2018; Willis 2007). As interpretivism has its ontological basis in relativism, where an individual's perspective on the social world is socially constructed, the researcher considered that interpretivism would provide data which enabled an understanding of events from the perspective of the participants. These understandings would be diverse and dependent on the individual participant (Mason 2018; Thanh and Thanh 2015) (see figure: 3.1).

Figure 3.1: Study Design



To conclude, an interpretivist qualitative approach using in-depth interviews was chosen over other interpretative qualitative research approaches, as it was considered pertinent to this study to be able to collect and interpret data of the experiences and perspectives of mothers with obesity during childbearing and midwives with experience of caring for mothers with obesity during their childbearing journey.

3.3 Research Design

The overarching aim of the study was to generate data which facilitated an exploration and interpretation of the experiences of obese mothers during childbearing and the perspectives of midwives who have experienced the provision of care for obese mothers during childbearing. The study had several objectives: first, the study would capture the experiences of obese mothers. The study would generate data on the mother's experiences of obesity and provide an understanding of the experiences of obese mothers during childbearing and their experiences of the maternity services. Second, the study would capture the views and experiences of midwives who care for obese mothers during childbearing and provide an understanding of their experiences. Third, through the analysis of the data generated, the researcher would be able to contribute to theoretical and

practice debates within academic and professional arenas. Implications for policy, including midwifery practice, would be identified and may influence future provision of maternity services and the practise of midwifery. Lastly, the study would identify areas worthy of further research.

This section will outline the design of the study and detail how the study was undertaken commencing with the recruitment of the participants and concluding with an overview of the sample and participants recruited to the study. The initial study design was for a longitudinal study generating interview data from pregnant women at three points during their childbearing journey. However, recruitment was inadequate and so the research was redesigned. The retrospective study was constructed to recruit a sample of mothers who had been obese while childbearing and a sample of midwives and student midwives who had experience of caring for the obese mother as part of their professional role. This section will take the reader through the development from its inception through to the completed study design.

3.3.1 Original Longitudinal Study Design

The original study design aimed to recruit and interview a sample of obese mothers (BMI ≥ 30 kg/m^2) who were currently childbearing. There was no restriction regarding parity or whether they were carrying a singleton or multiple fetuses. The mothers would be interviewed three times during childbearing to provide insight into the experience of childbearing. The study was longitudinal and designed to collect data at intervals over the childbearing period, where participants would be interviewed more than once, with a focus on differing themes as their childbearing experience progressed (Snelgrove 2014). It had the advantage of collecting data throughout the childbearing experience, as compared with a cross-sectional study, which would collect information from a set point in time (Bryman 2015). In this study design it was anticipated that taking a longitudinal approach would enable the researcher to capture perspectives at discrete points in a woman's childbearing journey before childbearing, during pregnancy and her experiences of early motherhood.

The inclusion criteria for the longitudinal study were:

- Pregnant women recruited in early pregnancy (before twelve weeks)
- The participants agreed to participate in the study (see consent section)
- The participants had a BMI ≥ 30 (kg/m^2) at their 'booking' appointment for antenatal care
- The participants were well at the time of the data collection

Potential participants would be identified during trimester one. At a specified stand-alone birth centre, midwives would be asked to identify women who met the inclusion criteria for the study during the first antenatal appointment, known as the 'booking' appointment, which normally takes place between 8-10 weeks gestation. Mothers who had a BMI ≥ 30 (kg/m^2) would be identified as possible participants and the midwives agreed to initiate a conversation about the study and offer women a participation pack. Within this pack was a 'participant information sheet' detailing key information about the study and a 'reply slip', completion of which signalled that the mother would be interested in participating in the research. If the mother was interested in participating in the study, she would complete the reply slip and post it in a stamp-addressed envelope (SAE) to the researcher. It would also constitute an agreement to meet with the researcher after her next antenatal appointment at 15-16 weeks gestation (see appendix 1.1).

On receipt of the completed 'reply slip' the researcher would contact the mother by phone, text or email, depending on individual preferences, and would arrange to meet her after her next antenatal appointment at 15-16 weeks gestation. The aim of this meeting was to create an effective researcher-participant rapport, discuss the study and answer any questions that the potential participant may have, to foster informed consent. If, after this meeting, the mother was happy to proceed the mother would be informed that the researcher would be in contact to email, phone or text (depending on the mother's preference) to arrange the date and time of the first interview date.

The first interview would occur during the second trimester (between 24-28 weeks of pregnancy). There may have been problems during the course of early pregnancy i.e. during trimester one, so to avoid this the first interview would be conducted during the second

trimester when screening tests had been completed and the risk of spontaneous miscarriage was minimal. The researcher would contact the mother's named midwife to ensure that all was well, before contacting the mother to arrange the first interview. Once this information was elicited contact would be made. Written consent would be obtained prior to the start of the first interview. The focus of this first interview was to obtain information about the participant's experiences before childbearing and during early pregnancy.

The second interview would be conducted during trimester three (between 34-38 weeks of pregnancy); the focus of this interview would be to capture women's experiences as the pregnancy progressed. The final interview would occur following the birth (around 1-3 months postpartum), with the aim to explore participant experiences during the labour, birth and the immediate postnatal period.

In this longitudinal study, access was facilitated through the presence of a strong relationship between the researcher and a stand-alone midwifery-led birth centre in the East Midlands, which also provided antenatal and postnatal care for all mothers in a defined geographical area. Ethical approval was secured on the understanding that the researcher would be able to spend time discussing the study with the midwifery team, answer questions and trouble-shoot should concerns arise. The researcher attended the unit's team meetings throughout the data collecting period and was able to introduce the study, discuss any issues as time went by and ensure continued support from the team leader and the midwives. The midwives agreed to introduce the study with any mother who had a BMI ≥ 30 (kg/m^2) at their 'booking' appointment and give out participant information packs to all mothers who expressed an interest in participating in the study. Around forty packs were given out during the 'booking' appointment, but only two participants were recruited to the longitudinal study. The researcher regularly attended the birth centre to monitor the distribution of information packs and discuss the study with the team. The midwives were very supportive of the study and were consistently diligent in identifying and discussing the study with potential participants.

It was difficult to predict, in this study, how many participants would be required to meet saturation, but it was initially anticipated that the researcher would recruit around twenty participants, over a four-month period so as to stagger the data gathering interviews. It was envisaged that twenty mothers would be recruited to the longitudinal study. As longitudinal studies are often affected by attrition (Bryman 2015; Denscombe 2014; LoBiondo-Wood and Haber 2006), it was anticipated that this approach would allow full data sets to be collected for at least ten mothers, which would provide a minimum of thirty interviews.

Over several months, only two participants were recruited to the longitudinal study and both participants completed all three semi-structured interviews (see appendix 2.1). On reflection the 'booking' appointment, which is the initial appointment with the midwife and the first contact with the maternity services, may not have been the best time to discuss participation in the study. The focus of this study was potentially sensitive and, as the BMI of the mother was calculated at this appointment, she may have been previously unaware of being classed as obese and so reluctant to participate in the study. A multitude of information, both verbal and written, is given to mothers at this first appointment and there are many decisions required of mothers during early pregnancy, so it may have been unrealistic for the mother to be expected to read the information pack at this time. Perhaps recruitment at 20-24 weeks, when decisions have been taken, the pregnancy has been assessed as progressing well and the risk of spontaneous miscarriage is minimal, would have been a more opportune time. However, the two data sets from this original longitudinal study were used within the finished study.

3.3.2 Final Retrospective Study Design

Due to the limited number of mothers recruited onto the longitudinal study i.e. during pregnancy, it was decided to re-design the study to facilitate the recruitment of mothers' post-birth. Thus, if mothers were reluctant to consent during pregnancy, it might be possible to obtain their experiences retrospectively. Further, the subjective experience of mothers could be complemented by the perspectives and experiences of those most involved in their care while childbearing, midwives. From the outset of the study, one of the aims of the study was to make recommendations for midwifery practice and maternity care. It became clear that a professional perspective would also be appropriate to meet this aim, as few

studies had generated and interpreted data from both midwives and mothers within the same study. This change in the study design and ethical approval facilitated the recruiting of women who had been obese while childbearing and midwives who had experience of caring for obese mothers as part of their professional role.

3.3.2.i Mothers who had Experienced Childbearing while Obese

The inclusion criteria for mothers to the retrospective study were:

- Women who had experienced childbearing; there was no restriction on the time which had elapsed since having children
- The participants agreed to participate (see consent section)
- The participants recalled having had a BMI ≥ 30 (kg/m^2) sometime during their childbearing episode(s)

Two applications for modified ethical approval were made to the Faculty Research Ethics Committee. One was sought to allow the researcher to approach organisations such as Weight Watchers© and Slimming World© and to place advertisements in the local press and free magazines, with the aim to recruit mothers who had been obese while childbearing. The area chosen was within the East Midlands; this area was chosen for ease of access due to limited available resources to enable the researcher to access a wide area. It incorporated diverse, but limited, populations, and it is recognised that this may have influenced the resultant sample. The other ethical approval application was made to enable the recruitment of midwives and student midwives who had experience of caring for mothers with obesity during childbearing as part of their professional role.

Weight Watchers was approached, but they declined to allow the researcher to attend their meetings and declined to advertise the study. Slimming World, however, due to established links with the Royal College of Midwives (RCM), were very welcoming and accommodating. Slimming World is a commercial weight management organisation, which was set up in 1969 to provide support for individuals who wish to lose weight. It focuses on behaviour change and focuses on group support, but also provides on-line support and written information through a monthly magazine and recipe books (www.slimmingworld.co.uk/).

The researcher attended Slimming World group meetings across the relevant geographical area (N=7) to introduce the study, meet with the attendees, answer questions and give out packs (see appendix 1.2.1). The group leaders were very helpful and allowed the researcher to address the group, stay for the whole meeting and mingle during refreshment breaks. The researcher attended each group twice with a gap between visits of a few weeks; attending each group twice was undertaken to facilitate discussion with interested potential participants and so was seen as a strategy to increase recruitment. Around 60 packs were distributed; with an average of 7-10 per group. The researcher also put advertisements in the local press, including a free magazine that was distributed to a large part of the geographical patch, but no participants were recruited using this strategy.

In the information pack was a reply slip and if the mother was interested in participating, she completed the reply slip and sent it to the researcher using the SAE provided. The researcher then contacted the mother by phone to discuss the study and answer any questions. It was also the opportunity to ensure the mother met the inclusion criteria; those who were unsure or whose BMI was ≤ 30 (kg/m^2) i.e. normal or overweight during childbearing, rather than obese, were thanked for their interest in the study, but excluded.

If the mother was happy to continue the researcher communicated by text or email, depending on individual preferences, to arrange a suitable date and time for the interview. Before the interview commenced a discussion ensued to create an effective researcher-participant rapport, answer any further questions that the potential participant had to achieve informed consent (see appendix 1.2.1). Written consent was obtained just before the interview commenced. The interviews were audio-recorded and lasted on average an hour.

The single in-depth semi-structured interview (see appendix 2.2.1) undertaken with each woman was conducted in the mothers setting of choice, which in most cases was the mother's own home. A crucial consideration in qualitative interviewing is that wherever the interviews occurred, the environment would be secure, relaxed and quiet (Bryman 2015; Balls 2009). Semi-structured qualitative interviewing is time consuming (Bryman 2015; Denscombe 2014; Bowling 2009) and it was considered important to allow enough time for

each interview, so the date and time was negotiated to meet the mother's needs, rather than the researchers. The interviews were audio-recorded to facilitate full transcription at a later date. Some mothers had their partner/husband present for all or part of the interview and their input varied from providing the odd comment to being fully participatory. Many mothers had small children present during the interview, which presented challenges such as their often-intense interest in the researcher's audio-recorder, which resulted in the researcher making notes to ensure all parts of the interview were captured.

3.3.2.ii Professionals with Experience of Caring for Mothers with Obesity during Childbearing

The inclusion criteria for the professional perspective were:

- The participants were senior student midwives in their final year of study at an approved educational institution (AEI) or NMC Registered Midwives currently practising as a midwife in the UK
- The participants agreed to participate (see consent section)
- The participants had experience of caring for mothers with a BMI ≥ 30 (kg/m^2) during their professional role

To reach potential participants for the professional contribution, the study was advertised through various mediums such as the 'supervisor of midwives network', the 'lead midwife for education network' and various information channels within the university. This enabled the study to be circulated locally and nationally and participants were recruited from across England. Midwifery students were approached via an email introduction through the University's virtual learning environment.

Potential participants who expressing an interest registered this invariably by email; they were then sent an information pack containing details of the study (see appendix 1.2.2). If the midwife was still interested in participating, they emailed the researcher, who then contacted the midwife/student midwife by phone to discuss the study and answer any questions. If the potential participant was happy to continue the researcher communicated by phone, text or email, depending on individual preferences, to arrange a suitable date and

time for the interview. Before the interview commenced a discussion ensued to create an effective researcher-participant rapport, answer any further questions that the potential participant to achieve informed consent. Written consent was obtained before the interview. Those being interviewed by telephone were sent a consent form after the initial phone conversation and returned it in a SAE. A single face-to-face or telephone semi-structured interview was completed with each participant (see appendix 2.2.2). The interviews were audio-recorded and lasted on average an hour.

Again, in the study, it was difficult to predict how many participants would be required to meet saturation, but it was initially anticipated that the researcher would recruit around ten to fifteen mother participants and ten to fifteen professional participants. As the retrospective study utilised a single in-depth interview attrition was considered to be lower than in longitudinal studies (Bryman 2015; Denscombe 2014; LoBiondo-Wood and Haber 2006). It was anticipated that full data sets would be collected for ten midwives/student midwives and ten mothers, which would provide a minimum of twenty interviews within the retrospective study.

3.3.3 Sampling and Participants

The sampling method employed within the study was purposive sampling, which is described as a non-probability type of sampling, where those chosen to participate were relevant to the study aims (Bryman 2015). It was not a random sample, nor a convenience sample, as the researcher was actively seeking participants who met the research requirements (Bryman 2015; Bowling 2009). The study resulted in two full data sets captured from two mothers during childbearing (longitudinal study) resulting in six interviews. Eleven retrospective interviews were undertaken with eleven mothers recruited from sources such as Slimming World. This made a total of thirteen mothers. Eleven professional participants were recruited - seven were qualified midwives with various types and length of experience and roles within the profession and four were student midwives in their last few months of a pre-registration midwifery programme (see table 3.2).

Sample size is an inexact science; it is thought that a sample needs to be small enough to be manageable as data collection is often extensive in qualitative studies but needs to be large

enough to provide new insights and understandings (Gentles et al 2015; Bryman 2015; Sandelowski 1995). Baker and Edwards (2012) suggest a somewhat unhelpful range between twelve and a hundred-and-one as a suitable sample size for a qualitative study. An alternative approach would be to continue to generate data until saturation occurs (Bryman 2015; Gentles et al 2015). The concept of saturation supports the qualitative researcher to continue with data collection until they reach a point where there are no new emerging themes or differing perspectives (Braun and Clarke 2013; Baker and Edwards 2012). Fugard and Potts (2015) suggest that a larger sample is required if the researchers are looking to uncover less common themes, although in-depth interviewing within a smaller sample may produce the same effect.

The number of participants in qualitative research is often smaller than in quantitative research (Bryman 2015; Polit and Beck 2008) and this is considered important in an interpretivist qualitative study in order to examine each person's experiences in sufficient depth (Gentles et al 2015; Mapp 2008). The study employed a purposive sampling approach and approached mothers from sites across the East Midlands and midwives from across England, as they were considered to have potential participants who could address the research aims. It was not representative of all mothers with obesity during childbearing or all midwives who care for mothers with obesity within their professional role. Therefore, the sample was not a probability sample, as the study was not designed to use inferential statistics to define probability (Thomas 2017) and so it cannot be assumed that it is representative.

The process of recruitment and data collection were slow and continued over a two-year period, with all participants who met the inclusion criteria and consented to being interviewed included in the study. The researcher and the supervision team reviewed the interviews and concluded that the interviews had generated rich and fascinating data sets. A pragmatic decision was then taken following intensive discussion between the researcher and the doctoral supervisory team to halt recruitment at this stage due to the time constraints of the doctoral programme. This resulted in twenty-eight semi-structured interviews being undertaken with twenty-four participants.

In the retrospective study, eleven mothers, who stated that they had had a BMI ≥30 (kg/m^2) at some time during pregnancy, were recruited either through Slimming World (N=10) or through word-of-mouth (N=1). No participant was recruited by the local press. This resulted in eleven participants completing a single semi-structured interview with the researcher. The demographic profile of the sample was quite diverse. Several of the participants (N=6) reported that they had completed their childbearing, with five stating that they would like more children. There was a wide range of ages, with the youngest mother in her mid-twenties and the oldest in her mid-forties. The mothers had differing occupations from stay-at-home mothers to those in full-time employment. The dynamic of their families was also diverse with mainly married mothers (N=7), some co-habiting (N=3), plus a divorced mother (N=1). Parity ranged from one to four children. All, but one participant (N=10), had had singleton pregnancies, with only one participant who had had a twin pregnancy. Almost half reported having been a normal BMI at 'booking' with their first child (N=5), but all were obese by the end of their childbearing experience. All were at different stages of weight loss at the time of the interview; most had lost weight since childbearing (N=9) mainly with the support of Slimming World, although one mother remained obese and one was happy with her current weight (see table 3.2).

The strategy employed to gain professional perspectives resulted in eleven professionals recruited through contacts nationally and locally. The sample consisted of seven NMC Registered Midwives and four Student Midwives, the latter were in their final few months of a pre-registration midwifery programme at a local approved educational institution (AEI). There was one midwife who consented to participate but withdrew prior to interview; no reason was cited. Within the sample of qualified midwives who met the inclusion criteria to have had experience of caring for obese mothers, agreed to participate and completed the interview, there was a range of experiences as a midwife, e.g. higher education, independent midwifery practice and a range of NHS-based midwifery roles such as community midwives, birth centre midwives and in-hospital consultant-led midwives. Most of the students and midwives (N=7) reported that they were currently a normal BMI, while some had been or were currently overweight or obese. However, all stated that they struggled with their weight at some time during their lives and for those midwives who were

middle-aged it was becoming more of a challenge to achieve or maintain a healthy BMI (see table 3.2).

Table 3.2: Biographical Information of the Participants of the Study

3.2.1: Participants - Longitudinal Study

ID	Age	Current Occupation	Marital Status	Parity	Type of Birth	BMI at booking	BMI post-pregnancy	Health: currently
CP1	Late twenties	Registered Nurse (LD)	Married	P1	Normal	Obese: BMI 31	Obese	No health concerns
CP2	Late thirties	Registered Midwife	Married	P3	Normal	Obese: BMI 31	Obese	No health concerns

3.2.2a Participants - Retrospective Study (Mothers)

ID	Age	Current Occupation	Marital Status	Parity	Type of Birth	Reported BMI at 'booking' (first pregnancy)	Reported BMI post - birth	Reported Weight and Health currently
SW1	Mid-forties	Homemaker	Living with partner	P3	1. Normal 2. Normal 3. Vent	Normal	Obese	Lost weight with SW Has MS and depression
SW2	Mid-forties	Business owner	Married	P4	1. FD 2. Normal 3. Normal 4. Normal	Overweight	Obese	Type 2 Diabetes Currently obese
SW3	Late twenties	Lunch-time school supervisor	Married	P1	1. LSCS	Overweight	Obese	Has lost weight with SW No health concerns
SW4	Late twenties	Graduate (works in social care)	Lives with partner	P1	1. Normal	Normal	Obese	Is losing weight with SW No health concerns
SW5	Early forties	Business owner	Married	P2	1. Normal 2. Normal	Normal	Obese	Has lost weight with SW No health concerns
SW6	Late twenties	Office Worker	Married	P2	1. Normal 2. Normal	Normal	Obese	Is losing weight with SW No health concerns

SW7	Early forties	Driving Instructor	Married	P1	1. Normal	Normal	Obese	Is losing weight with SW No health concerns
SW8	Mid thirties	Office Worker	Single (divorced)	P2 - twins	1. LSCS	Overweight	Obese	Is losing weight with SW No health concerns
SW9	Late thirties	Registered Nurse	Married	P2	1. LSCS 2. LSCS	Overweight	Obese	Is losing weight with SW No health concerns
SW 10	Early thirties	Cashier (food store)	Married	P2	1. Normal 2. Normal	Overweight	Obese	Is losing weight with SW
OP1	Mid-twenties	Homemaker	Lives with Partner	P2	1. Normal 2. Normal	Overweight	Obese	Is happy with current weight No health concerns

3.2.2b Participants - Retrospective Study (Professionals)

ID	Age	Current Occupation	Length of Service	Type of Experiences	Reported Current BMI Classification
PP1	Early forties	Student Midwife	Almost 3yrs	Learner	Overweight
PP2	Early thirties	Student Midwife	Almost 3yrs	Learner	Normal
PP3	Late thirties	Student Midwife	Almost 3yrs	Learner	Normal
PP4	Mid-thirties	Senior Lecturer in Midwifery	6yrs	Hospital-based midwife Independent Midwife Education	Normal
PP5	Late fifties	Registered Midwife	30yrs	Caseload midwife	Overweight
PP6	Mid-thirties	Registered Midwife	14yrs	Hospital-based midwife	Normal
PP7 (partial)	Early forties	Senior Lecturer in Midwifery	12yrs	Hospital-based midwife Team-based midwife Birth Centre experience Education	Overweight
PP8	Mid-forties	Specialist Midwife (diabetes)	25yrs	Hospital-based midwife Intrapartum focus	Normal
PP9	Early twenties	Student Midwife	Almost 3yrs	Learner	Normal
PP10	Mid-forties	Senior Lecturer in Midwifery	Unknown	Varied Education	Overweight
PP11	Withdrew (after consent, but before interview) no reason given.				

PP12	Late thirties	Registered Midwife	15yrs	Community-based midwife Part-time teaching contract	Normal

Mothers (N=2) recruited to participate in the original longitudinal study both had a raised BMI ≥ 30 (kg/m^2) at 'booking' and their BMI remained ≤40 (kg/m^2) throughout the pregnancy. Both mothers had singleton pregnancies, however, one was primigravid (G1 P0) and one was multigravida (G3 P2). Their demographic profiles were similar – they were both married, were healthcare professionals and both were educated to degree level (see table 3.2).

3.4 Research Methods

This section will provide the reader with a discussion of the method of data collection employed in this study, namely semi-structured interviews. It will explore the choice of data collection method and how the semi-structured interviewing schedule was devised.

3.4.1 Interviewing in Qualitative Research

Interviews can be structured, semi-structured or unstructured (Bryman 2015). Within qualitative research interviewing tends to be less structured than in quantitative research. Quantitative interviewing tends to use a structured interview schedule, with responses which can be allocated a value. The researcher tends not to deviate from the structured interview schedule in order to maximise the reliability of the data generated. Semi-structured and unstructured interviewing approaches are often referred to as qualitative interviewing or in-depth interviewing (Bryman 2015). With qualitative interviewing, using a semi-structured or unstructured interviewing schedule, the resulting conversation is more flexible and allows the researcher to explore insights by asking further questions to allow the participant to develop their perspective. This may also facilitate the conversation by encouraging the participant to explore avenues of relevance and interest, and the participant has more control (Bryman 2015; Edwards and Holland 2013). It can also involve asking very open questions allowing participants to interpret the question as they wish and to define and frame their answer what they believe is relevant to answering the question. But why was interviewing regarded as the preferable data-collecting method rather than another tool? The use of an interview allowed the researcher to examine content, context

and behaviour and importantly also encouraged the interviewee to elaborate on their perceptions, perspectives and interpretations (Bryman 2015; Denscombe 2014; Edwards and Holland 2013). This was considered important in this study, as it was focused on capturing the participant's perspective and the meanings participants gave to their experiences (Bryman 2015). In this study the qualitative interviews were conducted as *"conversations in which a researcher gently guides"* (Rubin and Rubin 2005: 4), where the researcher utilised a responsive interviewing model. In this model the interviewees were considered to be *"conversational partners"* undertaking *"extended conversations"* (Rubin and Rubin 2005:14). This could not have been achieved through using questionnaires or observation, for example (Bryman 2015; Denscombe 2014). The next sub-section will discuss why the researcher chose a semi-structured interview as the data collecting strategy.

3.4.2 Developing the Semi-Structured Interview Guides

An unstructured interview guide may be just a single question to launch the conversation. The interviewee is then encouraged to respond as they see fit, with the researcher asking for further elaboration to achieve clarity (Bryman 2015). An interview using an unstructured guide has been likened to a conversation, although these interviews are more conversations with a specific purpose and an agenda led by the researcher (Adams 2010). Semi-structured interview guides typically have questions or areas of interest identified to guide the discussion. It provides the researcher with significant flexibility to ask the questions with a different perspective and in a different order depending on how the conversation unfolds (Kallio et al 2016; Bryman 2015; Edwards and Holland 2013).

The interviews within this study were semi-structured, using a broad and generic interview guide, rather than being totally unstructured, although any imposed structure may restrict access to the perspective and opinions of the participant (Bryman 2015). A semi-structured interview approach was chosen as this technique would facilitate and create a space for mothers to articulate and develop their own stories and accounts based on their experiences in the context of a set of open questions. It also allowed the researcher to ask questions arising from the narratives of the participants during the interviews, while still addressing the aims of the research study (Bryman 2015; Adams 2010). Using a semi-structured qualitative interviewing style allowed the researcher to deviate from a more rigid

interview schedule and ask questions relating to the replies received or even to have adapted the questions in response to the developing conversation (Bryman 2015) i.e. main themes and follow-up questions (Kallio et al 2016). The researcher believed that this increased level of reciprocity between the researcher and the participants created a rapport during the interview, which facilitated the generation of rich data. The questions themselves were 'open', avoiding eliciting a yes/no response where possible and avoiding leading or biasing the conversation (Bryman 2015; Bowling 2009). The conversation was then flexible and responsive enough to allow the interviewee to communicate what they would like to say and allowed the researcher to explore 'new' themes or perspectives as they emerged during the interview (Bryman 2015) (see table 3.4).

Table 3.3: Examples of Questions Used during the Semi-Structured Interviews

Type of Question	Example
Opening Question: used as an opening to start the conversation **Open Questions:** used as part of the semi-structured interview schedule	*"Thank you for agreeing to take part in this study. So, tell me a bit about yourself……."* *"So, what do you understand about BMI?"* *"So, can tell me a bit about your journey with your weight?"*
Probing Questions: used to gain more depth and expand on a theme **Prompting Questions:** used to encourage consideration of a theme raised or to move the discussion onwards	*"That's an interesting thought - can you tell me more about that?"* *"What were you thinking at that time?"* *"Do you remember whether your midwife assessed your BMI with both your pregnancies?"* *"What happened next?"*
Closed Questions: used for clarification or to confirm understanding	*"How big were your babies?"* *"So you don't feel that you've ever experienced any weight stigma?"* *"Did you enjoy being pregnant?"*

The focus of the semi-structured interview schedules was guided and influenced by the initial literature review, which had identified key themes worthy of investigation (Kallio et al 2016). In the longitudinal and retrospective studies these focused around how a mother's earlier experiences influenced her current body image, her perception of obesity and the use of the BMI tool. It also focused on the quality of the interaction and communication with healthcare professionals and whether her raised BMI had influenced her birth experience, plus her current body image post-childbearing. The available literature on the perspective of midwives was limited at the time and so the professional perspective of the study focused on the 'obesity epidemic' and using the BMI tool, plus their experiences of caring for obese mothers during childbearing.

The interview guides for the longitudinal study were constructed so that each interview had a theme. The first interview, undertaken at 24-28 weeks, focused on the mother's background where she discussed her journey with her weight through childhood to the current time. It also asked about her perceptions on her body image and weight, communication with health care professionals, her health in early pregnancy, understanding of BMI and plans for birth. The second interview, undertaken at 34-38 weeks, focused on care received during later pregnancy, how the participant perceived their weight affected the care they received and how this influenced their birth plan. The final interview, undertaken at 1-3 months postpartum, focused on the participants' experience of intrapartum care and birth, and their perception of their body image and weight post-birth. During the second and third interview there was an opportunity for the researcher to discuss issues for clarification from the previous interview or for the participant to add or change their accounts following reflection between meetings, if required (see appendix 2.1).

The interview guide for the retrospective study was constructed to encompass a range of themes, where the participant was asked to look back, rather than discuss current events. It covered the mother's weight journey, her understanding and use of the BMI tool, her thoughts about the care she received during her childbearing episodes and whether her weight influenced her birthing experiences, and how she perceived her body image and weight post-childbirth (see appendix 2.2.1). However, as these were single interviews, there was not an opportunity for the researcher to discuss issues for clarification from a previous

interview, although the researcher encouraged the participants to email or text the researcher if they wanted to add or retract anything.

The interview guide for the professional perspective for the retrospective study was constructed to generate data about their perspectives as healthcare professionals. It encompassed their thoughts about the 'obesity epidemic' and using the BMI tool, their experiences of caring for obese mothers during childbearing, with prompts to generate discussions around communication, challenges, practical concerns and meeting mother's needs. It also had a final question which asked about their relationship with their weight and body image (see appendix 2.2.2). Again, these were single interviews and so there was not an opportunity for the researcher to discuss issues for clarification from a previous interview, although the researcher encouraged the participants to email or text the researcher if they wanted to add or retract anything.

3.5 Transcription and Data Analysis

Qualitative data can be difficult to analyse as the data can be vast with diverse perspectives and complex themes (Noble and Smith 2014). It is important to ensure the analysis of the data is robust and transparent, so that any reader or reviewer can determine how the findings were reached. It is through the data analysis process that interpretations can be generated (King and Horrocks 2010). Framework Analysis (FA) was developed by social scientists to provide a framework in which to analyse qualitative research. It is often referred to as thematic analysis (TA) (Braun and Clarke 2006) or framework method (FM) (Gale et al 2013). It is considered to be an applied research approach that can be used to analyse data aimed to inform policy and practice (Ward et al 2013; Gale et al 2013). This sub-section will outline the process used to analyse the interview data using thematic analysis as detailed by Braun and Clarke (2006) (see table 3.4).

Table 3.4: The Six Stages of Thematic Analysis (Braun and Clarke 2006: p87)

Stage	Commentary
Stage One	**Familiarisation with the Interview Data** – transcription, emersion in the data, initial ideas
Stage Two	**Initial Coding** – coding of interesting thoughts, ideas and patterns arising through a systematic review across all the data
Stage Three	**Searching for Themes** – amalgamating codes into possible themes using all the data
Stage Four	**Reviewing Themes** – generating a thematic map for each theme to check ideas from stage 1
Stage Five	**Naming the Themes** – on-going review to redefine themes, generating definitions and names
Stage Six	**Writing Up the Report** – final review – selection of quotes, relating findings back to research question

TA is an often-utilised method of analysing qualitative data, which can be used across a variety of epistemological approaches. It is ideally suited to managing large amounts of qualitative data and due to its flexible approach provides a detailed account of the data through the systematic recognition of patterns identified through the coding of thoughts and the amalgamation of these into themes and sub-themes (Braun and Clarke 2006). While patterns and themes emerging from the data suggests a passive exercise, TA is an active process where the researcher purposefully searches for patterns and themes. Patterns and later themes and sub-themes are determined by prevalence, although there is no consensus as to what percentage the pattern or theme should constitute (Braun and Clarke 2006).

Using this method, it is possible to identify themes and subthemes, which can be linked to the data and ensure the context of individual participants is not misplaced (Gale et al 2013). Themes can be generated using a deductive approach where themes are pre-defined or using an inductive approach where themes are created as the analysis unfolds (Gale et al 2013; Braun and Clarke 2006). In this study certain themes e.g. body image, stigma and maternity experience had been agreed pre-interview and were generated from the literature review. However, as the analysis unfolded it became apparent that other themes were emerging from the data. Data analysis was therefore an iterative process which involved moving up and down, forwards and backwards between the stages (Braun and Clarke 2006).

TA was considered an appropriate approach for the analysis of the semi-structured interview transcripts generated in this qualitative research study and was used to analyse data generated from the semi-structured interviews in the study. The next sub-section will detail for the reader how the data generated in this study was analysed using TA.

3.5.1 Thematic Analysis

The researcher transcribed the interview data from the longitudinal study as soon as possible after the event. Longitudinal studies, in particular, add extra problems during data analysis due to the closeness of the relationship between the researcher and the participant and the opportunity to review the data before collecting the full set of data from all three interviews (Snelgrove 2014). The researcher tried not to interpret the data until all three interviews had been conducted, although they were read to determine whether there were any points arising that the researcher wanted to clarify with the mother ahead of the next interview. The completed data sets were then reviewed alongside the data collected from the interviews undertaken with the mothers from the retrospective study. While it is considered advantageous for researchers to undertake the transcribing themselves, due to time constraints, the interview data from the retrospective study were all transcribed by a professional transcriber.

Stage One: it was important for the researcher to become immersed in the data. This started immediately after the interview, or as soon as possible afterwards, when the researcher contributed to her reflective journal and made notes from the interview in the margins of the interview guide. Once transcribed, the researcher read and re-read and re-read the transcripts on several more occasions, listened to the audio recordings, reviewed them for accuracy and reflected on her journal and post-interview notes. Listening to the audio-recording was an important aspect of the analysis process, as this provided what Silverman (2017) described as 'response tokens' e.g. *'mmm'*, which were not present in the transcripts produced by the professional transcriber e.g.:

> *"The last time I want to the midwife, she called me 'fat'* (laughs). *That's the reason why I wasn't feeling anything* (meaning fetal movements)" (CP1)

This strategy enabled the researcher to become very familiar with the interview data and provided access to additional non-verbal cues when interpreting the data.

Stage Two: during the immersive stage, interesting features were identified, and initial codes were allocated using an inductive approach rather than a pre-decided coding frame. A systematic approach was taken to all the interview data. Each transcript was coded manually through the identification of highlighted extracts, which were placed into a separate word document (see appendix 3).

Stage Three: recurring themes and sub-themes were then created by combining similar codes into broader themes. Using a computer package is often recommended by researchers (Noble and Smith 2014) and these were considered as a tool to aid this stage e.g. the use of NVivo9, but the researcher found the software too complex. The researcher decided to use word documents, paper charts and copious amounts of post-it notes. The researcher noted that she was drawn initially to the unusual, which as Benner (1994) suggested was what may be the more interesting than the usual, but to minimise this the researcher initially focused on the pre-defined themes determined after the literature review. However, as the inductive process unfolded more themes, concepts and patterns emerged from the whole research data; it was considered a more robust method as it did not just focus on the interesting or unusual and looked for counter calls.

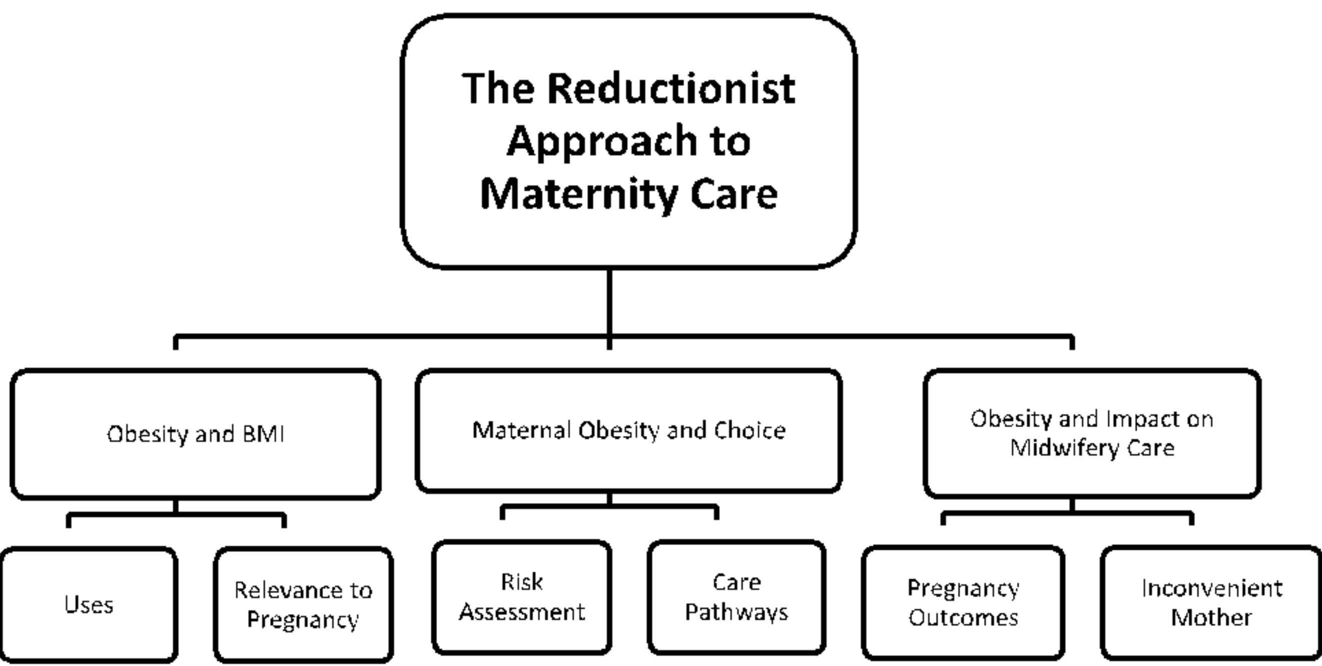
Stage Four: qualitative researchers are often criticised for the quality of their data analysis (Bryman 2015; Denscombe 2014), as the excellence of the finished research depends on a robust analysis. It is suggested that it is good practice to arrange for other researchers to read through the transcripts and themes to reduce inaccuracy and bias. As this study was a doctoral study, my supervisors were also able to sample the interviews and review the choice of themes and codes throughout this time, which facilitated an iterative approach to the data analysis and supported the student as a novice researcher. Following the previous stages, themes and sub-themes were reviewed and defined. They were then applied back onto the interview transcripts and notes/journal; this occurred several times to allow the researcher to refine and redefine the themes and sub-themes and at this stage the

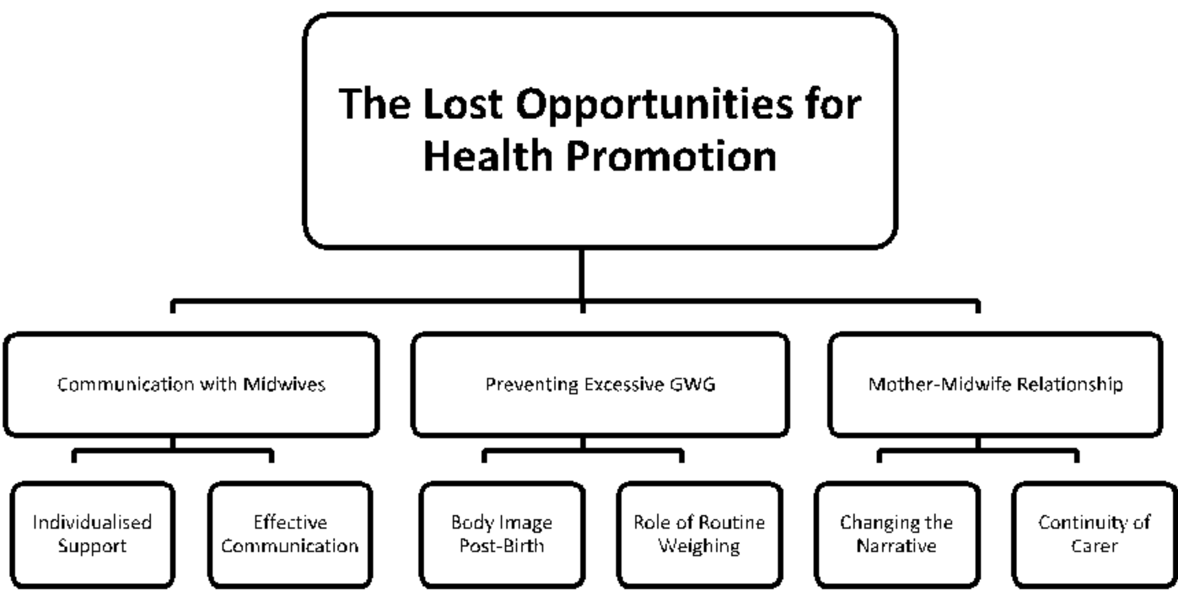
researcher double-checked the themes and sub-themes against the interview transcripts, audio recordings and journal notes. Key quotes were identified to substantiate the themes and sub-themes and reduce the material into a workable format, using numbering on the transcripts to achieve this (see appendix 3).

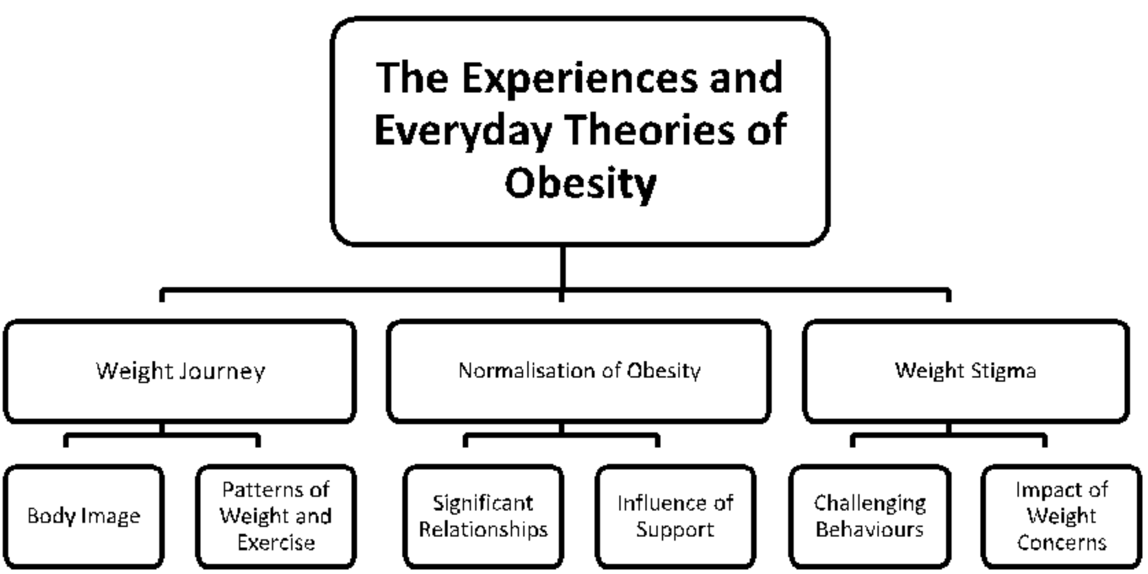
Stage Five: this then resulted in workable data analysis to begin interpretation and discussion with my supervisors. Key themes emerged from the analysis which formed the three data chapters: *'The Reductionist Approach to Maternity Care'*; *The Lost Opportunities for Health Promotion'* and *'The Experiences and Everyday Theories of Obesity'* (see figures 3.2)

Stage Six: writing-up the report occurred following the previous five stages. It consists of the data chapters with a selection of key quotes, and ultimately relating findings back to research question in the discussion chapter.

Figures 3.2: The Amalgamation of Themes and Sub-Themes into Data Chapters







To conclude, this section has described the analysis of the data using a TA approach. The next section will explore the ethical considerations in this study.

3.6 Ethical Considerations

This study gained ethical approval from De Montfort University's Faculty Research Ethics Committee (REC). The researcher also secured ethical approval through the Integrated Research Application System (IRAS) and an NHS Trust's Research and Development (R&D) procedures to be able to approach and recruit mothers through the NHS Trust within the longitudinal study. There were many ethical considerations within this study.

3.6.1 Justice, Beneficence and Non-Maleficence

The ethical principles underpinning the current study were justice, beneficence and non-maleficence, which are important considerations in healthcare research (Beauchamp and Childress 2012). It is a responsibility of the researcher to ensure that their research study complies with these ethical principles (Doody and Noonan 2016). This section aims to demonstrate how the researcher considered the ethical principles within this study.

3.6.2 Gaining Informed Consent

It was very important to ensure that all participants gave their full informed consent to participate in the study (Rees 2011; McHaffie 2000). Potential participants were provided with an information pack and a participant information sheet, which had a reply slip with a SAE, so they could register their interest. In the longitudinal study this occurred at their 'booking' appointment at 8-10 weeks and in the retrospective study this occurred at either a Slimming World meeting (mothers) or via email invitation (professional participants) (see appendix 1).

Once the researcher had received her reply slip, the researcher then contacted the potential participant and invited her to meet to discuss the research. For those potential recruits to the longitudinal study this happened after their next antenatal appointment occurring at around 15 weeks; their named midwife acted as the gatekeeper and would inform the researcher if they had changed their minds. At this contact the researcher met with the potential participants and provided verbal information about the study and its aims, how it would be conducted, the role of the researcher and answered any questions. With verbal consent following this discussion, potential participants were contacted by phone, text or

email (depending on participants preferences) to arrange the first meeting of the study at between 24- and 28-weeks gestation. This gave all participants in the longitudinal study around 10-12 weeks 'cooling down' period in which to reflect and withdraw from the study if necessary.

In the retrospective study, once the researcher had received their reply slip, she contacted the potential participants by phone, text or email (depending on participants' preferences) to discuss information about the study and its aims, how it would be conducted, the role of the researcher and answered any questions. If the potential participants agreed to take part in the study the researcher waited for 4 weeks to contact them to arrange their interview; this gave them time to reflect and withdraw from the study during this time. If at any time the researcher did not receive a reply to any phone, text or email, she would try once more; if there was no contact from the potential participant after this time, the researcher assumed that interest had been withdrawn and no further contact was made. Written consent to participate was then obtained, prior to the interview. All participants were again reminded that they could withdraw their consent at any time.

3.6.3 Protection from Exploitation

Justice is an ethical principle which when applied to research refers in part to ensuring that being involved in a research study does not influence the care or treatment that the participant received (Clarke 2015). This ethical principle was an important consideration for the mothers in the longitudinal study, who may have concerns about participating while still receiving maternity care; there was potential for the mothers to feel obliged to participate, when currently pregnant and still receiving maternity care (Rees 2011; McHaffie 2000), The researcher informed the potential participants that, while the researcher was a midwife, she would not be involved in any aspect of their maternity care and that choosing to participate or declining to participate would not affect the quality of care they would receive. This was documented within the information packs and discussed with the potential participant at the first meeting at the 15 weeks appointment. It was also a component of the written consent form (see appendix 1).

This was also an important consideration for the student midwives who wanted to participate in the study; it was stressed to them that participation or non-participation would not influence their progress in their studies in any way. Each participant was able to withdraw from the study at any time.

3.6.4 Anonymity of the Participants

In the final write up of the study it was important to maintain anonymity of the participants in all the data. The written transcripts were catalogued anonymously, using labels to identify participants. 'CP' denoted that the participants had been recruited during childbearing; 'SW' denoted that they were recruited through Slimming World; 'OP' denoted they were participants recruitment through other sources, while 'PP' denoted the professional participants, with 1, 2, and 3 etc to identify the order of interview. The audio recording and the transcripts were stored in a password protected electronic word document for the duration of the research study by the researcher. The code and its link to the identity and details of the participants was also secured in a password protected word document. The only persons with access to the data were the researcher and her doctoral supervisory team. Within the final write-up, confidentiality and the anonymity of all participants was maintained through the removal of identifiers e.g. area of residence, etc. Names were removed and identified only through a numbering system. Contact details of the participants were held in a password-protected electronic file and only the researcher had access.

3.6.5 Obligations arising from the Researcher's Professional Role

The researcher was a midwife and subject to a professional code of practice (NMC 2018). At the time of data collection this was the Nursing and Midwifery Council *"The Code: Professional Standards of Practice and Behaviour for Nurse and Midwives"* (NMC 2008b) (see section 1.4.4). If, during the research process, the researcher identified serious professional misconduct or child protection concerns, she would be obliged by 'The Code' to report her observations. The researcher would have discussed all matters of concern with, gained advice and support from and determine appropriate action via her named Supervisor

of Midwives (see glossary). This was also discussed with the potential participants during the consent process.

3.6.6 Preventing and Managing Distress of the Participant

Non-maleficence is the ethical principle of 'doing no harm' (Beauchamp and Childress 2012). Research participants should not be harmed through their involvement in a research study; this could be physical in a drug trial, but it can also be social, economic or psychological (Doody and Noonan 2016). The social and economic effects of participating in the current were minimised by offering to conduct the interview(s) in a venue convenient to the participant and on a date and time chosen by the participant, thus reducing potential economic and social costs.

Prior to the researcher conducting the first interview at 24-28 weeks of pregnancy, the researcher contacted the named midwife of the mother to ensure all was progressing well with the pregnancy. If the mother had experienced a miscarriage or their anomaly scan had shown a complication with the pregnancy the researcher would not continue with the research process for that participant. For mothers interviewed after their childbearing experiences this particular concern did not apply.

Researching sensitive issues, such as in this study, may arouse strong emotions among the participants, especially during a one-to-one interview (Newton 2017; Doody and Noonan 2016; Mitchell 2011). However, a systematic review conducted by Alexander, Pillay and Smith (2018) suggested that the benefits of participating in such research significantly overshadows any potential harm and if any harm does occur it is usually short-lasting.

Prior to commencement of the data collection period the researcher identified possible sources of support for mothers, including referral to her midwife, GP, counselling, as appropriate. For the midwives this included their named supervisor of midwives (SoM) and for the student midwives this was their personal tutor. The researcher aimed to create an environment where the participants felt able to share sensitive information, essentially through sympathetic and patient listening. The researcher has had many years' experience as a midwife and educationalist and was adept at creating effective interpersonal

relationships with mothers. If any participant had become distressed the interview would have been stopped and support mechanisms employed, as identified above. Some of the interviews with the professional participants were conducted via telephone, which made this more difficult. However, no participants became distressed during the interviews.

3.6.7 Use of Language

Language as a form of expression is powerful and emotive, but it is also the means to how *"we can possess the world"* (Anderson, Hughes and Sharrock 1986: 74) and is a prerequisite for our comprehension of the world. However, using medical terminology may be regarded as the language of power (Hunter 2006). Obese individuals do not like the terms 'obese' or 'obesity', due to the negative connotations that these words call to mind. Thomas et al (2008) found that obese and obesity were terms that the participants in their study particularly disliked. Often, they prefer the terms "overweight" or "large", whereas healthcare professionals tend to rely on the use of professional terminology, such as "raised BMI", which they feel is more objective and less likely to cause offence (Thomas et al 2008). However, a study by Tailor and Ogden (2009) found that using an euphemism, rather than the term obese, portrays less severity and may actually be more upsetting to the client.

Therefore, the language that healthcare professionals use is important. The language within this study originated from medicine and may have been considered offensive to some of the mothers e.g. the terms obese and obesity. To minimise any risk of offence to the mothers who agreed to participate in the study the researcher aimed to explain these terms to the mothers using objective terms. The researcher used the term 'raised BMI' instead of 'obese or obesity' in all interaction and within the participation information sheet. The term 'BMI' was also explained to all potential participants during the consent process.

3.6.8 Conducting Interviews in Participants Own Homes

There was a potential personal risk to the researcher where interviews were conducted in non-public spaces. There was access to a room on university premises if it was needed and the researcher had read De Montfort University's 'Lone Worker Policy'. The interviews with the mothers were undertaken in the participants own home, which was a potential personal

safety risk to the researcher. The interviews with the midwives were conducted on University premises or via the telephone. To minimise the risk with the former, the researcher informed her research supervisor of the date/time of all visits and sent a text message on arrival at the mother's home and on leaving the mother's home.

3.6.9 Principle of Beneficence

Beneficence is the ethical principle which seeks to do good i.e. to benefit the participants of a research study (Doody and Noonan 2016; Beauchamp and Childress 2012). While there was no monetary or treatment benefits of participating in the study, the researcher hoped that the participant might benefit from telling their story and perhaps through indirectly influencing maternity care for others in the future (Rossetto 2014). It is difficult to know how beneficial being involved in the study was for any individual participant, as it is recognised that this is specific and will differ from person to person (Doody and Noonan 2016). However, all participants appeared happy and satisfied at the end of the interview(s).

To conclude, there were many ethical issues to be considered and managed in the current study, which have been evaluated within this section. Successful ethical approval was obtained from the Faculty Research Ethics Committee. The next section discusses the influence of the researcher on the study.

3.7 The Researcher's Influence on the Research

Positivist researchers consider the influence of the researcher in both the data gathering and evaluation processes to negatively affect the validity of the results (Bryman 2015). Positivist researchers consider it important to promote objectivity in research, as they believe that it is possible to eradicate the influence of researcher on the research process (Bryman 2015; Rees 2011). Objectivism is the ontological position that suggests that phenomena in the social world are independent of the individual and that the world is similar for everyone (Clancy 2013). Objectivity requires the researcher to ensure than the data collection is undertaken in a consistent manner to reduce the intrusion of bias (Bryman 2015). However, interpretivism adopts a very different stance; it is considered almost impossible to totally detach the beliefs and values of the researcher during the data

collection process (Langdridge and Hagger-Johnson 2009) and that instead a consideration of these needs to be built into the research process. Exercising reflexivity enables the researcher to contemplate his/her perspectives in relation to their study; this is thought to enhance the credibility and robustness of the research (Darawsheh 2014). Reflexivity is usually multi-layered; the reflexivity of the researcher, the organisational reflexivity of the processes (Engwald and Davis 2015) and the interpersonal reflexivity with the participants (March et al 2017) and is generally regarded a challenging and uncomfortable process (Pillow 2010; Finlay 2002). This section aims to discuss the influence of the researcher in interpretivist research and how this influenced this study.

Reflexivity describes how a researcher questions his/her attitudes, values and beliefs to acknowledge the influence they may have on the research process (Darawsheh 2014; Clancy 2013; Holloway and Biley 2010; Finlay and Gough 2003; Finlay 2002), by raising awareness of the impact of the researcher on the research and the research on the researcher (Attia and Edge 2017). In interpretivist research it is important to outline and acknowledge the researcher's positionality i.e. the subjective position of the researcher which includes an overview of the researcher's background and reasons for undertaking the study (Thomas 2017). The researcher in this study was a woman, a mother, a midwife and an academic. She was also a mother who had struggled with weight throughout late childhood, during adolescence and had carried excess weight into adulthood. She recognised that she had possibly experienced discrimination during her life and could recall stigmatising events that she attributed, in part, to her obesity. She had also entered childbearing overweight: she gained an excessive amount of GWG during her first pregnancy, resulting in her starting motherhood with an obese BMI. This weight was not lost inter-pregnancy and, following a ten-year period of secondary infertility where more weight was gained, she experienced childbearing while morbidly obese with her second child. The researcher eventually lost the weight through ill-health during middle-age and, at the time of the research, her BMI was within the normal range. The researcher had also worked in a consultant-led unit for many years and had wide and varied first-hand experience of caring for women with obesity during childbearing. Against this background, an interest in stigma and obesity during childbearing arose, which developed into this doctoral study. With extensive experience as a midwife the researcher recognised that she would have her own 'world view' of both

midwifery and obesity and sought to understand how her personal subjective perspective could influence both the data collection and data analysis (Clancy 2013; Day 2012; King and Horrocks 2010; Rubin and Rubin 2005). Buetow (2019) discusses the importance of discussion with peers as a method to enhance reflexivity; these aspects were discussed at length during supervisory tutorials.

The researcher kept a reflective journal throughout the research process to augment her reflexivity. Benner (1994) regards the modalities and fluctuations in a person's way of thinking as worthy of recording, because this reflects the non-static nature of human existence. It was considered important to acknowledge these beliefs and values from the start to be aware of their impact (Roddy and Dewar 2016); the researcher started this process at the inception of the study where she reflected on her reasons for conducting this study within her journal notes. Therefore, during the early stages of the research process the researcher identified and reflected on her own assumptions and prejudices regarding childbirth and obesity. Her preconceptions revolved around obesity stigma and how obese women coped with being different and not conforming with the social ideal to be slim; she reflected on how she had not let her obesity stop her living her life or achieving what she set out to do. As a midwife she reflected on her relationships with the obese mothers she had provided care for and the impact this had on her practice. She realised that the obesity stigma they had experienced during their engagement with the maternity services had had a profound effect on her personally and professionally. The researcher's perceptions initially centred on empathy for the obese individual, the drive to develop midwifery practice and the maternity services, and a desire to reduce obesity stigma, which had probably emanated from the researcher's own experiences. Being transparent about decisions reached in the research design is part of being reflexive (Engward and Davis 2015). The process of reflexivity influenced the research design in this study, where semi-structured interviews were chosen so as to hear and capture the women's' perspectives and experiences.

Sometimes researchers want to contain or minimise their influence and sometimes they want to lever and to use their influence. The researcher in this study attempted to contain her own subjective perceptions during the data collection and data analysis periods. The researcher understood her role as a researcher during the data-collecting process and

recognised the potential for over-stepping her professional boundaries if she did not constantly bear in mind that she was acting as a researcher rather than as a midwife, although there were some over-riding ethical considerations (also see section 3.6). Mitchell (2011) discussed the conflicts she experienced as a midwife and a researcher during interviews with women that focused on sensitive and emotional themes; this served to strengthen her resolve to develop her reflexivity (Mitchell 2011). Ahead of starting data collection the researcher in this study found that completing the ethical approval processes and time spent discussing potential situations with her doctoral supervisors was good preparation for the interviews.

Burns et al (2012) discussed the relationship between being the 'insider' and the 'outsider' as a midwife undertaking midwifery research. They saw how being an 'insider' was useful in gaining access and understanding maternity care systems, but how being an 'outsider' was an importance perspective to take to enhance the role of researcher and promote reflexivity (Burns et al 2012). 'Insider expertise' is considered useful to healthcare research (Johnson, Pringle and Buchanan 2016), the researcher in this study recognised this as being a midwife enabled her to use her 'insider' knowledge of childbirth to negotiate the maternity services and interpret the data collected. However, the researcher chose to take a 'middle ground' approach, although Hunter (2007) recognises that it is not always easy to become an 'outsider' in a familiar landscape. Rahmen et al (2016) agree and discuss how stressful it can be for the researcher to balance the roles of 'insider' and 'outsider' in research, especially when researching a sensitive topic area such as this study (Malacrida 2007). This was pertinent to the researcher in this study who, as discussed earlier, had personal and professional motives for conducting this research. Johnson (2019) sees the role of the researcher as 'an insider' as potentially therapeutic and support from the doctoral supervision team helped the researcher to reflect and understand this.

Participants are more likely to voice their experiences with others who have had similar experiences (Krueger and Casey 2015). During the informed consent period most of the participants asked the researcher several personal questions, such as why she was interested in the topic of obesity and childbearing and whether she has children, for instance. They were also interested in the researcher's professional role as a midwife and

often asked whether she enjoyed her job etc. The researcher was happy to disclose her personal and professional circumstances during any meetings, as this seemed to diffuse anxieties around why the researcher was conducting research into this area and facilitated the conversation and data collection during the conduct of the interview(s). In this study, the mothers in particular were interested in the perspective of the researcher and the feminist paper by Cooper and Rogers (2015) considers sharing insider information as a way of addressing power relations between participants and researchers and can enhance the discussion and data collection (Cooper and Rogers 2015).

To enhance the researcher's reflexivity during the research process, she aimed to maintain a non-judgemental attitude during the interview (Adams 2010). To do this the researcher endeavoured to create a warm and friendly environment and actively listen during the interviews. The researcher chose to use communication strategies such as asking probing questions to aid reflection and clarification, plus she asked for examples and elaboration to collect a richness of data in order to minimise her influence, using personal interaction to move the discussion along or to clarify points by asking for more detail (Adams 2010; Hunter 2007). During the data collecting period, as soon as possible after every interview, the researcher spent time reflecting on the interview she had just conducted and recording her thoughts and reflections on the interview in her reflective journal. Clancy (2013) regards reflexivity as the route to reduced issues of interpretation within qualitative research by increasing the credibility of the research. It is not considered a way to exclude research bias, but as a strategy to acknowledge perceptions and attitudes during the data collection and analysis (Johnson, Pringle and Buchanan 2016; Day 2012; Clancy 2013; Finlay 2002). The researcher did this to challenge any personal influences which might have been impacting on the research process, by considering the differences and similarities between the researcher and participant post-interview, as suggested by Dodgson (2019).

Rolfe (2006) suggests that all qualitative researchers should maintain a reflexive research journal, to enhance the trustworthiness and rigour of the research process. By doing so, this facilitated an exploration and evaluation of the researcher's own biases, experiences and cultural perspectives throughout the data collecting and data analysis processes. The

researcher's experience, as recorded in the reflective journal, was also used during the data analysis period (see table 3.5).

Table 3.5: Examples from the Researcher's Personal Reflective Diary

Post - Interview (SW1): *"What a lovely woman; she's gone through so much, but despite this has a positive mental attitude and the ability to look forward. I wanted to share my experiences, but I probably held back, because I was unsure as to how much I should share as a researcher. I saw so much of me in her! I'll discuss this at my next supervisory meeting with Sally and Tina, so I'm prepared for the next interview. I hope my input into the interview was helpful; I want the participants to get something out of sharing their weight experiences".*

Post - Interview (OP1): *"Being a midwife, I found it very difficult not getting into a discussion about aspects of her experiences based on my knowledge and experience. I'm not sure I didn't do this, as it seemed rude not to share my perspective when asked. However, I tried not to show how shocked I was about her awful experiences, but she clearly wanted to share this with me. I felt ashamed to be a midwife, even though I know it wasn't me that acted in that way. I do feel a collective responsibility though".*
Post - Interview (PP6): *"Being a midwife, I found it very difficult not getting into a discussion about aspects of clinical care. It would have been easy to start discussing aspects of clinical care and my perspectives, but I'd done several interviews by now and so was determined to listen more and explore her perspective. I have now spent an hour walking with my dog reflecting on the conduct and content of this interview; I'm happier with how it went and excited by the thought of further interviews".*

During the TA process the researcher focused not only on what appeared new or interesting, but also focused on the expected, so that preconceived ideas did not take precedence; Hunter (2007) sees qualitative research as a way of seeing the familiar with a new perspective and regards the mundane and everyday as what is of particular interest during the research process. As recommended by Johnston et al (2016) the researcher's experience was used as an added source of data during the process of data analysis. The transcripts were read, and the audiotapes were listened to and reflected upon alongside the entries in the researcher's reflective journal.

This section has explored and evaluated the role of the researcher in this study throughout this study. It has discussed how this may have influenced the data collection method and

how the data was analysed. Strategies used to manage this aspect have also been outlined. The next section will discuss and describe how the data collected was analysed. The next section discusses how the concept of trustworthiness was achieved within the study.

3.8 Limitations of this Study: Trustworthiness in Qualitative Research

This sub-section aims to discuss the limitations of this study by considering the concepts of trustworthiness in qualitative research, and how trustworthiness can be applied to determine the rigour in this study.

Rigour in research relates to the quality of planning and implementation of the research process, which Rees (2011: 26) considers to be *"whether the researcher has carried out the study in a logical, systematic way and paid attention to factors that may influence the accuracy of the results"*. Qualitative research cannot be confirmed in the same way as quantitative research, where a quantitative study can be repeated with the expectation of similar results. In qualitative research rigour can be assured through a well-developed research method, the use of data collecting tools and a robust and thorough data analysis strategy (Rees 2011). Therefore, the concept of trustworthiness relates to the level of confidence that the reader of the research has in the results of a study (Rees 2011; Schmidt and Brown 2009) and is considered an important consideration in qualitative research (Connelly 2016). It enables the reader of the research to be assured that the research is worthy of review and attention (Nowell et al 2017). Trustworthiness is established through the initial research question and its aims and objectives, how data was collected, how data was analysed and how the data was interpreted through the design and conduct of the research study (Roberts, Priest and Traynor 2006). Nowell et al (2017) suggest that trustworthiness arises through the conduct of the data analysis, which needs to be conducted methodically and ideally using a trusted framework, such as TA. The concept of trustworthiness to determine rigour in qualitative research encompasses the components of credibility, transferability, dependability and confirmability, and is regarded as the equivalent quantitative research components of validity and reliability (Bryman 2015; De Witt and Ploeg 2006; Lincoln and Guba 1985).

Credibility is defined by the relationship between the participant accounts and the interpretation of the researcher, which Lincoln and Guba (1985) suggested including such strategies as longitudinal studies, data collection triangulation and peer review. Peer review is an external check on the research process and in the current study peer review was undertaken throughout the stages of the research design, data collection, data analysis and interpretation through the PhD supervision process. In this study credibility was assured through the review of the coding and interpretation of the data by the research supervisors to check consistency. Also, the study used the numerical identification of occurrences, rather than reliance on pronouns such as 'many', 'several' or 'few', which may be open to misinterpretation (Braun and Clarke 2006).

Transferability refers to the extent to which findings of the research study are transferable to other similar situations (Connelly 2016; Lincoln and Guba 1985) and is comparable with validity required in quantitative research (Bryman 2015). Qualitative research tends to make 'theoretical inferences' rather than 'empirical generalisations' (Lincoln and Guba 1985). Interpretative researchers would call this 'resonance', where the reader intuitively understands the meaning of the phenomenon through interpreting the research (De Witt and Ploeg 2006). In this study are the interpretive discussions transferable across the maternity services and are they applicable to similar circumstances and environments for both mothers and midwives? The recruitment of participants through a single source i.e. Slimming World may have influenced the trustworthiness and transferability of the interpretive deliberations. The participants' viewpoints will be influenced by their experiences; they may represent those mothers who are currently trying to lose weight and those midwives who wish to express views that they feel strongly about, although, as we will see, the findings of this study 'resonate' with and build on existing literature and debates within the field of maternal obesity.

Dependability is comparable to the concept of reliability seen in quantitative research (Connelly 2016; Bryman 2015). However, in qualitative research it is more than considering whether it is replicable; it is more concerned with the production of audit trails to facilitate peer review to demonstrate that robust processes have been followed at each stage of the study (Lincoln and Guba 1985). Interpretivists call this 'opening the study up to scrutiny'

(Whitehead 2004). The writing-up of the study within a PhD thesis facilitates this audit trail and makes the research open to scrutiny and the researcher accountable.

Lastly, confirmability is achieved when credibility, transferability and dependability have been secured through the derivation of the findings and discussions from the data and data analysis (Tobin and Begley 2004). In this study this was realised through the viva voce examination.

This section has explored the concept of trustworthiness and provided the reader with an account of how the researcher has met the requirements in this study. These principles have been used to develop and deliver this study and therefore the quality of the study should be judged on these principles.

3.9 Summary

This chapter has discussed the rationale and justification for the chosen methodology for this study. The approach to be used within this research was explorative, interpretive and used a qualitative framework and this chapter has outlined why it was chosen over other qualitative research methods. This chapter has discussed and evaluated the data collection methods chosen to be used in this study and explained the data analysis process that was used in this study, namely using through the use of TA. It has considered the impact of the researcher and the limitations of the study through the concept of trustworthiness.

The next three chapters are the data chapters. They will discuss and establish the findings of the study and have been grouped around three emerging themes:

Chapter 4: The Reductionist Approach to Maternity Care

Chapter 5: The Lost Opportunities for Health Promotion

Chapter 6: The Experience and Everyday Theories of Obesity

The data chapters aim to present to the reader the findings arising from the data collected during the semi-structured interviews with the mothers and the midwives. In the three data chapters the experiences of the participants will be explored and evaluated under the three chapter headings in preparation for the discussion chapter.

Chapter 4: The Reductionist Approach to Maternity Care

4.1 Introduction

The aim of modern maternity care is to promote safe outcomes for the mother and child and does so by aiming to minimise risk through risk avoidance strategies: this reductionist perspective sits within the medical model of childbirth, in which birth is considered to be an unreliable process that is inherently risky (Walsh 2007; Tew 1998). In order to minimise risk, the maternity services have adopted risk assessments in order to identify the risks and take steps to minimise their impact (Healy, Humphreys and Kennedy 2016; Bryers and van Teijlingen 2010). For the obese mother this reductionist approach to care has implications for her maternity experience and starts at the 'booking' appointment with the assessment of the mother's Body Mass Index (BMI).

This study aimed to capture the experiences of mothers who were obese during childbearing and the perceptions of midwives who care for mothers with obesity (BMI ≥ 30 kg/m^2) as part of their professional role. As part of this, mothers and midwives were asked to recall their experiences and perceptions of maternity care during childbearing. This data chapter will focus on the categorisation of mothers using the BMI screening tool into specific care pathways and how midwives and mothers view this process. It will explore the effect of this risk assessment on obese mother's choices, experiences and outcomes and how a risk-based approach to maternity care impacts on midwife's autonomy and midwifery practice. Along with a range of other contributory factors, possible solutions and improvements, as suggested by both professionals and mothers, will be articulated and deliberated.

4.2 Body Mass Index (BMI)

BMI is an assessment tool, which is frequently used within healthcare as one of the methods of assessing the health status of a person (Nuttall 2015; NICE 2014a; Gard and Wright 2005). It has been incorporated into maternity care over the past decade, as part of the range of screening tools used to assess maternal well-being (NICE 2008). It is expected that this

screening will be performed by the midwife at the first antenatal appointment - the 'booking' interview - at around eight to twelve weeks gestation and forms part of a risk assessment (RCOG 2011; NICE 2008). A mother who has a BMI ≥35 (kg/m^2) will be allocated to a high-risk care pathway (Denison et al 2018; Modder and Fitzsimmons 2010). Therefore, ascertaining the mother's BMI has a significant impact on her future care pathway and her birth choices, especially around place of birth. This section will start by exploring midwives' perceptions of using BMI within their professional practice and then document how mothers perceive BMI.

4.2.1 Midwives Experiences of the BMI Screening Tool

All midwives (N=11) were quite accepting of the use of BMI as a screening tool within the initial 'booking' appointment. BMI takes into account height as well as weight and was considered by the midwives to be a better screening tool for identifying possible risks from weight to health, than weight alone. The booking visit was regarded as a time to determine the care that a mother required for the rest of the pregnancy and make referrals to other agencies and clinics. The use of the BMI was summed up by one participant as being:

> *"Good as a general guide"* (PP2).

> *"I think .... it's the best of what we don't have, so I think we need to use it............ got to start somewhere"* (PP10).

Generally, midwives stated that they appreciated its use as an assessment tool, where it can be used alongside other investigations e.g. blood pressure and urine testing to assess the physical health of a woman in early pregnancy. In this study it was used by the midwives as part of the general risk assessment framework that they conducted as part of the first 'booking' appointment. It provided them with a baseline assessment as ascertaining a baseline BMI measured pre-pregnancy obesity and facilitated midwives ability to compare 'booking' with any subsequent GWG and alongside other subsequent assessments, such as vital signs and blood tests, facilitated an assessment of maternal and fetal well-being as the pregnancy unfolds.

"(BMI) *provides a starting point for the rest of the pregnancy"* (PP1).

All of the midwives stated that they were aware of health risks associated with obesity within childbearing, but a few (N=3) discussed some limitations of the BMI tool in pregnancy to quantify that risk. They stated that the classification of the normal, overweight and obese categories may not be robust robust during pregnancy as it might be outside of pregnancy, when weight gained in pregnancy came from the fetus, the uterus and liquor volume etc and not necessarily from adipose tissue which was what the BMI was aiming to measure. The implication of a raised BMI, such as the link with ill-health was considered by the midwives to be an important concept. Some midwives (N=4) felt that it was not a reliable indicator of health in pregnancy, because they believed that obesity itself did not imply ill-health:

> *"Some women are obviously very unhealthy obese women, but some women can be obese, but pretty healthy, and seem to have no problems being obese and it doesn't really restrict their movement too much. And ...... it doesn't seem to impact on their pregnancy that much"* (PP5).

> *"I'm unsure if it* (the BMI scale) *works personally........ little faith in its use"* (PP4).

When asked to elaborate, all the midwives (N=11) stated that every woman with a BMI ≥35 kg/m^2 was classified as high risk in all the NHS Trusts where they were or had been employed, despite the obese category starting at a BMI ≥30 (kg/m^2) (WHO 2017a). They also stated that no other criteria apart from BMI were used for referral to the high-risk clinics or assignment to a high-risk pathway. They went on to discuss that they felt that the health risks for obesity increase as the BMI increases, so thought that it would be prudent to undertake more investigations following the finding of a raised BMI in order to ascertain individual health status. The BMI was viewed as a screening tool, rather than a diagnostic test and that the participants believed that using it alone was inappropriate. When asked to elaborate several midwives (N=8) discussed a need to assess the whole person through taking a holistic perspective, as the health risks were considered to be different for different

women with differing BMI's. Treating all obese women the same was regarded as not the best way to proceed:

> *"Raised BMI alone doesn't tell you about the individual"* (PP9).
> *"The health risk associated with the women's weight, that's what BMI doesn't tell us, it doesn't tell us what risk the women is at from her weight. I think the BMI should never ever be used in isolation……………."* (PP10).

This idea of distinguishing between obesity, health and ill-health was regarded as important to midwives, as the evidence of their experiences suggested that obesity was not always associated with ill-health. A couple of midwives argued that the link between BMI, fitness and health was tenuous at best:

> "One of the women I remember significantly had been a body builder, so she had a huge muscle mass which is heavier than fat. So, she certainly didn't look to me like she was unfit or unable to birth well, she was probably much more fit than many of these skinny women that would be classed as normal" (PP7).

Those midwives, who expressed this opinion, suggested that following further screening for complications of obesity e.g. pre-eclampsia and gestational diabetes (GD), a more individual risk assessment could be undertaken to ascertain the general fitness of the individual mother, which would then add credence to the apportioning of risk:

> *"A woman's general fitness and her overall wellbeing, I think, is the most important thing we need to think about"* (PP4).

Further screening to identify the conditions detailed above, following the initial calculation of the BMI, would provide a more reliable indicator of individual risk. This, it was suggested, would provide further the necessary information and evidence for mothers and midwives to use to make informed decisions about an individual mother's care:

"Where do we draw the boundaries, I think between what is natural normal variation in human body weight and what is actually dangerous or damaging for somebody. And again, I think that comes back a lot to that individual person doesn't it and how fit and health and active they are" (PP4).

"BMI doesn't tell us what risk the woman is at from her weight .... it doesn't allow for muscle mass so it's not particularly good in terms of looking at the women's lifestyle .... as health care givers we should be able to look at the women holistically enough to use the BMI in conjunction" (PP10).

As stated earlier the requirement for performing the initial BMI assessment during childbearing was reported by the midwives to be during the initial 'booking' interview. However, many of the midwives (N=7) considered that, while ascertaining the BMI at this initial appointment may be necessary, discussing the result and its implications at this appointment was the wrong time:

"It's difficult doing the BMI and discussing weight at 'booking' when you have just met the woman" (PP7).

"Awkward trying to explain the BMI scale to a woman especially as it's the first time you've met her at 'booking .... (she) *has her own journey and for some women it might be a very big issue for them. It might have perhaps affected their confidence. So by us talking about it, to somebody who potentially we've never met before, we've not got a relationship with, that's quite difficult to address"* (PP12).

"I think it can be seen as quite, you know, making a judgement on somebody and their body weight at the first time you meet the woman" (PP4).

These midwives talked about the potentially sensitive and far-reaching impact of discussing weight and size at the "booking-in" appointment. They stated that they felt that the initial meeting with a woman in early pregnancy was very important, citing the influence of this first impression on mothers who may not have experienced much contact with the healthcare services before becoming pregnant. Therefore, they felt that this appointment was predominantly regarded as the start of the creation of an effective mother-midwife relationship and they reported concerns about the possible deleterious impact that discussing BMI at this time could have on this relationship. They expressed uneasiness that this could then resonate throughout the childbearing episode:

> *"As healthcare professionals, if we're really discussing that with women and exploring it, and I'm not saying that we shouldn't be, but maybe for some of those women who do feel particularly uncomfortable with their weight"* (PP4).

> *"You have to ask someone you have never met before something really personal like her weight and life style, no wonder people want to tick a box and move on rapidly"* (PP10).

The midwives, therefore, expressed concern that, because they had not met the mother prior to the first antenatal appointment, they were unaware as to how the mother would react to a discussion about weight and whether this would impact on their relationship with the mother:

> *"You have to ask someone you have never met before really personal questions about her weight and lifestyle* (at booking)*"* (PP10).
> *"As women we're all sensitive about our body weight aren't we .... I think often and having to do that the first time you meet somebody can be quite difficult................ I think it can be seen as making a judgement on somebody and their body weight making a judgement on somebody and their body weight"* (PP4).

> *"..... Many women don't like being weighed; they are very sensitive. And if you weigh a woman when you first meet her as a midwife*

then that doesn't really build your relationship very favourably...."
(PP7).

4.2.2 Mothers Experiences of the BMI Screening Tool

There were some significant differences in the mothers' perspectives. As part of the semi-structured interview mothers who had been obese during childbearing were asked about their knowledge and understanding of the BMI screening tool. All the mothers remembered that they had had their BMI ascertained at the first antenatal visit at around 8-12 weeks gestation, as part of their 'booking' appointment. The mothers had invariably heard of the BMI measurement and all of the mothers were aware of the BMI number that signalled obesity i.e. a BMI ≥30 (kg/m^2). They regarded the calculation of BMI as an important and a necessary part of a health assessment, when they consulted a healthcare professional. However, their understanding of the significance of their BMI was less apparent:

> *"I just know which colour* (on the BMI chart) *means I am obese or overweight"* (SW3).

> *"Not hugely, I didn't know a lot about it* (the BMI) *- I've looked into it myself with doing Slimming World"* (SW6).

> *"I'm quite surprised really as BMI never has been mentioned as a problem"* (CP1).

There were, however, varied responses when asked how their BMI was relevant to their health. Similarly to the midwives' perspective, most of the mothers (N=8) expressed the view that knowledge of their BMI did not give them any indication of how healthy they were on an individual basis:

> *"I think its rubbish really, because it only takes height versus weight, not like width or shape or anything like that"* (CP1).

> *"Until somebody tells you that your BMI is that high, I always looked at myself and thought yes I am a size 14 to 16 that's not too bad. But*

until somebody says to you your BMI is 34 that means that you are obese you think 'oh my lord, oh'. Whereas you look at yourself in the mirror and think 'oh I don't look too bad'" (SW4).

"It's your height to weight ratio, so many kilos per meter square or something like that. It's what the medical profession use to classify the healthy weights and then the lower end and the above. I don't think it really tells you how healthy you are" (SW9).

"I hate it (BMI). I hate it as a scale. I hate the way it's labelled – you know, you're pre-obese, obese, clinically obese... I just think it's a pointless score. It doesn't take into account individual health" (CP2).

When asked to elaborate on what the BMI screening tool meant to them as individuals, mothers stated that they did not routinely use the BMI screening tool on a personal basis within their everyday lives. They were only aware of their BMI if they were in regular contact with a healthcare professional, such as a practice nurse:

"But I don't know what significance it has. It's just that one day I went down to get my pill and the nurse that was giving me it said that my BMI was too high and if I didn't get it down she wouldn't be able to continue giving me it. So, it was just oh, something that I have got to pay attention to now" (SW3).

"I'm on the injection, the contraceptive injection, so every 3 months obviously I have that and I make sure now that I go to the same lady every month and she weighs me and she tells me whether my BMI has gone down because obviously I'm doing Slimming World so every 3 months it should have gone down, which it has been doing" (SW6).

Some of the mothers (N=4) said that they were aware of some controversy and debate around the efficacy of the BMI scale. This was because they had a background in

dietetics/healthcare and stated that they were aware of a lack of empirical evidence to support the categories of BMI or the level of risk associated with the BMI:

> *"I am aware of BMI, I know that I am classed as obese on the BMI scale and I'm at Slimming World again trying to do something about it - it's your height to weight ratio, so many kilos per meter square or something like that. It's what the medical profession use to classify the healthy weights and then the lower end and the above"* (SW2).

Weight, as a health-based screening tool, was considered by all mothers to be very imprecise; they felt that the causal relationship between weight and ill-health was very weak, so weight alone was perceived as non-specific. However, weight appeared to be a more meaningful gauge for mothers, who were more likely to know their weight and speak about their weight, rather than referring to their BMI. They tended to refer to their BMI only when focusing on health and health screening used during a healthcare-led professional assessment, rather than a day-to-day assessment tool to be used by the individual:

> *"I think it* (BMI) *is a good indicator for where you are at and where you should be. But weight is more important - I know I shouldn't be 13 stone, so I am about 3 stone overweight so the fact that that's obese for me is probably fair enough. I think it's* (BMI) *quite a big band of normal"* (SW7).

When the mothers attempted to lose weight, they did not appear to judge their success through changes in their BMI, rather they focused on losing weight; any change in their BMI was acknowledged after the weight had been shed. On further questioning, this was because the BMI categories were seen as being very broad and were not regarded as being sensitive enough to be used in monitoring weight on an everyday or even a week-by-week basis by the mothers. One mother stated that categorising obesity BMI ≥30 (kg/m^2) was too general – she saw her sister, who was also categorised as having an obesity BMI as very different from her obesity BMI:

"I look at my sister who has got a BMI of 43 and I go now she looks obese .... so, I go how can I be obese (with a BMI of 33) *and she is obese?"* (SW7).

All of the mothers were aware of their weight both during pregnancy, because they remembered being weighed at the "booking" appointment. When mothers had their BMI ascertained by the midwife at this appointment a couple of mothers (N=2) stated that they were shocked to have been classified as obese. This was because, while mothers knew they were overweight, they did not consider themselves to be obese. This was especially seen in those mothers whose BMI were at the lower end of the obese range i.e. a BMI ≥ 30-35 (kg/m^2):

"I wasn't made aware that I was a high risk because of my BMI.... when I first went for my first meeting with the midwife and she does the BMI and she said you're clinically obese and I was horrified. Just like oh my god I've never been even considered obese before. I didn't think I was carrying a huge amount of weight, but I was like 'oh my god'. Obviously, I didn't give it much thought" (SW5).

A classification of obesity had caused much anxiety and consternation for most of the mothers during early pregnancy, as mothers felt that it was too late to do anything about their weight during the actual pregnancy:

"There is not a lot you can do about it. Once you are there, you are pregnant; you are already obese, so what's the point" (SW7).

As discussed earlier all the mothers remembered being weighed at the 'booking' interview and recalled what their BMI was calculated to be. However, none of the mothers remembered being re-weighed at any point during the remainder of their pregnancy.

To conclude, this sub-section has identified that midwives consider that 'booking' may not be the best time to discuss a mother's BMI, as it the first meeting between the midwife and mother, which will form the basis for the on-going midwife-mother relationship. It has also shown how midwives regard the BMI tool as a means to screen and risk assess women

during early pregnancy in order to categorise them into care pathways as part of the maternity service provision. Mothers see BMI as a necessary part of this medically focused process, but do not appear to use BMI in everyday life or to monitor personal health and well-being.

The next section will document the perspectives of mothers and midwives with regards to whether obesity is a health concern or an appearance issue.

4.3 Obesity as a Health Concern or an Appearance Issue

Through the narratives of the mothers and the midwives, it became apparent that there was a debate between whether obesity was a simple descriptor of an individual's size, shape and appearance or an indication of risk and disease. This section will explore, through the narratives of the mothers and midwives, the perception of obesity as a health or an appearance concern.

4.3.1 Mothers Thoughts on Obesity as a Health Concern or an Appearance Issue

The link between a raised BMI and obesity was considered by the mothers as an important risk factor related to ill-health in middle and old age. Some mothers (N=4) described how obesity had influenced the health of the family, especially their own mothers. These mothers said that they only started to see increasing weight, and subsequently increases in BMI, as related to ill-health once they reached early middle-age, either when they developed an obesity-related condition e.g. raised blood pressure or type 2 diabetes or a family member e.g. a parent developed a disease or condition that was regarded as being weight-related:

> *"And as I've get older I realise more and more that your health is the most important thing. Like when you're younger you don't think about how gaining weight will affect your health, it's only as you get older"* (SW6).

The older aged mothers (>35yrs of age) (N=4) stated during the interview that they had a renewed interest in losing weight and reducing their BMI to within the normal range, now they were middle-aged themselves and feeling that their obesity was affecting their lives:

> *"I feel that* (because of my weight) *I can't do a physical job anymore"* – age 46 years (SW2).

The younger-age mothers (N=5), however, were not so concerned about their health when they were asked to consider the consequences of their raised BMI; they appeared to be more concerned with their attractiveness and often made comparisons between significant others e.g. their friendship group, which was related to their size:

> *"There was me and three other people pregnant in our friendship group at the same time, but I am the only one that put the weight on rather than just putting a bump on. So, all of them got to put their bump on and then got rid of that bump and then were back to their tiny little size 10s. Whereas me still sat there at size 18. So, with them being so much skinnier it never helps anyway. But it just didn't help as well because afterwards they got to bounce back and I didn't and it was like great now I am even bigger. Which made me feel even worse because walking round with them and they are tiny little things it just made me feel massive"* (SW3).

Most of the mothers (N=10) in the retrospective study were concerned about their weight at the time of the interview, hence why most of the mothers were currently or had previously attended a Slimming World group in order to try to lose weight. They believed they should weigh less than they did as they were being weighed weekly at Slimming World meetings.

4.3.2 Midwives Thoughts on Obesity as a Health Concern or an Appearance Issue

All of the midwives stated that there had been an increase in the rates of obesity among the whole population over the past two to three decades. The midwives discussed the resultant

increased occurrence of complications, which were caused by obesity e.g. type 2 diabetes and heart disease:

> *"I think in my 25 years of practice the amount of obese women that we are looking after does seem to have increased significantly, and of course all the complications that go along with obesity as well. I would certainly say we are seeing a lot more obese women"* (PP8).

While midwives said that they were aware of the associated risks to health that obesity poses, they felt that this morbidity was more prevalent with increasing age i.e. in middle-age and old-age. The link to ill-health in the younger age groups, namely the 16-44 years of age i.e. women of childbearing age, was less understood or believed:

> *"Most GTT's* (glucose tolerance tests - undertaken on obese mothers to detect gestational diabetes) *come back normal"* (PP8).

Several midwives expressed similar viewpoints (N=4); when discussing themselves and obesity, they did not regard obesity as an appropriate label to use to describe healthy individuals; rather they considered it was associated with ill-health and disease:

> *"Obesity, I think, is where it really impacts on your life and I don't consider that my weight impacts on my life. I don't think it has any effect on my health at the moment "*(PP1).

The viewpoint of it being too late to do anything about a mothers BMI once she is pregnant was also echoed by midwives, who also felt that pregnancy was too short a timeframe to address weight issues and they described a tendency to take a 'the damage has already been done' perspective:

> *"There is a lot that is trying to prevent it, but how can we prevent something that's already there"* (PP9).

Midwives (N=11) reported that they spent a lot of time assessing and evaluating women's risk factors during pregnancy. This was viewed as an important component of antenatal care; in fact, the assessment of risk was reported to be a large part of the midwife's role throughout childbearing. Midwives stated that they were required to screen women for obesity in early pregnancy. They were then expected to then refer the woman for a consultant-led consultation and to subsequently recommend birthing in a high-risk environment if the woman's BMI ≥35 (kg/m^2):

> "(Women with a raised BMI are) *automatically assigned to the consultant led unit"* (PP4).

To conclude, obesity, as determined through a person's BMI appeared to be a significant health concern to the older mothers and midwives, whereas appearance and attractiveness, especially in relation to peers, were more important to the younger mothers. The next section will explore how the perception of obesity risk has impacted on a mother's choices for birth and birth outcomes.

4.4 The Perception of Risk and the Impact on Birth Choices

This section aims to explore through the narratives of the mothers and the midwives how the risks associated with obesity impact on the birth choices and birth outcomes for the mother with obesity. Initially, this sub-section will discuss the mother's perception of risk. It will also explore how the midwives comprehend the mothers' perception of risk and the effect of communicating risk with mothers.

4.4.1 Mothers' Perception of Risk and the Impact on Birth Choices

When asked directly about their perception of their weight and its relationship to their health in childbearing, most mothers (N=8) appeared to be unconvinced of the risks involved in pregnancy and childbearing when obese. They reported feeling well and stated that their weight wasn't negatively impacting on their perceptions of their health:

> *"I was always fairly fit, before I was pregnant I used to run three times a week and I have always walked to work which is a good mile*

and a half and I did that up until I was 36 weeks pregnant. So it wasn't as if I was unfit, (even though) *I was carrying a bit of extra weight that I shouldn't have been"* (SW4).

"I can run up a flight of stairs, I can walk for hours on end, ok my knees are a bit sore in the end, but I am fairly active. And yet I think there is a huge spectrum of obesity and I think yes although I am clinically classed as obese, I don't feel obese. I can touch my toes, I can walk, I can dress myself" (OP1).

When asked to elaborate, there appeared to be a range of perceptions of risk across mothers. One mother, who was experiencing her first pregnancy, was unaware of any risk between increased weight and poorer outcomes:

"We (my partner and I) didn't really think about weight really or if it was a problem; we weren't really told anything about it being a problem ………… it's not really an issue with being pregnant, is it?" (CP1).

However, one mother, who was also a healthcare professional, stated that there was a relationship between increasing BMI and adverse pregnancy and health outcomes:

"Most people know that if you are pregnant and overweight you are at greater risk of things. I don't know whether mine is because of my medical background. To me it makes sense that those people must realise that it's less healthy for you and the baby to be bigger" (SW9).

One mother described how her risk assessment and choices were communicated to her, with professionals who exercised their 'white coat syndrome' effect with mothers and their birth partners to get mothers to agree to follow a medicalised care pathway:

> *"Because he* (my husband) *will want to come* (to the antenatal appointment with the consultant), *they will use the 'white-coat syndrome' and I think that'll be the aim "your wife could die!"* (CP2).

This appeared to imply that there may be individual gaps in the mother's knowledge base that influences their perception of risk; this was dependent on background and educational status.

In this study few mothers (N=2) felt that their weight had actually influenced the choices available to them. The quote below captures the general feeling of the mothers in the study:

> *"We* (my partner and I) *didn't really think about weight really or if it was a problem; we weren't really told anything about it being a problem. Obviously, if you're really big or something then I mean that would be a separate issue to being pregnant wouldn't it. If we'd suddenly become overweight we'd have done something about it anyway. It's not really an issue with being pregnant, is it?"* (CP1).

This was particularly evident in women who were childbearing a while ago; those who had their children several years ago (N=4) felt more certainly that their weight did not influence the choices available to them, whereas those who were recalling more recent experiences remembered more of an impact. However, it is difficult to know if this reflects changed practices or clarity of memory.

4.4.2 Midwives Perception of Risk and the Impact on Birth Choices

Several midwives (N=6) discussed about the focus of 'risk' and the impact on their professional practice. Midwives deliberated that they felt that to treat all obese mothers i.e. women with a BMI ≥ 35 (kg/m^2) the same was unfair and possibly discriminatory and could adversely affect both women's choices and have a negative influence on pregnancy outcomes. Several midwives (N=8) specifically spoke about the issue of categorising mothers and how using BMI:

"Puts people (mothers) *into boxes"* (PP7).

Some midwives spoke about their concern when discussing weight and risk in mothers if they had a BMI at the lower end of the obesity range i.e. ≤35 (kg/m^2):

"There has to be guidelines and a 'cut off' at some point and inevitably there will be women who are borderline" (PP8).

When asked to elaborate, this was felt by midwives as being particularly noticeable at the lower BMI's e.g. BMI ≤39 (kg/m^2), where mothers in these BMI brackets were considered to have less health risks. A couple of midwives (N=2) also stated that they did not believe that obesity, without co-morbidities or complications, required a high-risk care pathway, especially at the lower BMI brackets i.e. BMI 35-40 (kg/m^2):

"I think 35 is an incredibly low cut-off point really for categorising someone as high risk" (PP4).

"I think they are just restricted so much, just because of their BMI which is slightly raised" (PP9).

Conversely, midwives felt that mothers with a BMI >40 (kg/m^2) could have significant and potentially more risk of serious health complications, such as gestational diabetes and hypertension, which were not as apparent at lower BMI's. Several midwives (N=4) stated that they felt it was unfair that all obese mothers were treated the same, regardless of their individual health and fitness. Providing similar care to all obese mothers, regardless of BMI was perceived as costly both in monetary terms to the NHS and unnecessary in psycho-social terms to the obese woman. These midwives considered that the maternity services should consider other factors such as the presence of co-morbidities and individual mobility and suppleness, rather than focus solely on BMI, especially in those mothers with a marginally raised BMI. Undertaking a broader risk assessment would mean that a mother with a raised BMI, but who is otherwise well, could access a wider range of options for birth:

> *"I'm just not sure that placing this arbitrary BMI cut-off effectively channels women in the right direction. I think we of course, you know, we are looking after more women who have high BMIs, of course we do, and of course for some of those women there will be complications that arise from that but I think we need to be very careful about not unnecessarily overstretching our consultant led units because we're then not able to offer that care for the women who really do need it and we do end up with higher rates of maternal morbidity and mortality because we don't have the capacity. And offering women who don't really need it more intervention, you know, to me it doesn't seem sensible to do either of those things"* (PP4).

Some midwives (N=3) recalled specific cases that they were involved in where there were very positive outcomes, but these were seen as special, unique and unusual. They were seen to be occurring despite the 'risk' label:

> *"I had a woman on my case load recently with a BMI of 39 who was actually incredibly mobile, she carried it incredibly well and did very very well in pregnancy and labour"* (PP5).

Subsequently, not all midwives were happy with their role as a risk assessor or with the effect that this current role had on their professional scope of practice. One midwife was particularly critical about the BMI scale and its effect on midwifery practice and subsequently on a woman's choice:

> *"Is it just another way to shrink the parameters of what is considered to be normal in order to exert more control over women and birth?"* (PP4).

When asked to answer the question that she had just posed, she felt that this focus on the BMI result was inappropriate; she considered that the way it had been incorporated into maternity care was having a deleterious effect. She believed it was another way in which

midwifery autonomy and maternal choice was being restricted. The medical profession was perceived to use risk to exert control over women:

> *"Constantly risk factors have come into maternity and they grow, the sort of threat that a high-risk indicator brings with it, and the power an obstetrician has, or a midwife has, when they find one has been used to prescribe care for women. And actually, the women isn't abnormal, the pregnancy isn't abnormal is it, but those concepts have been put together. And never more is that visible than in the treatment of women with a high BMI. High risk equals obese equals abnormal and it's just not true. But it's the lived experience of women in maternity services"* (PP7).

Some midwives (N=3) felt that some mothers have become fearful about the adverse risks and negative outcomes associated with obesity and have become accepting of the high-risk and medicalised care pathway:

> *"And it's putting, it's the mind-set of the women then that oh perhaps I won't be able to labour, perhaps I should just go and have a caesarean. So, I think maybe in the women's mind they are going down that high-risk route, before they have even got into labour"* (PP2).

When asked to elaborate, one midwife considered that obese mothers accept the allocation to a medicalised care pathway, but, as a midwife, she was also aware that the mother may not understand the concept of risk:

> *" It's good that they are made aware of the risks but we don't make every women aware of the risks, and potentially any women these things could happen to, it's just there is a bit of a higher chance with somebody who is a bit more overweight"* (PP2).

However, another midwife went on to explain that she thought that obese mothers accepted the concept of risk and so subsequently were afraid of putting the health of their baby at risk, if they exercised choice:

> *"Women also are made to feel fearful.................like for example she* (the mother) *goes to see the anaesthetic and they are telling them to have an early epidural........ she will have one"* (PP9).

When asked about their experiences of discussing individual risk with a mother, it was reported by several midwives (N=4) that it was hard to explain risk in a way that doesn't seem frightening or condemnatory:

> *"It's very hard to explain the risk in a way that doesn't seem judgemental and scary"* (PP5).

However, midwives felt that the mothers in their care wanted honest and comprehensive discussions with their professional carers. Individualised interactions with their healthcare providers, including midwives, were considered important as it allows the calculation of probability to be assigned on an individual basis. There was no reason to suggest that this would preclude mothers with obesity:

> *"I think just being honest with the women and not skirting around the issue too much. Because she will know* (that she is obese); *she knows and I think if you are embarrassed about it that perhaps it makes her feel worse"* (PP2).

However, one midwife felt concerned about the way her local Trust's information leaflet was worded. She felt it was very medicalised and written in a way that she felt would scare most obese women:

> *"A couple of years ago there was a new little leaflet brought out to give to women with a BMI of over 30, which we all hated that is basically telling people all these horrible complications are much*

more likely to happen to your or are more likely to happen to you. Some women refuse almost to have the leaflet" (PP5).

The majority of the midwife's response (N=10) to the question posed about the effects on the mother's choices for birth and the impact on the practise of midwifery. In the units where the midwives were employed, they followed the policy where women with a BMI ≥ 35 (kg/m^2) were deemed to be high risk and were routinely referred to consultant-led care, which resulted in a high-risk consultant-led hospital-based birth augmented with the use of technology. Therefore, all the midwives spoke about the potentially deleterious effects that performing the BMI scale had on the obese mother:

"I don't like it to the extent that it cuts down on their options. Because if they go along with what's recommended, they end up having their choices reduced" (PP5).

"The whole pathway of care goes into a complicated abnormal care pathway that is often not needed. That's what I think about classifying them just on BMI" (PP9).

Some midwives (N=3) reported that they had experienced negativity from mothers when they were told that their choices had been reviewed and were less than before:

"A lot of women get quite upset by the fact that their options are being cut down" (PP5).

To conclude, a significant proportion of mothers appeared to be impervious to the issue of weight and obesity and the potential deleterious effect on maternal birth choice, while the midwives felt that the reduction in choice, following a diagnosis of obesity, must have a negative effect on maternal childbearing choice. The next section will explore how the assessment of risk and the reduction in birth choices narrows the parameters of normality regarding birth outcomes for the obese mother.

4.5 Shrinking the Parameters of Normality

A key factor which emerged when discussing childbearing among both midwives and mothers was the effect obesity has on birth outcomes. This section aims to develop on this perspective of risk further to discuss the effect of risk on normal birth outcomes for obese mothers as captured through the narratives of the mothers and the midwives.

4.5.1 Shrinking the Parameters of Normality – Mothers Perspectives

In the narratives of the mothers the majority (N=9) did not feel that their weight had influenced their birth outcomes. They felt that they were provided with care that they required, rather than what they wanted and so did not believe that their weight or BMI had impacted on their chances of a 'normal' birth. Subsequently, maternal satisfaction with the care they had received throughout the childbearing period was reported as positive by most mothers (N=9):

> "(The birth centre) *was really good,* (the birth centre) *staff were amazing"* (SW4).

> *"It was nice, it was really nice, I so didn't want to have him in hospital and particularly all the way up to* (city) *it's a really long journey. The service that we got was really good and the midwives were all really nice"* (SW7).

> *"The Midwife that I had in* (Trust) *she had a very good reputation and I got on with her very well and I had her for both pregnancies which I was really pleased about. She could be quite a stickler and quite officious, I got on with her very well and she was very very good. She was very good with the first one and she picked up on a lot of things and she listened if I had concerns. So yeah, I would say that I was happy with the care I had"* (SW5).

When asked to elaborate, most mothers (N=10) considered that their weight or size had not influenced their pregnancy outcome, either positively or negatively:

> *"I don't think it's got an issue, my weight related to the delivery, I think I have just been very good at doing it"* (OP1).

> *"Certainly, you didn't have any problems pushing her out did you? Everything went actually surprisingly well didn't it? We were worried and everything, but it went really well. I mean she is healthy; I certainly didn't have trouble getting her out"* (CP1).

While it is appreciated that this is a small-scale qualitative study, there was little evidence that excess weight or a raised BMI negatively influenced the birth outcomes of the participants. Of the thirteen mothers who participated in the study, they had a total of twenty-five births between them. Nineteen were normal vaginal births, two were instrumental births and four were operative births. This gives this particular group of mothers a normal birth rate of just over 75% and a 16% operative birth rate (LSCS). This compared favourably with a national normal birth rate of 59.4% and an operative birth rate of around 27.8% in 2016-2017 (Health and Social Care Information Centre 2017).

4.5.2 Shrinking the Parameters of Normality – Midwives Perspectives

While mothers had felt that their weight and BMI did not influence their birth outcomes relating to a normal birth, midwives did not share this perspective. The midwives stated that they were aware of risks associated with obesity, which they felt were well-publicised in the professional debates and evidence-based arenas. They regarded obesity as increasing the risk of raised blood pressure, gestational diabetes and macrosomia, which significantly contributed to the increased operative birth rates and complications such as shoulder dystocia. However, obesity alone can contribute to increased operative birth rates (Neumann et al 2017). Most of the midwives (N=8) considered this to be possibly iatrogenic, especially where there were because it resulted in the allocation the obese mother to a high-risk pathway, which increased the rates of operative and instrumental births:

> *"We reduce the confidence in themselves, the oxytocin and that natural physiological process of labour doesn't work in the same way*

> *and yes they end up with a caesarean section because they've been on the labour ward"* (PP4).

The rates of 'normal birth' have fallen gradually over the last four decades to just below 60% (NMPA 2017; Bourne et al 2013). While there was a consensus among the professionals as to the confusion and controversy over what actually constitutes a normal birth (Mason 2017; Ireland and Van Teijlingen 2013; Downe 2001), a reduction in the normal birth rate was reported by the more experienced midwives to have had a profound effect on a midwife's day-to-day practice over several decades. Several midwives gave this type of example: as there is just under a 25% operative birth rate in England currently (Bourne et al 2013) then midwives will be spending around a quarter of their time caring for women pre-operatively, intra-operatively and post-operatively, rather than caring for women in labour.

All of the midwives (N=11) had worked (or were working) or were being trained in maternity service environments within NHS Trusts. Several discussed how labelling a mother with obesity as high risk was seen by several midwives (N=7) as iatrogenic, where the poorer outcomes associated with obesity were directly influenced by the high-risk care pathway on which the obese mother was placed. One midwife specifically posed that question:

> *"How many of the complications are iatrogenic, because we've labelled these women as high risk and subjected them to high-risk care?"* (PP4).

When she was asked to answer the question that she had just posed, the midwife stated that she believed that as midwifery-led care has been shown to improve normal birth rates and that restricting care to medically-focused guidelines was detrimental and could influence the high operative birth rates seen within the obese childbearing woman. She discussed specifically the ability of a labouring woman to move freely in labour as being a central part of midwifery-led care and how this had been shown to facilitate normal birth. Conversely, high-risk care pathways usually require continuous fetal monitoring, which restricted a mother's ability to move about and adopt different positions in labour. By excluding midwifery-led care initiatives in the care labouring obese woman, this was seen by

this midwife to be accentuating the risk associated with obesity in childbirth, by increasing poorer outcomes. Obesity itself was not a reason, as stated by the midwives, for assuming that she cannot have a normal birth:

> *"A woman with a raised BMI may mean that she is obese, but it doesn't mean she can't have a normal birth"* (PP7).

Not having access to midwifery-led care was perceived by some midwives (N=6), as resulting in obese mothers not being able to take advantage of other midwifery-led care strategies such as upright positions. They were subjected to a high-risk pathway where they were more likely to have an epidural:

> *"They're automatically assigned to the consultant led unit where we all know that there's a tendency that they'll probably end up on continuous monitoring …………… they're on their backs on the beds so they're more likely to have an epidural"* (PP4).

Several of these midwives suggested that the maternity services could reduce the increased morbidity statistics for the obese mother by categorising these women as high risk only if they actually developed an obesity-related complication such as pre-eclampsia or gestational diabetes. Mothers who were obese, but did not develop such complications, could be placed onto an intermediate low risk pathway, which the midwives thought could positively influence her ability to have a normal birth. The maternity services, therefore, were perceived as creating obesity-related complications by categorising obese mothers as high-risk during childbearing and subjecting them to high risk care practices:

> *"I think we are making things worse, because of all the intervention they face"* (PP9).

One midwife, who was a supervisor of midwives, had been regularly asked to prepare plans-of-care for obese mothers who wanted a homebirth, but who had been denied this option as they had been classed as high-risk i.e. they were choosing a pathway against medical

advice. She described how she felt that when she met these mothers with lower levels of obesity and how she was amazed at how normal these women looked:

> *"I can tell you every single time I go to these women's* (with a BMI between 30-40) *houses and they open the door and I think I have got the wrong house, because I do not see what I would perceive to be an obese woman standing in front of me. I just see a normal pregnant woman"* (PP7).

This midwife, when she had worked with mothers to create plans of care, considered that the label of high risk had alienated these women from seeking a normal birth, by marginalising them out of midwifery-led care:

> *"It's frustrating that it's kind of like A plus B equals C, that women with a high BMI it means she is obese and that means she can't have a low risk birth........... And actually, the woman isn't abnormal, the pregnancy isn't abnormal is it, but those concepts have been put together.... high risk equals obese equals abnormal and it's just not true"* (PP7).

Several midwives (N=4) discussed the responsibility of midwives as information givers who facilitated choice for women, as being a significant part of a midwife's role, especially during the antenatal period and when preparing women for birth. However, midwives also recognised themselves as the medium for restricting choice too. This upset some midwives, especially those who had expressed misgivings about the use of the BMI screening tool and the effect of weight on childbearing outcomes and experiences. This dichotomy between belief and practice appeared to be particularly pronounced when caring for obese mothers:

> "(Obesity) *narrows their choice - we do so much to tell women they have got choices and then we take that away from them"* (PP6).

This restriction of the midwife's ability to influence outcomes through the promotion of midwifery knowledge was particularly worrying for one midwife, who considered the

concept of risk detrimental to the autonomy and scope of the role of the midwife. It appeared that it isn't just the concept of risk that is the 'problem'; it is more the required change in behaviour of the midwives when the risk was identified:

> *"It's that erosion isn't it of midwifery autonomy, you know, the closer you draw those boundaries of normality and the more you make it about a tick box exercise, the less midwives are used to making autonomous, intelligent decisions about their practice"* (PP4).

This was perceived by some midwives (N=3) as being in opposition to the belief system of midwives and midwifery practice, where the promotion of midwifery-led care pathways for mothers was seen as a dominant strategy of the midwife's professional role.

One example of the effect of the 'high-risk' label was described by a midwife, where care was provided not through clinical need, but because it was thought that an obese mother may need the intervention later on in the labour, so she might as well have the intervention early on in labour. She felt that this explained the dichotomy between perceived risk and actual outcomes. An example of this was cited by a couple of midwives, where an obese mother would be encouraged to have an epidural early on in her labour:

> *"If they have an early epidural just in case something goes wrong, it's kind of pre-empting that something is going to go wrong. Labour is not going to progress that great if they have had an epidural. If they want an epidural then fine, but if they are kind of being, it's been suggested to them at some point in their pregnancy that maybe we should pop an epidural in just because we might end up having to go to theatre. And it's putting in the mind of the women perhaps I won't be able to labour; perhaps I should just go and have a caesarean. So, I think maybe in the women's mind they are going down that high-risk route before they have even got into labour"* (PP2).

The midwives felt that this "just-in-case" attitude could negatively influence an individual mother's belief in her ability to give birth normally. An early epidural was also considered by the midwives to be potentially iatrogenic, as it was perceived by the participants that epidural analgesia increased the obese woman's risk of venous thrombo-embolism (VTE) due to increased immobility, plus resulted in a reduced ability for the labouring woman to adopt upright positions for birth or use the birthing pool, both of which were stated to positively impact on birth outcomes.

It was identified by one midwife that the impact of assigning of an obese mother to what was regarded as a restricting and constricting high-risk care pathway was accentuated with each care encounter. The obese mother's confidence was thought to be eroded over and over again, because of the attachment of the 'high risk' label:

> *"Every time they see a health care professional it* (their obesity) *steers the direction of their care. And it's the overriding factor, it's no longer a women that's pregnant and great 'congratulations', it's oh it's a fat women, that means you can't have this and you have to do that, and there is a risk of this and that"* (PP7).

These midwives thought that this high-risk label' caused an erosion of a mother's self-esteem and self-confidence and was thought to reduce a mother's confidence in her ability to birth normally and could increase her level of fear around childbirth. This was highlighted by a midwife, where she described the personal experience of her sister who had a BMI >40 (km/m^2) but had no medical or obstetric complications. She was defined as high risk, which resulted in her feeling that there was a kind of dread hanging over her, thinking something was inevitably going to go wrong:

> *"So, then we start putting that fear into them and that fear is really dangerous because that can affect how they feel when they're going through labour"* (PP12).

This apprehension towards birth was regarded by one midwife as a potentially self-fulfilling prophecy, where increased apprehension around birth was heightened by the discussion around obesity and risk:

> *"We reduce the confidence in themselves, the oxytocin and that natural physiological process of labour doesn't work in the same way and yes they end up with a caesarean section because they've been on the labour ward and we've frightened them into it"* (PP4).

Having been involved in such conversations with mothers, one midwife was aware of the resultant increased levels of stress and anxiety felt by mothers, which she sensed subsequently impeded the process of birth and so resulted in increased rates of medical intervention, which in itself was associated with increased risks. This was acknowledged by the midwife as contributing to the poorer outcomes seen in the obese parturient mother.

This section has discussed the iatrogenic and far-reaching effects of the high-risk label and subsequent categorisation of the obese woman to a high-risk care pathway. The effect of this assessment based on BMI alone on the mothers and the midwives has been discussed, especially on the restriction in choice and the reduction of access to midwifery-led care strategies to promote normal birth. The next section will explore the experiences of midwives when providing care for the obese mother.

4.6 The 'Inconvenient' Mother

This section will document the midwife's perceptions of caring for an obese mother during childbearing, as captured from the narratives of the midwives. Firstly, it will explore the practical difficulties and how this influences the midwife's ability to provide safe and effective care. This section will then discuss and explore the concept of the apologising mother and the influence of obesity stigma on the professional life of the midwife.

4.6.1 Practical Difficulties of Caring for the Obese Mother

There were practical difficulties, reported by the midwives, which the midwife needed to overcome in order to have provided good quality care. Women's bodies were perceived by

the midwives to vary considerably in shape and size, even within the normal BMI bracket (WHO 2017a), and this was no different during childbearing. The challenges for care were recognised by the midwives as individual and dependent on where the mother was carrying her adiposity and the depth of the adiposity:

> *"I remember before I went into the room and somebody saying something like: 'oh don't worry, you'll be ok to monitor her, because her fat's all around her legs'"* (PP12).

All midwives (N=11) reported some level of practical difficulty when caring for obese mothers, especially in labour. These ranged from challenges in being able to perform an abdominal palpation, taking blood samples or listening to the fetal heart rate. Several midwives (N=8) reported particular difficulties in undertaking fetal heart monitoring using the cardiotocograph (CTG) equipment:

> *"With CTGs - I am thinking of when you are having trouble picking up baby's heart rate, because of the size of the ladies"* (PP8).

This technology uses ultrasound to detect the fetal heart and produces a tracing similar to that produced by an adult electrocardiograph (ECG) recording. The transducers are placed on the maternal abdomen during the CTG procedure, but if the mother has a significant amount of adipose tissue around her abdomen then the quality of the resultant recording was reported as being poorer and less precise; this was because the sound waves may have difficulty passing through the increased level of adipose tissue to enable the accurate recording of the fetal heart.

One midwife went on to describe a scenario where she cared for a mother and had experienced difficulties in obtaining a good quality CTG trace, and how this had led onto further interventions:

> *"I had a situation only a few weeks ago where there was a lady who, I think she had a BMI of 44 and again she was under continuous*

monitoring. You couldn't pick it up, you can't pick the fetal heart up that well, in this instance anyway, not in everybody, but in this instance, I couldn't pick it up very well, it kept going to maternal pulse. So, the decision was to apply a fetal scalp electrode so that we had more of a monitoring (trace) *of the fetal heart"* (PP3).

In labour an epidural was perceived as an important option for both anaesthesia and analgesia and was commonly recommended and used in the midwives own local Trust within their high-risk care pathway. However, siting an epidural was reported as being a more difficult procedure in the obese mother, especially if the mother was carrying extra adipose tissue on her back:

> *"I felt so sorry for her, because it was difficult, when she went in to have her epidural sited it took them nearly two hours to get the epidural in, just because it's difficult on larger ladies to site an epidural"* (PP2).

Extra tests, investigations and treatments were often noted by the midwives as being deemed necessary for obese mothers, who have been classified by her BMI as high risk:

> *"If* (the women) *go to see the anaesthetic doctor they are telling them to have an early epidural"* (PP9).

These extra investigations and treatments were reported to be thought as necessary to ascertain maternal and fetal well-being, however, these were not always considered to be required by midwives:

> *"Extra abdominal ultrasound scans are often ordered just because of their weight………………… I am going to have to do a scan where you wouldn't normally just because you want to check baby's head is down when they are really overweight"* (PP5).

But these were reported to often be more difficult to undertake:

"Even sometimes the scanning department have trouble taking measurements and things from the babies and difficulty locating the fetal heart" (PP8).

The problem of having enough equipment of the right size e.g. sphygmomanometer cuffs and sufficient weight-bearing furniture to manage obese mothers was discussed by several midwives (N=3). In extremely obese mothers (BMI ≥50 kg/m^2) midwives discussed how larger beds and chairs were often required, because of the size of the woman and due to the weight limit of traditional furniture. Several expressed a view that it was:

"Humiliating for the obese woman to have to have special equipment" (PP9).

Midwives recalled that the absence of such vital equipment could have also caused distress to the obese mother, especially if there was a flurry of activity to obtain the equipment etc. on admission. One midwife recalled an experience where the equipment arrived after the mother was admitted, which caused significant upset to the mother:

"There was a time I was on the antenatal ward and I was caring for a woman. She had a BMI of 52 I think, and it was a planned induction. They brought her in and in front of her they got out the equipment. They hadn't ordered it initially, so they had to order the equipment and get her in a bay full of four women. It was horrible to see her face, to see her reaction and my heart just went to her.................... you could tell she was humiliated .... it's horrible that we should make them feel like that" (PP9).

However, if the equipment and furniture had been ordered in advance this was thought to lessen the distress than if staff only realised the need for this equipment during the actual care encounter. When asked to explain why she thought this, one midwife responded:

"You don't want to rub it (their obesity) *in their face .... you don't want to make her feel guilty about it* (their obesity)*"* (PP5)

These midwives expressed empathy and an understanding of the possible embarrassment that obese mothers had experienced during care encounters and articulated a desire to practice in a way that would minimise this for mothers.

To conclude, this sub-section has documented the practical difficulties that midwives often face when caring for the obese mothers in labour. They recognised the influence of obesity on care provision and the impact on obese mothers. The next sub-section will explore how obesity stigma influences the interactions between mother and midwife.

4.6.2 The 'Apologising' Mother

This sub-section will explore how the stigma of obesity influenced the interactions between mother and midwife, as captured through the narratives of the midwives. Several midwives (N=5) described experiencing a specific and unique phenomenon when caring for mothers with obesity during birth, which was not evidenced when caring for mothers with other medical conditions e.g. pre-eclampsia. Mothers with obesity were observed to be 'apologising for being obese'. They were commonly described by midwives as constantly apologising:

> *"They are always apologising, constantly apologetic, they always feel it's their fault ...... they feel awkward .... they are constantly apologising to you: "Sorry, I am a bit big", or "Sorry, I can't even try to hold my leg, it's not easy". And they all say, "I am really sorry, I am really sorry": that's their attitude I find"* (PP6).

> *"I am thinking of one particular lady recently; she would try to get into different positions, her BMI was in the high 50s and she struggled even to turn onto her side. And she asked for an electric bed on the ward so she could get up and move. And she kept saying 'I am so sorry about my weight; I am so sorry'"* (PP8).

When asked to hypothesise as to why these mothers acted this way, the midwives responded by stating that they thought that mothers with obesity apologised because they feel responsible for making care tasks more difficult:

> *"I think they feel, because they are conscious that their weight makes it more difficult for us to do our work, to palpate and monitor the baby, they are aware of that. And they apologise for making that more difficult"* (PP8).

One midwife expressed the view that obese mothers tend to apologise, because they felt guilty and responsible for their weight and therefore their birth outcomes:

> *"Because it* (obesity) *is loaded with guilt, it alienates; the actual policy alienates women so much from a normal birth when they are quite capable of it much of the time"* (PP7).

When asked to elaborate an example was provided by a midwife, who discussed a situation where a mother apologised for difficulties encountered achieving a good quality cardiotocograph (CTG) tracing:

> *"I find that they feel uncomfortable if I have to put CTG straps on, I have to bend round them so I try and encourage them 'oh can you just grab that for me?' .... And they are apologising all the time for being big .... 'oh, I'm sorry it's taken longer'"* (PP1).

None of the five midwives, who had experienced this phenomenon, reported encountering this phenomenon during any other direct clinical care encounters. There was a perception, expressed by midwives that obese mothers were not required to apologise for their size during any care encounter. However, one midwife suggested that an obese mother should feel guilty about her weight and the negative effect it was having on the maternity services:

"Perhaps that's just my feeling: she should feel guilty, because she is overweight and making life so difficult for everybody. Because it does seem to make life more difficult for the midwife" (PP5).

The midwives considered that these mothers could be reacting to the way society regards obesity i.e. that the individual is responsible for being obese or overweight. They suggested that the apologising behaviour was a strategy used by the obese mother in order to ameliorate their condition, reduce potential negativity by 'getting in there first' and acknowledge the difficulties that their size and weight was causing. This would then, it was thought, to facilitate a positive mother-midwife relationship. This may also conversely be a tactic used by an obese mother in response to a midwife's negative attitude perhaps, reflecting the prevailing blame culture associated with obesity in society.

This section has explored the phenomenon of the apologising women, where possibly in response to society's blame culture associated with obesity, the obese mother feels responsible for her size and the impact her obesity has on the midwife.

4.7 Overcoming the Narrowing of Choices for the Obese Mother - Midwives Perspectives

Allocation to a high-risk care pathway due to obesity within the maternity services results in a mother being expected to birth in a consultant-led environment following medically-led guidelines and protocols (Denison et al 2018; Modder and Fitzsimmons 2010). This includes continuous fetal heart monitoring, early access to epidural analgesia and increased rates of augmentation through strict adherence to time limits. The focus is risk reduction and limitation, which aims to promote the safe birth of the baby and facilitate a healthy mother post-birth, but which tends to focus on physical outcomes rather than psychological sequelae. This section aims to focus and discuss the promotion of a positive birth experience for the woman with a BMI ≥35 (kg/m^2) as captured through the interviews with the midwives in this study.

Some midwives (N=3) challenged the notion that all obese mothers require high-risk care pathways and intrapartum care on delivery suites within consultant-led units. They felt that alongside midwifery units (AMUs) were suitable alternatives for certain obese women. AMUs are low-risk birth centres, which are usually positioned within or close-by consultant-led units, rather than freestanding midwifery units (FMUs), which are positioned away from hospital campuses. The midwives described advantages to facilitating the care of obese women, who have not developed any complications during pregnancy, but who have a BMI between 30 (kg/m^2) and 40 (kg/m^2), to birth in an AMU environment. They discussed the benefits of birthing in an AMU and accessing midwife-led care within these birth centres e.g. the ability to be more mobile, to have intermittent monitoring and to use non-pharmaceutical pain relief e.g. water:

> *"I really don't understand why they can't go to birth centres. I think it makes so much difference if they were able to go to a birth centre"* (PP9).

Some of the midwives (N=4) could recall incidences where through relational continuity they acted as an advocate for the mother and got the care that the mother requested, which had positive outcomes:

> *"The* (obese) *woman I am thinking of that I looked after recently was very keen to be able to use water, and so we have got a pool in our main labour ward and so she did use that for a while ……….. she was happy that she was able to use the pool at least for some of the time. She was very mobile, and she did well actually"* (PP5).

Midwifery-led care was described by midwives (N=6) as facilitating better outcomes for normal weight mothers. The promotion of midwifery-led care was also discussed by some midwives (N=6) as facilitating better outcomes for the obese mother:

> *"At the hospital she wasn't monitored until she was over 5 centimetres and was encouraged to be upright. The way that her labour was managed was really good; she was encouraged to have a*

more normal approach. She had a normal delivery no problems" (PP2).

"We (midwives) *reduce the confidence (of women) in themselves, the oxytocin and that natural physiological process of labour doesn't work in the same way and yes they end up with a caesarean section, because they've been on the labour ward and we've frightened them into it ………… If that woman is at home and she has the ability to get in and out of the birth pool, and her mobility is good and she can move around her own home environment and she's not on her back on the bed, with my sensible midwifery hat on, I would suggest that she's less likely to be experiencing a good proportion of the complications that we suggest that women with high BMIs are more susceptible to"* (PP4).

AMUs were thought to be well-placed and to facilitate the 'best of both worlds', by providing midwife-led care with all the associated benefits, but also to be in close enough proximity to consultant-led care. It was felt that should the mother develop complications in labour due to their obesity, the AMUs were close enough for prompt referral to the multi-disciplinary team based in the consultant-led delivery suite to avoid a poor outcome:

"If the concern is from the obstetric side that these women are at greater risk of complication, then surely an alongside birth centre, I would suggest, wouldn't increase any of their risk, because the consultant led unit is accessible, you know, it's 2 minutes down the corridor. So, I'm not quite sure what the logic is there in not allowing them in the birth centre" (PP4).

"If they (the women) *are not on a delivery suite then they are less likely to succumb to intervention aren't they. So, I think we need to find a middle road somewhere so women are assessed more individually than just one measurement and that's it, and then it's decided that they are not suitable for midwifery led care. I think it does depend where the midwifery care is to an extent. We have got,*

our midwifery led unit and consultant-led unit all in the same building and is very close to the delivery suite so if women need to be transferred to the delivery suite it's not a big problem. Whereas the outlying midwifery led unit, that would be a lot harder" (PP8).

Two midwives discussed the importance of encouraging mothers to use midwifery supervision to support the obese mother's right to choose, especially regarding her plans for birth. The role of the supervisor of midwives (SoM) was identified by the midwives to facilitate the needs of the woman and to act as an advocate for the women. However, one participant identified how being labelled as obese was destructive emotionally for women and how, even with support from a SoM, the damage had already been done:

> *"What it does to a woman's head when you have told her that she is obese? You can't take that back, can you, for some women it's so damaging………… it alienates women so much from a normal birth when they are quite capable of it much of the time"* (PP7).

Several midwives (N=5) identified that there needed to be more midwives who specialised in the subject of obesity. This was regarded as a positive way forward, as these specialist midwives would focus on the needs of the obese mother during childbearing. The specialist role was thought to be able to focus on the needs of the obese mother, but also combine this with promoting the benefits of midwife-led care. One midwife, in particular, saw this midwifery-focused role as being primarily an advocate for the obese mother, where the obese mother would be encouraged to plan her birth experience to promote positive outcomes:

> *"I think a specialist midwife, who will probably see them during the pregnancy that would advocate them and say you can do this, you don't have to be strapped to the bed with the monitor, you can mobilise. I think that's what they need; so, I think maybe a specialist midwife would probably be an idea"* (PP9).

One midwife felt that it would be advantageous if that specialist midwife, who was considered to be experienced and confident in caring for the obese mother, was also

present at the birth. This would promote empowerment of the mother through relational continuity:

> *"She should be the same midwife that sees her in labour, because continuity of care is important with the correct midwife, who will empower her"* (PP9).
> *"Perhaps you would see better outcomes for the women because they are being cared for by somebody who is used to giving that care, rather than somebody who is perhaps a bit scared or not got that experience. So yes, I think that would make a bit of a difference to women"* (PP2).

However, this concept was not always considered to be the ideal. Allocating an obese mother to a specialist midwife was seen by one midwife as potentially alienating to obese mothers, by separating them and labelling them as different. As rates of obesity were stated by midwives to be ever increasing, it was felt that all midwives needed to be skilled enough to meet the needs of obese mothers. However, on further questioning, the benefits were thought to outweigh the disadvantages:

> *"I think the idea of having people specialised in the role of caring for obese women in some ways it's a good thing but in other ways it's another label for those women that they are looked after by someone specific to their needs. But I do think it's a good idea to have somebody who understands specifically those lady's needs"* (PP8).

To conclude, the narrative has explored the perception of how the midwife could facilitate a more positive birth experience for the obese pregnant woman. A more comprehensive use of the range of maternity provision, which included those care pathways that were usually prohibited for use by the obese woman e.g. relational continuity and AMUs, were advocated by midwives as suitable for women in the lower BMI ranges i.e. 30-35 (kg/m^2). This was thought to be a strategy that would, if adopted, reduce the iatrogenic effects of the medicalised high-risk care pathway currently employed for the obese childbearing mother.

4.8 Summary:

To conclude, BMI is a classification that appears to belong to the medical arena, used by midwives within their practice, but not used routinely by mothers in their everyday lives. There is ambivalence among midwives and mothers as to its effectiveness in predicting ill-health, especially in pregnancy. However, BMI appears to mean different things to mothers and midwives. To midwives it is the assessment of risk and the assignment of a high-risk care pathway, while mothers were more concerned with individual fitness and view BMI unconnected to health outcomes.

BMI, as the predominant focal point of a maternity risk assessment, has been shown to foster a reductionist approach to health care during childbearing. The discussion has been developed to create an evaluation of the impact of assigning obese mothers to a high-risk care pathway and how this influences maternal birth choices and impacts on normality. Perspectives from both mothers and midwives were captured from the narratives.

This chapter has also discussed the midwife's experiences of caring for the obese mother during childbearing. It has explored the practical difficulties of providing effective care and the influence on the quality of care provided by midwives. The concept of the 'apologising mother', seen predominantly in the intrapartum period, has also been discussed and explored. Possible solutions, as suggested by the midwife participants, to overcome the narrowing of choices and promote birth outcomes for the obese mother have also been discussed.

The next chapter will discuss how the reductionist approach to maternity care has resulted in lost health promotion opportunities for midwives and mothers. It will demonstrate how the health promotion strategies employed by midwives and the provision of maternity care to address the issue of obesity are undervalued and underused, so that the potential for health promotion is lost during the childbearing window of opportunity.

CHAPTER 5: The Lost Opportunities for Health Promotion

5.1 Introduction

The previous chapter explored the approach to modern maternity care, where a reductionist approach was employed, which focused on the screening of women at the point of 'booking' using BMI and the subsequent allocation of a care pathway if a mother is found to have a BMI ≥30-35 (kg/m^2).

This chapter will discuss how this has resulted in lost health promotion opportunities. It will demonstrate how the health promotion strategies employed by midwives and the maternity care system to address the issue of obesity, which might have been possible during the unique period of sustained woman-professional relationship during pregnancy, never develop. This study aimed to capture the experiences of mothers with obesity during childbearing and the experiences of midwives who care for the obese mother. Through the narratives of the mothers and midwives this chapter will describe the lost opportunities for health promotion.

The assigning of a woman to a high-risk category will be shown as an example of the tensions between the midwife and the mother, which jeopardises the mother-midwife relationship, in particular regarding the quality of the communication between mother and midwife.

5.2 The Quality of Communication between Mothers and Midwives

This section aims to explore the quality of communication between mothers and midwives, as captured through the narratives. It will focus on the effectiveness of information giving and receiving on issues related to weight and diet, such as nutrition and weight management during childbearing. It will also discuss whether 'booking' is the best time to discuss BMI with mothers.

5.2.1 Quality of Communication between Mothers and Midwives – Mothers Perspectives

All the mothers expressed views and opinions about the quality of communication during midwife-mother encounters. The quality of the communication with healthcare professionals during childbearing was considered to be of variable value and quality by the mothers. The study captured examples of positive and negative interactions resulting from mother's communication with doctors, midwives, nurses and others e.g. dieticians, specifically about weight during the childbearing period. The quality of this communication had a significant impact on the interpersonal relationship between mother and healthcare professional. If the interaction had been non-judgemental and affirming, then this was reported to have been beneficial and appreciated by the mothers, which then had a positive influence on the mother's overall satisfaction with their childbearing experience. However, if the communication was perceived to be more negative then this was recalled by the mother as having had a more negative effect on her childbearing experience. One mother said was called 'fat' by her midwife and this subsequently had a deleterious impact on her childbearing experience from that point onwards:

> *"The last time I went to the midwife, she called me 'fat'! And that's the reason why I wasn't feeling anything* (meaning fetal movements)" (CP1).

Some mothers even reported anticipating negative interactions with healthcare professionals, especially if they wanted specific care which was outside their care pathway:

> *"And when I have to have my obstetric appointment, I think that's when they'll throw in my BMI and my family history, because I want the homebirth"* (CP2).

The mothers often expressed a desire for communication that focused on their need for information and discussion about weight, diet and lifestyle. Once the mothers had recovered from the nausea and vomiting that occurred in the early weeks of pregnancy, when their appetites were poorer, they were ready to discuss diet and weight:

"Oh yes desperate (for information*) ………. I had every book you could think of ……………. I knew I was overweight and that's probably not a good thing………………. there was no-one to say here is a diet for you. I took all my vitamins and my folic acid as you do, but no there was nobody really to help"* (SW8).

"I wish at the time that someone had said to me you need to just, you know, eat a bit more healthy, just given me some sort of advice because it was a struggle for the next year. It is hard then to lose the weight isn't it" (SW6).

When asked about the recall what discussions about weight, diet and lifestyle did occur with healthcare professionals, the mothers recalled that when the communication centred on lifestyle and nutritional intake it generally tended to focus on what not to eat. When asked to elaborate, this was reported to have originated from a safety and biomedical illness prevention perspective, for example, to avoid contracting salmonella from under-cooked eggs, listeria from soft cheeses, toxoplasmosis from undercooked meat and high levels of vitamin A from liver. This was the focus of antenatal communication around nutrition in pregnancy, rather than from a nutritional or weight management standpoint, even if this was initiated by the woman. Most mothers (N=11) remembered receiving little or no information from health care professionals relating to weight management, either through healthy eating or exercise advice:

"I'm quite open about the fact that I've got a weight problem and, you know, I'm not in denial or anything like that and I know I need to do something about it. So, I can't remember getting any specific advice on it, no" (SW2).

"No, pretty much nothing ………….. there was only a little bit of advice on eating healthily through pregnancy" (SW7).

When the mothers had received advice about weight-management, it also tended to focus on general aspects, rather than specific advice related to the needs and circumstances of the individual mother:

> *"I was told that you shouldn't put weight on, you are not eating for two, you shouldn't put on more than a few pounds and that's towards late pregnancy"* (SW7).

> *"No, they haven't really said about anything. The only thing we* (mother and partner) *recall was try not to have too much caffeine, have decaffeinated tea and don't eat pate – that's about it really………….. to be frank I haven't been told anything or taught anything or warned about anything* (related to weight)" (CP1).

Overall, the quality of the communication and discussion around weight-management was perceived to be weak and did not meet the mother's needs. Examples appeared to demonstrate how midwives tended to skirt around the issue of GWG:

> *"I know that I had said to her* (the midwife) *I seem to be putting on a lot of weight all of a sudden, and she said there was nothing to worry about at the time and it was only if I put on any more. I don't know if it was if I keep on putting on more, because she kept on saying if I kept putting on the way I was then it would get to a stage where she would have to say no this isn't right. But she said you could put on up to four or five stone with a pregnancy"* (SW3).

On further discussion several mothers (N=6) said that they were expecting more communication about weight and eating healthily; some even expected to be 'nagged' or 'told off' about their weight or weight gain during pregnancy:

> *"Why nobody was nag, nag, nagging me. And that surprised me, because I thought I would be having lecture after lecture. When I*

met the midwife, I would brace myself for a lecture about how fat I was, but she never mentioned anything" (SW7).

One mother who was in her early to mid-twenties, however, did feel that she was 'told off' during interactions with the midwife at her antenatal appointments. This was not reported to have helped her to take control her eating habits:

> *"And for me the first thing I would do was to rebel and say well you are not in charge of me, you are not my mum .... I understood the meaning of being overweight in this circumstance........... it* (the communication with the midwife) *came across as hurtful and embarrassing, but afterwards I guess I probably chomped on a bag of crisps going 'silly midwife blah, blah, blah'"* (OP1).

5.2.2 Quality of Communication between Mothers and Midwives – Midwives Perspectives

If the mother's BMI was within the obese category i.e. equal or greater than 30 (kg/m^2), this was thought by some of the midwives (N=4) to have further implications with regard to the affect the quality and effectiveness of the mother-midwife relationship:

> *"It can be quite a tricky subject to broach........... it's not an easy subject to talk to people about .... And then a lot of women seem to be reluctant to discuss their weight"* (PP8).

When asked to elaborate further, the midwives were concerned that discussions around weight with obese mothers jeopardised the efficacy of the mother-midwife relationship. Mothers, who were obese, were considered by the midwives to be potentially very sensitive about weight and may not perceive any help and advice very positively. There was a degree of uncertainty and unpredictability regarding the reactions of mothers which underpinned the thoughts of the midwives:

> *"Women are aware* (of their weight and size), *that's important to acknowledge, because there may be women who perhaps are happy*

> *with their BMI and don't look at it as a BMI, you know, they look at it as their figure and they are aware of their figure and that's how they see it. My experiences have been very mixed. Some women are very open and speak quite openly about it* (their weight and size), *whereas others perhaps don't understand it as well and feel quite upset about it, that there's so much focus on it"* (PP12).

When asked to discuss the quality of communication between midwives and mothers with obesity, two midwives thought that it was the philosophy and attitude of the individual midwife, which was seen as an overarching contributor to positive communication. The midwives, on further discussion, thought that getting to know the person and respecting the person underneath the outward appearance influenced the interpersonal relationship between woman and midwife, more than objective size/weight:

> *"So maybe that's the respect and knowledge of the person …. maybe if you get to know somebody you get more familiar with them, it's obviously a lot easier"* (PP1).

Midwives regarded themselves as advocates for mothers where they supported mothers to achieve the kind of birth experience they wanted, and this sometimes went against accepted medical advice. Some midwives (N=4) saw facilitating the fulfilment of the mother's preferences for childbearing as an important part of the midwife's role and this was more prominent in midwives who had or were working in low risk areas e.g. birth centres or independent practice. However, several midwives countered this assumption by suggesting that midwives tended to collude with the medical establishment by not being advocates for the mothers:

> *"Midwives are becoming afraid to be advocates for the women and speak up and say well actually she can actually do this"* (PP9).

> *"I think some midwives are a bit scared to go against what the care plan says or maybe to discuss with doctors actually does she need this she is doing really well. I think you have got to have a bit of guts*

> *about you to stand up for the women and sometimes I think it's difficult"* (PP2).

When asked to elaborate as to why some midwives were afraid and scared to be advocates for obese mothers, the midwives suggested this was because they were aware of health risks associated with obesity, even if the risk was quite small, and that standing up to the perceived experts in high-risk care was often difficult. One midwife stated that she felt that the midwife's practice was very dependent on how she viewed birth i.e. as inherently risky or a normal physiological event. This 'mind-set' was felt to be related to outcomes:

> *"I think the mind-set of your carer whether it's an obstetrician or a midwife has got a big impact on how your labour goes. And if* (the healthcare professionals) *are erring on the side of caution all the time, I think there needs to be a bit of leniency in thinking well actually is this intervention going to make it a worse outcome?"* (PP2).

It was also professed by the midwives that the obese mother needed to be very confident and outspoken to challenge the view of obesity as high-risk and access the choices that she wanted for her birth experience:

> *"So, you have this consultant who knows best, as we think, saying all of this, if you're not of a certain way of personality, you're not necessarily going to then say well no actually, I want what I want"* (PP3).

> *"It's a strong woman that puts her head above the parapet and says actually I want a home birth despite what you lot are telling me. Which many women won't do, especially when it's about weight"* (PP7).

Mothers with obesity were regarded by the midwives as generally not very confident and with lowered levels of self-esteem. This was perceived to be as a direct consequence of their

obesity and was negatively influenced by the prevailing society-led blame attached to obesity, which was thought to be directed at the individual:

> *"If somebody has had a caesarean, they are not responsible 100% for that, because that might just be how things turned out or their care might have been mismanaged. So, if they want a VBAC* (vaginal birth after caesarean) *at home they will come and talk to you and they will talk about the evidence and they can almost separate themselves from the caesarean. But if its weight, that's perceived as her fault, she has let herself get too fat, she has caused that. And she is too fat to have a baby normally, that's her fault. So, it's a much more sensitive area for women to deal with and it's also I think the huge amount of guilt around it"* (PP7).

Two midwives commented on the perceived relationship between the weight and size of the midwife and the potential credibility of advice and support given by the midwife during conversations with the overweight/obese woman. One participant considered that the weight of the midwife, when undertaking a discussion with a mother about weight and lifestyle, was an important consideration from both a midwife's and a woman's perspective. It was regarded, by this midwife, to be a contentious topic area. On further questioning the midwife explained that, for example, a midwife who is overweight or obese herself may feel uncomfortable giving advice to a woman, while the woman may not take the advice seriously because the obese midwife is obviously not following that advice herself. Another midwife went on to suggest that the obese midwife may be perceived as being less able in her role as a midwife:

> *"I think there could be an assumption that a person is big, because they don't look after themselves, if it's seen that they are probably not careful in other areas of their life"* (PP1).

Conversely, a thinner midwife was perceived as possibly preaching to the obese woman:

> *"If you have got a really skinny midwife preaching to you about what you should be doing, I think if it was me sat there I would feel a bit like oh you know, picked on almost"* (PP2).

A couple of midwives took a contrasting view and suggested that overweight and obese staff were regarded as more approachable, perhaps because they were perceived to be in a similar situation to the overweight/obese woman. There was a perceived empathy and understanding between woman and midwife:

> *"I think sometimes if midwives have got a background or have people in their environment that are bigger it makes a difference. Even staff to staff there are certain members of staff on some of the wards that are bigger and the staff will talk about that person ……………….. half the cleaners wandering around all chubby and big and yet they're lovely and smiley and everybody chats to them"* (PP1).

> *"If you are a midwife and you are a bit on the larger side, it's a bit difficult to then sit and give a lady who is perhaps a similar size to you advice about weight. But on the other hand, you can kind of empathise with women"* (PP2).

To conclude, in this section, mothers expected to have experienced meaningful conversations with midwives about weight and healthy diet; this is a missed opportunity for midwives to discuss weight and health during antenatal care encounters. The mothers wanted to have individually focused discussions with midwives during the antenatal period. Midwives, however, discussed the perceived impact of the midwives own BMI and size and saw this as a significant influence on the validity of conversations with obese mothers, which may impede or enhance the midwife's role in health promotion. The next section aims to develop this further and will focus on exploring mothers' and midwives' perceptions of GWG.

5.3 Expectations of Weight Gain in Pregnancy

This section will explore the expectations of GWG as expressed by midwives and mothers. It will explore and discuss a dichotomy between the beliefs and attitudes underpinning the perspective of GWG.

5.3.1 Expectations of Weight Gain in Pregnancy – Mothers Perspectives

The mothers in the study unanimously reported that they felt that they were expected to gain weight in pregnancy. When asked to elaborate, GWG was thought to be due to the development of the baby (the fetus), where the weight gain would be predominantly from the baby (the fetus) and the fluid (the liquor) surrounding the baby. The mothers, however, were unsure as to how much GWG they should be expected to put on during pregnancy. They also expressed that they felt that it was a difficult topic for them to raise with the midwife during antenatal appointments and so it was never really discussed:

> *"It's an awkward conversation isn't it .... you don't really like having the awkward conversations... and maybe you think you are saying it, but sometimes it just needs to be said clear and to the point, rather than hinting at something and hoping they* (the midwives) *get what you mean"* (SW9).

Conversely, one woman described how she was made to feel like a bad mother, because she actually lost weight during her early pregnancy:

> *"When I got pregnant with* (son's name) *I was actually losing weight at that time. And the consultant thought that I was trying to harm the baby by dieting or using laxatives or whatever. He was really judgmental. I was losing weight and I didn't know why. I wasn't doing anything different, but I was just losing all the time. And I actually did lose quite a bit of weight, probably over half a stone while I was carrying. .... They actually said are you trying to harm this baby and I was like NO, you know, NO, which really did upset me"* (SW1).

Several mothers (N=7) reported being more relaxed about any excess weight or GWG they gained once they were pregnant. Carrying excess weight and gaining weight in pregnancy was regarded by the mothers as more acceptable than at any other time of the woman's life. When asked to elaborate, the mothers stated that pregnancy was a more customary reason to carry excess weight by individuals, families, communities and society. However, the mothers also expressed the viewpoint that this was only correct and acceptable, so long as the woman was recognised as being pregnant, rather than just fat:

> *"When I was pregnant my weight seemed to be less of an issue, maybe because I had an excuse. I was pregnant rather than just fat ....I would go out then, I didn't feel as conscious then, not at all. I remember going out when I was quite heavily pregnant"* (SW6).

Unfortunately, being recognised as pregnant rather than fat often occurred at a later gestation than women who had a BMI within the normal range; this often caused considerable upset and consternation for the obese woman. Some mothers (N=3) expressed relief at reaching a gestation where they were regarded as pregnant:

> *"I have seen people give me funny looks in the street, and staring and it has made me quite uncomfortable...... it has only been, what, about a month, where I have definitely gone, I look pregnant..... you can tell now that I am pregnant"* (CP1).

5.3.2 Expectations of Weight Gain in Pregnancy – Midwives Perspectives

Midwives, however, were less happy with this depiction of weight gain and pregnancy as something to be accepted. They stated that they expected some weight gain in mothers during pregnancy due to the growing uterus and fetus etc, but they were aware of certain health risks associated with pre-pregnancy obesity and excessive GWG, such as the risk of developing GD. Several professionals (N=5) expressed a wish that mothers would also take the issue of weight and excessive GWG more seriously:

> *"I think if someone has already got a larger BMI, an increased BMI, and they get pregnant I find they feel relieved, that's ok now I am pregnant that's fine………………. we need to change that culture don't we, we need to make sure these women think that it's not ok to put another 20 kilos on in pregnancy"* (PP6).

When the midwives were asked how much GWG was acceptable, however, they were less clear as to what they should advise mothers regarding weight gain in pregnancy. The midwives recalled that there were no set guidelines for weight gain in the obese mother during childbearing, whereas there were guidelines for pregnancy weight gain in normal weight women. Several midwives (N=3) stated that guidelines for GWG were keenly debated within the medical literature, but that there were currently no consensus regarding GWG nor global, national or professional guidelines to support a midwife's practice. The midwives were concerned about giving advice due to the weak evidence base underpinning any advice; they felt generally reluctant to give advice due to unclear guidance:

> *"I don't think we're fully informed about weight etc ….. When we calculate the BMI what happens next? ………. What are the complexities? …………… How can we inform our practice?"* (PP12).

However, several midwives (N=3) were also quite scathing about how healthcare professionals expected mothers to focus on reducing excessive GWG just at a time when their bodies were changing significantly within quite a narrow time span i.e. the nine months of pregnancy. One midwife felt that professionals were being unfair to mothers and that this focus on weight and size could negatively affect a woman's emotional well-being:

> *"Maybe that doesn't actually help them in their own sense of physical or emotional wellbeing in pregnancy when their bodies are changing so much anyway. Your breasts get bigger and your belly gets bigger and you develop stretch marks, all of which challenge our ideas of perfection don't they and particularly within the media and wider society. So, I think pregnancy is a difficult time to be talking about body weight anyway."* (PP4).

On further questioning, this midwife also went on to say that midwives who focused on weight and size were perpetuating society's idea of perfection and deflecting the views expressed via the media and the wider society onto mothers. She stated that midwives should be focused on helping mothers to adapt to pregnancy-related changes, rather than conforming to a stereotypical ideal of the female form:

> *"You can feel judged against and if you don't make the grade there's this sense that somehow you're failing in your duty as a woman to look or be a certain way"* (PP4).

However, several midwives (N=4) stated that mothers often expressed a wide range of opinions about their size and shape during pregnancy. They discussed how some mothers embraced the changes as necessary adaptations and transformations into the next stage of their lives i.e. motherhood, while some mothers didn't want their bodies to change despite being pregnant:

> *"You look after a spectrum of women, so some are women who don't care, maybe they celebrate this idea of being pregnant and becoming more voluptuous and actually feeling quite attractive when they're pregnant and becoming curvy and putting extra weight on, you know, enjoying the pregnancy and the body changes that take place. Right through to the other end on the spectrum of women, who will say things like well I don't want to put on any weight in pregnancy, I don't want my body to change"* (PP4).

One midwife identified how some mothers were striving for the perfect body pre-pregnancy and that this notion was then transferred to pregnancy, where mothers wanted the perfect pregnancy 'bump', where it is *"all baby"* rather than maternal adipose tissue:

> *"And I think that's a big thing that plays on the women's minds, to do with how we want to be the perfect size these days, because what society throws at us. And I think it's also having the perfect baby bump"* (PP9).

This supports the view expressed by mothers who want to be recognised as pregnant, rather than obese. One midwife remembered a situation where a mother did not look pregnant until she was in the third trimester:

> *"This woman kept asking me 'when am I going to get a bump? when am I going to get a bump?', and she didn't have a bump until probably 34 weeks and that's quite late to have a bump. And she didn't feel properly pregnant until she started seeing a defined bump"* (PP9).

To conclude, this section has highlighted the wide range of opinions and beliefs surrounding the topic of GWG from both the midwives and the mother's perspectives. In some weight gain was deemed to be necessary, was expected and was to be welcomed, while in others it was something to be monitored, assessed and controlled.

This study has captured a dichotomy between the beliefs and attitudes underpinning the perspective of GWG, as captured through the narratives of midwives and mothers. Mothers reported that GWG was expected by both mothers and midwives. Obese mothers were more relaxed about their weight during pregnancy so long as they were recognised as pregnant. However, midwives reported that GWG was an important focus for communication and needed to be discussed with mothers during pregnancy. However, midwives are unsure what advice they need to provide mothers. The next section will explore the midwife's role in supporting mothers to control and minimise excessive GWG.

5.4 The Midwife-Mother Relationship - Support to Minimise Excessive Gestational Weight Gain

Early pregnancy was considered, by all of the midwives, to be an ideal time to initiate the health promotion role of the midwife. All of the midwives (N=11) said they believed childbearing women to be receptive to health promotion messages and information during this time. This section will explore the midwife's role in supporting mothers to control and minimise excessive GWG, as captured from the narratives.

5.4.1 Support to Minimise Excessive Gestational Weight Gain – Midwives Perspectives

The midwives regarded the provision of health promotion messages as a significant part of antenatal care; the health promotion role of the midwife was thought to have both short and long-term health benefits for the woman, her child and her family:

> *"I think we've got a good chance of helping her see where she might be able to make some changes to her lifestyle, because we have got that added lever of her having a baby. And she might not do it for herself, but she might do it for her baby"* (PP10).

Some midwives thought that pregnancy was an opportune time to raise the subject of weight management, while others considered it a bad time. When asked to elaborate about why they were reluctant to broach the subject during pregnancy, some midwives (N=4) highlighted the thought that obesity and weight were inappropriate areas to focus on during pregnancy. This was because they felt that it was not a relevant topic for communication; pregnancy was regarded as relatively short-term aim, whereas losing weight was regarded as a long-term goal. The midwives, who voiced an opinion, perceived the impact of any changes made to weight or diet as less valuable, because of the relatively short duration of a pregnancy:

> *"But with eating if you're already very overweight to the extent that people are telling you this is bad for you, you can't just lose weight. You can't change it very quickly. It's got to be a long-term change; it's not necessarily going to impact on this pregnancy too much. It's almost like you are asking people to do something that is almost impossible so it's hard"* (PP5).

> *"Whether they can make a significant difference to their BMI over the length of the pregnancy is challenging, it* (pregnancy) *is a short period of time to make a big difference"* (PP8).

On further questioning, one midwife described how providing other health promotion advice, such as stopping smoking, was seen as a more appropriate focus for communication

during pregnancy, as the benefits were more immediate and short-term i.e. during pregnancy. Stopping smoking, she explained, had a direct influence on the pregnancy outcome, by reducing the incidence of a small-for-gestational-age neonate and promoting neonatal well-being. She felt that focusing on health promotion messages, which could be achieved during the short term of the childbearing period, would be a better use of a midwife's time.

Midwives were also very acutely aware how their health promotion messages were received by the mothers, with one midwife explaining that she had experienced mothers making jokes about their weight. On enquiring further, she felt that this was a defence mechanism, which some obese mothers employed to minimise the emotional impact of any less-than-ideal midwife-woman encounter:

> *"They always make jokes about their weight and it's almost as if 'getting in there first' before somebody else says something hurtful'"* (PP12).

Another midwife took this concept a step further and suggested that we, as a society, spend too much time trying to prevent obesity in pregnancy. She stated that the obesity epidemic was already present in our communities and suggested that the focus of care and communication with mothers should be looking forward, rather than looking back:

> *"I read something - a very interesting article that said that the obesity epidemic is moving faster than the health care system is catching up, if that makes sense. And it's true .... there is a lot* (of information and policy) *that is trying to prevent it, but how can we prevent something that's already there. I think even though there has to be prevention in for the future, I think it's important* (that care should focus on the present) *that will allow better outcomes"* (PP9).

On enquiring further, she suggested developing a more positive narrative, which focused on how midwives promoted healthy outcomes, rather than focused on the negative aspects of care, would be a more productive use of midwives' time. She proposed that this could

include monitoring and advising about minimising and controlling excessive GWG. The focus on risk was also considered by some of the midwives (N=4) to disempower the mother, as discussed in chapter 4. While the midwives stated that discussions on obesity and risk were an important part of the midwife's role in the antenatal period, it does not appear to be considered to be the most appropriate approach to use to initiate discussions with mothers. It was perceived to demoralise and demotivate mothers, rather than empower and enable mothers to make appropriate decisions:

> *"In my experience women don't mind being told what the risks and the considerations are, they just want to be told in a sensible way that they can have the information and make a decision as opposed to being infantilised and told that they're being dangerous, they're making dangerous decisions for themselves and their babies. I don't think that's helpful for anybody really."* (PP4).

The midwives (N=8) regarded the ability to be able to talk openly and freely about topics to be very important for any psychological-based discussions during midwife-mother care encounters:

> *"We have to be perhaps more sensitive with obesity and weight and lifestyle in our discussions .... but a lot of people might be obese or overweight or have really appalling lifestyles"* (PP10).

When asked how they supported individual mothers through the emotional issues related to childbearing and GWG, several professional participants (N=3) stated that they saw their role as guiding and supporting women to make choices for themselves, which would minimise excessive GWG:

> *"I guess I feel my job as a midwife is to be telling people about healthy lifestyle if they don't already know, just pushing them in the right direction towards being healthier rather than less healthy"* (PP5).

> *"I think it's all about empowering these women to know that ok you have got a raised BMI, but let's see what we can do"* (PP6).

Guiding and supporting were perceived by midwives as especially pertinent within the current emphasis on minimising excessive GWG during pregnancy. Several midwives (N=4) reported that they would have felt more emboldened to support mothers to make the necessary alterations to her diet and lifestyle, if the outcome were to focus on minimising excessive GWG and promoting positive pregnancy outcomes, rather than weight loss:

> *"We can advise women to try not to gain any more weight, rather than losing weight - we can't advise them that. But we can advise them to try and maintain their weight. And that sounds so much easier to do doesn't it"* (PP10).

One midwife felt that midwives had a duty to develop their sphere of practice to ensure that all mothers had optimal care. She stated that she felt that advice about lifestyle and healthy choices was a significant part of a midwife's role and so advice about GWG would be a suitable addition to a midwife's scope of practise:

> *"We also need to look at their lifestyle and we I think have a professional duty to document that we have actually looked at her lifestyle. Because otherwise have we given her a full episode of care? No, we haven't"* (PP10).

Some midwives (N=3) stated that they were acutely aware of circumstances in a mother's life that could impact on her ability to eat healthily and maintain a normal BMI. This provided scope for midwives to develop relationships with women and incorporate individualised care for the obese mother, which included recognition of their psycho-social and emotional environment and experiences:

> *"A lot of women have had really bad experiences through the people that they've come across, so when they then come to the maternity service for their care, we should at least treat them with a bit of*

sensitivity for them to then open up to us - for us to build that relationship with them, that's got to happen" (PP12).

The midwives were asked whether they felt suitably prepared and enabled to discuss weight issues in pregnancy. Some of the midwives (N=3) stated that talking about GWG is difficult in pregnancy, because there are few guidelines available to support the advice that midwives could have given during pregnancy. They stated that they were expected, as professional midwives, to base all their advice and management on robust evidence, but that the body of knowledge relating to obesity in pregnancy was constantly evolving and that experts and agencies could not agree on safe levels of GWG. However, all the midwives stated that they were aware of the availability of Trust-level guidelines and care pathways that they were expected to follow.

Following the initial 'booking' appointment, where the midwife recorded the mother's initial BMI, the professional participants then talked about how their focus then changed towards ascertaining GWG during subsequent antenatal care encounters. They stated that excessive GWG had a negative effect on pregnancy outcomes and can be a risk factor for complications such as fetal macrosomia. Excessive GWG may also move a woman into a different BMI bracket i.e. from the overweight BMI category into the obese BMI category, which would then influence her available options for birth:

> *"You might have a woman with a BMI of say 25 at booking and it could alter so quickly….."* (PP12).

The midwives also recalled that they were not expected to re-weigh a mother at any time during the pregnancy. However, some (N=3) of the older midwives recalled that the routine weighing of mothers at every antenatal visit was part of their midwifery practice, but that this aspect of midwifery care had been discontinued in the 1990s. The aim of weighing was remembered by those midwives to be an assessment of fetal growth, by ascertaining maternal weight gain: if the mother was gaining weight then the rationale was that this was because of the developing fetus. Routine weighing was reported to have been discontinued

following developments in ultrasound scanning, which provided a more accurate and definitive assessment of fetal growth.

One midwife particularly stressed the opinion that midwives should reweigh and recalculate a woman's BMI again at regular intervals during the pregnancy to review GWG and minimise excessive GWG. It was suggested by a few of the midwives (N=3) that there was increasing evidence that this should become standard midwifery practice again, because of the rise in obesity. They saw weighing mothers as a way of monitoring GWG and starting a conversation about healthy lifestyle behaviour, where they can give advice and support to mothers:

> *"There is literature coming out now saying we can advise women to try not to gain any more weight, rather than losing weight, we can't advise them that. But we can advise them to try and maintain their weight"* (PP8).

One midwife suggested that reweighing was a prerogative of the consultant-led clinic, rather than part of routine midwife-led antenatal care, and that this wasn't possible to be part of the community midwife's role due to lack of equipment:

> "(Obese women) *get sent to consultant clinics so possibly if they go there they reweigh them Most places don't have scales, lots of the clinics we work in will and I think that's one of the reasons we stopped at one point, the equipment wasn't there"* (PP5).

Some midwives identified the issue of routine weighing during pregnancy as a possible way of monitoring GWG, by ensuring it was considered and discussed at every antenatal care encounter. Some of the more experienced midwives recalled how weighing a mother used to be an accepted part of routine antenatal care. However, most midwives did not feel that re-weighing mothers during pregnancy, as part of routine antenatal care, would be practical or beneficial. This was due to lack of equipment in GP surgeries etc. Few midwives reported that they routinely weighed women: it appeared to be regarded as more part of the multi-disciplinary care package:

"They often get sent to consultant clinics .... if they go there, they reweigh them "(PP6).

The role of the midwife was considered to be, by several midwives (N=6), to make every mother feel comfortable during any midwife-mother encounter. This was thought to be of paramount importance, as the midwives regarded every encounter as significant to a mother during childbearing:

"And it is the way you approach her, the way you communicate to her initially as well. Every little thing is important, it's not what's most important and what is least important, everything is important" (PP9).

During the interview the midwives were encouraged to discuss how they felt that midwives could improve the communication about weight and obesity with mothers. Many midwives (N=6) stated the importance of addressing weight and lifestyle with all mothers, especially those with obesity. However, they stressed the need to use sensitivity when discussing the topic of weight during pregnancy so as to minimise distress and lessen any detrimental effect on the midwife-mother relationship:

"Because it's such a sensitive issue, if we (midwives) *don't deal with it in a sensitive manner then it's massive and it upsets women"* (PP7).

One midwife, who was also an educationalist, took this a step forward and suggested that midwives and other health care professionals needed to approach the topic with an educational rather than a guidance perspective. They felt that the aim should be to help the obese mother review her lifestyle and consider changes that she could make:

"Maybe there needs to be kind of more education rather than guidance, so educating women about health rather than telling them that you need to do: coming from that angle and helping them

looking at lifestyle changes that they could make rather than telling them what to do" (PP2).

This midwife identified the solution to be to consider small and easy steps that the mother could make, when advising about diet and weight etc., as the way forward in helping the obese mother. She suggested starting where the mother was currently by ascertaining whether the mother was concerned about her weight or not. This would ascertain whether the mother was receptive to discussion and advice about her weight:

> *"I think you have got to find an even ground and treat each woman differently depending on what her needs are. And maybe find out, has a weight problem always been there, has there been something that's triggered it in her life maybe, and then look at it maybe from a counselling point of view"* (PP2).

Some midwives (N=3) identified that the conversation should then identify how the mother felt about her current weight and whether she felt ready to make any changes. It was then suggested that the discussion could be had with the mother as to how she can make the necessary changes and what support is needed and available.

Conversely, however, several midwives (N=3) expressed the view that mothers often did not want to discuss weight and lifestyle during pregnancy. When asked to elaborate the midwives gave examples of how mothers avoided the topic; they were concerned that continuing to try to have such discussions would again adversely impact on the mother-midwife relationship:

> *"We need to be very very careful about how we tackle the subject with them. We have to be perhaps more sensitive with obesity and weight and lifestyle in our discussions .... And if you are saying to someone, we want you to lose weight for your health and well-being, we want you to change your lifestyle"* (PP10).

It was suggested, however, by the midwives that organisations such as Slimming World had identified this need and had filled this niche through their collaborations with the Royal College of Midwives (RCM), with their weight management plan, which was specifically designed for childbearing women. While obese and overweight mothers were not encouraged or expected to lose weight during pregnancy, they were supported to eat healthily, with the outcome of the minimisation of gestational weight gain.

Several midwives (N=4) also highlighted how they regarded relational continuity and its place in the care of the obese childbearing woman. Some reported how relational continuity was valued, as it facilitated a meaningful and facilitative relationship between midwife and woman, thus enhancing job satisfaction:

> *"So, I worked with women throughout their pregnancy, booked them, looked after them antenatally most of that was done at home if they were low risk, if they were high risk I would see them in clinic with the consultant. Be on call for them in labour and then visit them postnatally. So that was probably the best part of my career"* (PP7).

However, they also stated that they were aware that this was not often facilitated within modern maternity systems, but they reported that it was thought to be the gold standard of maternity care.

All the midwives (N=11) discussed the expectation of their regulating body, the Nursing and Midwifery Council (NMC), to be reflective practitioners and to strive to make improvements to their practice (NMC 2018; NMC 2009). The midwives were able to identify omissions within current practise and make recommendations for improvements to care. This led to several midwives (N=4), who discussed the concept of 'changing the narrative', where the focus of care, and particularly communication, could become positive and empowering, rather than negative and prohibiting. An example of this, which was discussed by a couple of participants (N=2), was around discussions on the current evidence on food and eating in pregnancy, which tended to focus predominantly on "what not to eat" i.e. it took a negative standpoint to the topic of healthy eating:

> *"Talking with the women about their BMI, that's mostly done at 'booking', but it's not really, with the time constraints it's never really done really. You go through the start for life leaflet and you point them to NHS Choices website, tell them the foods to eat and to avoid but you don't really go into depth* (about healthy eating)" (PP9).

These two midwives suggested that the focus needed to be on what a mother can eat during pregnancy, with a discussion on how she could have improved the quality of her diet, as well as highlighting how to avoid risky foods.

Another example of this concept was highlighted by a participant when a midwife was discussing with a mother her plans for her birth. This discussion usually occurred at an antenatal appointment in late pregnancy, usually around 36 week's gestation. As the obese mother had been labelled as high risk, the options for 'place of birth' were limited to a consultant-led environment, so any discussions around the mother's wishes were invariably met with a negative response:

> *"And what they can't have is midwife-led low risk care."* (PP7).

This midwife then suggested that midwives needed to challenge the narrative and actively change it to a more positive perspective, so instead of saying no, state the alternatives:

> *"I remember one women I looked after and her BMI was above where it should be and therefore it meant that she couldn't birth at the birth centre ……… And I remember speaking to her and saying why don't you stay at home. So, in that sense communication was turned into a positive ………. that was turned into a positive in a way that there is this alternative. I think if you pitch* (the discussion around an) *alternative at some point that's ok"* (PP7).

Several midwives linked this with the role that relational continuity (as will be discussed in chapter 6) could have on the ability of the midwife to see the obese mother as an individual

and empower the mother to make choices. This fusion between a more positive perspective and relational continuity was considered by the midwives to enable a more effective midwife-mother relationship, where open and frank discussions could occur and where the mother was empowered to make informed decisions regardless of her BMI.

To conclude, this sub-section has explored the midwife's role in minimising excessive GWG through an evaluation of midwives' confidence in raising the issue of weight and lifestyle and its impact on the mother-midwife relationship. Making the narrative more positive and looking forward i.e. minimising excessive GWG, rather than focusing on pre-pregnancy BMI was suggested as a way forward. Changing the perception of obesity to a more positive perspective was considered to be a significant move forward in the care of the obese mother during childbearing.

5.4.2 Support to Minimise Excessive Gestational Weight Gain – Mothers Perspectives

A significant proportion of the mothers (N=5) stated that their BMI had been within the normal range pre-childbearing, but they had then gone on to gain excessive GWG, which was subsequently retained post-partum and this had tended to continue throughout the childbearing period of their lives. While the mothers expected to gain weight during pregnancy as the fetus grew and developed, many (N=8) were surprised at just how much post-partum weight retention they were still carrying once they had birthed their baby. Therefore, the issue of excessive GWG appeared to be an important aspect of care from the perspective of the mothers.

Several of the mothers (N=5) reported that they would have appreciated support to enable them to monitor their weight and potentially minimise the excessive GWG that they accumulated, so they would have been more enabled to return more easily to their pre-pregnancy weight and BMI post-birth:

> *"I think it would have helped if I'd had a bit more information, because then I could understand. .... And it's alright them saying oh you don't need to have it in your head that you are eating*

for two until you are right near the end of your pregnancy, but you need that reminding………….. I didn't even know that no you are not eating for two until you are near the end of the pregnancy. So that thought needs to go out your head so you don't put on this extra weight. ………….. it would have been nice to have had that information from the beginning" (SW3).

They reported being unaware of any midwife-led strategies to minimise excessive GWG; many of the mothers reported how they were only now learning to control their weight and eat healthily etc. through their current or previous attendance at Slimming World. Therefore, the quality of support they received to lessen excessive GWG was reported by the mothers to be minimal and was often perceived to be inadequate:

> *"Well, it's not actually something that we'd thought about – well I found it odd that someone suddenly turned around and said would I like to take part in a study about 'weight'. Why is weight an issue cos no-one had brought it up until then?"* (CP1).

When asked to elaborate on this point, this mother felt that the emphasis of all the interactions that she had experienced with midwives and other healthcare professionals was predominately focused on other physical checks, such as fetal growth and maternal blood pressure, rather than the monitoring of GWG. Several mothers (N=8) stated that when asked to reflect on their experiences of childbearing, they regarded discussions around the topic of obesity and key health messages about minimising excessive GWG, as being an important part of pregnancy care and they were generally disappointed at not receiving any such advice:

> *"Looking back, I wish that someone had had either monitored my weight closely or gave me a bit of advice because then... It's hard to say would you have listened because you're pregnant and it's your first baby, but I think I would if my weight was being monitored, because... Yes, just no-one said anything, and I suppose gaining a lot*

can't be good for the baby, if you're gaining it by not eating the right things and eating a lot of sugar and rubbish" (SW6).

One mother also recalled trying to use the Slimming World pregnancy programme. Within this scheme, a pregnant woman can still attend Slimming World during pregnancy. The mothers can receive support and advice, which is designed to focus on healthy eating and minimising excessive GWG, rather than weight loss. The programme also supports increases in activity during pregnancy and advice on exercise during pregnancy. To take part on the programme the mother needs to secure the support, in writing, of her named midwife. However, in this case, her midwife was not aware of the scheme and so did not facilitate her accessing the programme, which resulted in the mother becoming disillusioned and despondent. She, therefore, felt that she didn't receive the support that she needed to control her GWG:

> *"Her reaction was you are pregnant you have got to accept that you are going to put weight on and she wasn't really prepared to sign the form........... I had been so good for that first ten weeks and I had not really put on weight, but then kind of went off the rails"* (SW9).

Several mothers (N=5) stated that once they understood the health risks associated with obesity and excessive GWG, they would have appreciated support and advice. However, they then went on to state that they did not recall receiving any support: they perceived that the support was not as readily available or as established as it was for other pregnancy-related health issues e.g. smoking cessation:

> *"It seems to be if you drink and smoke and you do drugs you get all this assistance to help you, there are always people to help you. Whereas if you are overweight then well you have got to sort yourself out haven't you"* (SW8).

> *"I don't know if it's because people think it's more personal* (to discuss weight issues, than smoking or drinking), *I don't know, but people seem to have a problem being able to say anything about*

obesity …. you don't have to put it rudely do you, there are polite ways of saying 'oh you are a bigger lady'" (SW9).

Several mothers (N=8) identified that they felt that, as part of their personal care package, they would have benefitted from more discussion about reducing excessive GWG and healthy lifestyles. Some mothers (N=2) voiced the opinion that they would have welcomed regular weighing during pregnancy, as a way of taking some control over their individual circumstances:

"I think (regular weighing) *would have made me think more"* (SW6).

Several mothers (N=6) discussed the importance of being able to participate in a frank and honest dialogue with their healthcare professional about GWG and lifestyle changes to improve outcomes. They reported that they often were not involved in such discussions and they felt this was because healthcare professionals were unwilling to risk offending or upsetting mothers:

"I would rather somebody said to me it's because of your BMI or your weight and be upfront with me…………… And maybe you think you are saying it, but sometimes it just needs to be said clear and to the point rather than hinting at something and hoping they get what you mean" (SW9).

This was felt to be important especially during the antenatal period when mothers reported the need for support to minimise excessive GWG. One mother reported huge changes in nutritional intake and of eating the 'wrong foods' e.g. craving chocolate bars, which she did not feel able to control and did not receive any support from her midwife to help her curb her intake:

"I got addicted to Mars bars ……………. I think it would have helped if I'd had a bit more information - it would have been nice to have had that information from the beginning" (SW3).

Several mothers (N=4) identified that relational continuity was important to them and those who received relational continuity felt that this enhanced their childbearing experiences:

> *"For my later three pregnancies I had the same midwife because I lived in the same place, so I had my same community midwife, well at the doctor's surgery, but it was just wonderful, and I ended up with really good care"* (SW2).

They had wanted to see the same midwife at all their antenatal appointments and so get to know their named midwife. The mothers reported that they felt that they would have been more able to build a rapport and understanding with their named midwife. They said they would then have felt more able to discuss sensitive topics such as GWG and ask questions with a known midwife:

> *"I never saw the same person all the way through the pregnancy which I think would have helped, because you can then build up a slight relationship with that person. And you don't have to keep repeating yourself over and over and over again, I think that's important"* (SW1).

> *"I probably would have liked to have had the same one all the way through because if I'd have had concerns about my weight or about anything I would have probably felt better approaching it with someone that I see weekly or every month or whatever rather than just a different one every time"* (SW6).

The mothers also noted that relational continuity was not often possible, but said they understood that there were differing levels of continuity available, from not seeing the same midwife twice, to just antenatal and/or postnatal care, through to seeing the same midwife throughout the childbearing experience. One mother particularly recalled how her friends seemed to have experienced more continuity with their midwives, which had been appreciated by her peers:

"Overall I think they're fine. I found with me I never had the same midwife and one of my friends did though and she loved it. She felt quite secure and a good relationship was built with the midwife but I seemed to have a different one every time, which at the time didn't actually bother me but then when my friends were like oh who was your midwife, and I'm like well I didn't have a particular one. So, there wasn't any consistency. And in your second pregnancy you hardly see the midwives at all do you..." (SW6).

A couple of the mothers (N=2) identified that a sound interpersonal relationship between themselves and their midwife had enhanced their experience and satisfaction during several difficult care episodes. One mother recalled:

"I got on really, really well with my midwife. She tried to fight my corner during pregnancy .... and then I saw her afterwards as well so it was wonderful to have that continuation, she saw me probably all the way through to the maximum time that the midwives come out. I don't think I saw anybody else; she always made it so she fitted it into when she was working. ..... how you expect it to be really I suppose" (SW9).

On questioning further, most mothers (N=9) agreed that healthy lifestyle and weight advice was better received if it came from a known midwife. Relational continuity was again considered to be an important concept here:

"If I was seeing (a midwife) *regularly, and if they broached the subject with me, I would more than likely take it better coming from them, than just a midwife who I'd never seen before"* (SW6).

Postnatally, many mothers (N=7) talked about needing support to tackle post-partum weight retention and the subsequent lack of support available to help new mothers to lose any post-partum weight retention. Many of the mothers (N=8) recounted how they had failed to lose their excessive GWG between pregnancies and reported completing

childbearing weighing significantly more that they had weighed pre-childbearing. The role of the midwife in the postnatal period was perceived, by the mothers, as limited in this respect. This was partly because the midwife's scope and remit was usually completed by 10-14 days post-partum, when the care was then transferred to the Health Visitor (HV) and the General Practitioner (GP). The role of the HV was seen by the mothers as very much focused on the baby, rather than the mother. This was thought to be a missed opportunity; several mothers (N=4) suggested that the midwife was in a prime position, having been involved with the mother throughout the antenatal period, to ask a mother if she was ready for some support or advice to reduce her post-partum weight retention:

> *"I guess it depends on the women doesn't it, some people may just have that much on their mind, you only see people* (midwives) *for two weeks............ But yes, I think if it's appropriate, there is no harm in asking the question 'would you like some advice?'"* (SW9).

To conclude, this section has highlighted that how the topic of GWG was raised and discussed was considered to be very important. The mothers, as did the midwives, considered that discussing weight issues was a difficult subject to raise and so were conscious that this must be undertaken sensitively. Conversely, if the conversations were not conducted considerately, then the messages were less likely to be listened to or acted upon. Midwives were very aware that issues of weight and BMI were difficult topics to address with women, especially at the initial 'booking-in' appointment. They recognised that if the conversation 'went wrong', it risked hindering the mother-midwife relationship, through the development of a defensive response from the mother, which may then impact on any future discussions. Mothers, however, wanted midwives to discuss GWG and be provided with individualised support and advice to lessen excessive GWG, which could include regular weighing during antenatal appointments. Both mothers and midwives valued the mother-midwife relationship and regarded relational continuity as a strategy to develop this. Enhancing the mother-midwife relationship was seen as a way to augment the ability to discuss weight, diet and lifestyle and subsequently promote minimising excessive GWG on both sides. This section has also explored how midwives felt they could improve

the communication with mothers, through the concept of "changing the narrative"; this was a theme captured through the narratives of the midwives and mothers.

5.5 Summary

This chapter has documented a range of lost opportunities for meaningful dialogues between midwives and women, where occasions that could have contributed to improving the health of women could have been initiated during each care encounter. Improved interpersonal relationships between professionals and mothers during the childbearing window of opportunity have been discussed as being important to both mothers and midwives.

A change of emphasis from weight control generally, to the management of GWG, has been discussed through the participant's narratives and has been shown to be warranted by the midwives and wanted by the mothers. Last, but not least, a change of perspective from a negative to a more positive paradigm, has been suggested, to facilitate a more open dialogue between midwives and mothers, while enhancing the facilitation of maternal choice, which could result in a more empowering and enabling birth experience for women.

The next chapter will discuss the lay, or everyday, theories of obesity as identified in the narratives of the mothers and midwives.

Chapter 6: The Experiences and Everyday Theories of Obesity

6.1 Introduction

Mothers and midwives draw on a range of 'everyday' or in the case of midwives 'expert' theories of obesity underpinning their understanding of obesity as a social and an individual phenomenon e.g. theories about what causes obesity, including in ones' own life and in society as a whole. This includes theories about how obesity has become normalised and the consequences of this for the individual mother and the midwife. This may be based on notions of personal individual choice and the complex contextualised and circumstantial narratives that surround obesity, especially how and why it has developed in the individual or at a societal level.

This study aimed to capture the experiences of mothers with obesity during childbearing and the perceptions of midwives who provide care for the obese mother as part of their professional role. As part of this mothers and midwives were asked to discuss their everyday theories of obesity, which when applied to health, are the beliefs that individuals construct to explain aspects of their well-being (Wang, Keh and Bolton 2010; Forshaw 2002).

Through the mother's (N=13) narratives, this chapter will focus on the mothers' journey through their lives and their patterns of weight across their lifespan. How this all impacts on their sense of self and how they manage interactions with others will also be expressed. The mother's perception of their body image pre-pregnancy, during pregnancy and postnatally will be explored along with their perception of obesity and pregnancy. The mother's comparison of their weight and size with family and friends will be documented, underpinned by their experiences of their relationships and support from significant others.

This chapter will also discuss the narratives of the midwives. It will depict their perceptions of the relationship of obesity to mental health and of obesity in connection to stigma, discrimination and judgementalism within society and midwifery practice. The chapter additionally aims to discuss midwives (N=11) experiences as professionals caring for

mothers with obesity during their working lives and document their own experiences surrounding their weight and lifestyle.

6.2 The Experience of Obesity

One of the aims of this study was to capture the experiences of mother's with obesity during childbearing. To conceptualise this, the mothers were asked to recall their pattern of weight across their lifespan from childhood to the present day. This section will discuss the mother's weight journey and the role of exercise in weight management and the experiences of midwives, as captured through the narratives.

6.2.1 Mothers Patterns of Weight and Exercise

At the time of the interview three mothers from the retrospective study had lost their excess weight and had achieved a BMI that was within the 'normal' range through Slimming World attendance. Seven were currently on the Slimming World weight loss programme and one woman was happy with her current weight, which was within the obese BMI category. Two mothers, who were currently childbearing, were planning to lose any excess weight post-birth. This sub-section will focus on the mother's journey through their lives and their patterns of weight across their lifespan and demonstrate that there were key times in the mother's lives when they thought they gained weight: during teenage years, when they met a life partner and 'settled down', and during childbearing.

All but one of the mothers interviewed reported being a normal weight in childhood, where they stated that they did not think about weight or what they were eating. They stated they were not particularly aware of their body image in childhood, but started to realise that weight and appearance were important consideration for women, predominantly through their early interactions with their own mothers:

> *"I think my mum has battled with her weight all of her life, so I have always had it drummed into me. If you lost a bit of weight you would have a lovely little figure, so weight has always been subconsciously an issue"* (SW9).

However, this changed during their teenage years. Several mothers (N=4) recalled that they started to put on weight during adolescence:

> *"Well, until I hit 13 or 14, I was fine, I never went up and down, but as soon as that age hit that was it, whatever I ate went straight on to me"* (SW3).

The mothers could not remember a change in circumstances or behaviour, which warranted this increase in weight, but presumed it to be associated with puberty. They also recalled how they also started their first weight-reducing diet during this time:

> *"Yes, I think I first went on a diet when I was about 14, 15 at school and I think I was around 9 or 10 stone at that point, I thought I was overweight"* (SW2).

Several mothers (N=3), however, managed to remain slim during adolescence and early adulthood. Again, they could not recall specifically why at the time, but remember that they had an active lifestyle, which they felt contributed to this:

> *"I ate like a horse; I was as fit and slim as anything; I just didn't give my weight a second thought or anybody else's. It just wasn't on my list of anything just because I got on with life"* (SW5).

However, by the time the mothers had reached early adulthood the incidence of weight gain had increased, with the majority (N=8) reporting that they were now obese. When asked why, several mothers (N=5) remembered that they started to put weight on during their twenties at a time that they had met their life partners and "settled down":

> *"I think I probably stayed at quite a healthy weight until I met my first husband and then put weight on and then found out I was pregnant"* (SW2).

> *"When I was eighteen, I moved in with my boyfriend and I put on about two stone, I think"* (SW6).

When asked to elaborate, they reported it as being the result of several factors; initially this involved eating out more and drinking more alcohol as part of getting to know a life partner:

> *"I met my husband we started eating out, drinking the usual stuff you do when you are courting. Then it just started piling on, I basically put on a stone a year for the first four years that we met so I went from a nice healthy 10 stone to a fairly unhealthy 13 stone"* (SW7).

Once part of a couple, the mothers reported that they didn't go out and about as much as before and started to prefer to stay at home and so then there was more home cooking and eating more regular meals as a couple:

> *"And of course, once you start living together you don't go out so much, you order 'take away Chinese', they are delivering food to your door. So, we both put on weight, just happy and comfortable weight I suppose"* (SW8).

Pregnancy itself was regarded by the mothers (N=11) as a particular time when they gained weight. Five mothers reported that they had a normal weight pre-child(ren), however, by the time the participants had experienced pregnancy and birth all these mothers were then obese, having gained significant weight during childbearing. All the mothers also reported that weight gain remained an issue, with all recalling that they were obese between and post childbearing. Eight of the mothers in this study had more than one child and several of these (N=4) had attempted to lose weight between pregnancies with some success:

> *"Yes, I lost all of it. I joined Slimming World when (the baby) was 6 weeks old because I think that's how long you have to wait, and I was still breastfeeding then. So, I joined Slimming World, my midwife said that was ok, or the health visitor or whoever it is there, and I lost 4 stone"* (SW6).

Becoming pregnant and entering motherhood, therefore, was reported as the single most-often-cited reason given for an individual's increasing weight as an adult:

> *"I was about 13 and a half stone after I'd had my first daughter ……….. we had 3 children in 3 years and the weight just climbed"* (SW2).

Post-birth and between subsequent pregnancies eight of the eleven reported that they were heavier post-birth than before:

> *"The problem is when you have a baby and only lose a stone obviously it's not baby weight, three stone of that is actually my weight"* (SW3).

Then, once they were a couple, they remembered that they didn't go out and about as much as before and started to prefer to stay at home and so then there was more home cooking and eating more regular meals as a couple. Becoming a mother, in particular, was a significant trigger to gaining weight as an adult. The situation was further confounded by the required focus on food once they had a family:

> *"It got harder and it's harder now with the girls eating, doing dinners for three people. And of course, I didn't want to cook after a long day caring for the twins, so my husband would bring food in and he used to come home from work at half past ten, so we would eat ever so late"* (SW8).

During later adulthood, several of the mothers (N=5) described their weight as a "constant battle" and many had experienced 'yo-yo' dieting, where weight was lost only to be put back on again once the diet had finished:

> *"And then it was yo-yoing so I would get around the 12 stone mark and I would lose a stone and get down to 11, back into a size 12*

happy with that. Go back to the normal diet and it would just yo-yo which was really bad" (SW7).

"Pretty much most of my adult life I have either been on a diet or putting weight on" (SW9).

One particular mother reported waiting to see if she would reach a plateau where her weight and size would reach its own equilibrium. She stated that she would have been happy with whatever that weight and size would be, even if this was overweight, but this had never happened. She felt that her weight, if unchecked, would continue to rise. When asked why she thought this was, she replied that she believed that the constant yo-yo dieting that she had undertaken for all of her adult life had resulted in her body not knowing how to self-regulate and therefore she had never reached this physical state.

The mothers who were pregnant during this study (N=2) reported that they had not really gained much weight during the current pregnancy; but they both discussed how they too had struggled with their weight pre-pregnancy. Both were obese at their 'booking' appointment. They both reported poor appetites during pregnancy, which resulted in minimal gestational weight gain, but they experienced some cravings for certain foods:

"I have put on so little weight .... but I've had cravings – first it was doughnuts... and I went through a period of time of craving coconut water.......... and chewy sweets, just something to chew" (CP2).

All the participants discussed the influence of exercise as a means to control weight gain. Several participants (N=6) remembered being active as a child, teenager and younger woman and saw exercise as being embedded into their lives during their earlier years e.g. walking to school and then later walking to work:

"I didn't realise how much exercise I did just by walking to work and back again. I just had to get somewhere and especially if you are late you are power walking. At one point I was working two bar jobs

and I was walking up and down that bar all night and it never occurred to me I was exercising" (SW8).

Some participants had been involved in leisure and sporting activities, such as horse-riding, which required a high level of fitness and exertion. However, this level of exercise was reported to be dramatically reduced following life changes such 'settling down' and having children. The latter was cited as particularly significant, as there was less time to plan activity and less opportunity to spend time exercising:

> *"It's tricky when the mums go out for a run of an evening well, I can't do that because I can't leave the girls. Mum will come and sit with them so I can go to the gym once a week, so I am lucky. But it's not a case of its not spontaneous, it's all planning and then you think can I be bothered"* (SW8).

The mothers cited starting work and learning to drive as triggers that reduced their day-to-day activity levels and how this impacted on their weight gain:

> *"And I did a lot of exercise just walking to school and back, but I think as you get older and you learn to drive... And I lived in a village as well .... I could have drove somewhere and exercised but when you have to get in your car to go anywhere you just drove there"* (SW6).

Current exercise patterns appeared to be similar across all the mothers and were considered to be a major influence on their weight. Several mothers (N=5) believed that exercise was important for weight loss and weight control, but due to social and environmental factors it was difficult to incorporate exercise into their lifestyle. Several participants (N=7) especially those whose children were older at the time of the interview, considered the need to take control and planned to add more activity into their lives:

> *"But because my husband's got weight problems as well, we're seriously looking at joining a gym to try and do something......... So, we're seriously looking at doing something about it and try and*

bring some sort of fitness into our weekly routine, even if it's just swimming or whatever, because I do enjoy swimming" (SW2).

The mothers who were currently pregnant (N=2) during the study were less interested in exercise during pregnancy: they did not exercise during pregnancy and cited sickness, tiredness and musculo-skeletal as reasons for not exercising during pregnancy:

"I was very tired, because of the added weight of the baby .... just the extra tiredness. And the bad back" (CP1).

6.2.2 Midwives Patterns of Weight and Exercise

When the midwives (N=11) were asked about their experiences and personal journeys with their own weight, they stated that they were aware of their weight and BMI and had experienced various degrees of effort and successes to maintain a healthy BMI across their lifespan. Seven participants reported having a BMI currently within the normal range, while four participants identified their BMI as within the overweight or obese ranges. Several midwives (N=7) spoke about their struggles with their weight, which echoed those expressed by the mothers in this study:

"I was skinny, skinny, skinny when I was younger and then I hit 30 and just put on loads of weight........ I am constantly fighting the battle of tipping over to a BMI of over 30" (PP10).

"My weight tends to yoyo I don't like dieting, I am not a dieter, it doesn't work for me. Before I had my son, I lost a lot of weight, I had got quite heavy and realised that I needed to lose weight. And I went and sought help through my nurse at the time. And we just looked at a food diary and I found that I was eating too many carbs and just changed my eating habits. And I did lose quite a lot of weight which I have since put back on" (PP2).

Pregnancy and childbearing also presented personal challenges for midwives. Several midwives (N=4) spoke about how they gained excessive GWG during pregnancy:

"My weight was always very stable until my first pregnancy and after that I put some weight on. And I don't know what my BMI got up to at its highest but between 25 and 30, and I went to a slimming club, I went to Slimming World, and I managed to bring my BMI back down to 23-24. And then I had another pregnancy and then my BMI went up a bit again, but I got it back under control again. It's always Slimming World all the time, my weight goes up and then I go back to Slimming World and it goes down" (PP8).

"I put on five stone when I was pregnant, and my weight is now back to a healthy range but only just" (PP10).

When the midwives were asked why they had a raised BMI, they also cited personal circumstances, as did the mothers, which negatively influenced their current weight e.g. shift patterns, studying, sitting at the computer:

"I exercise a lot, I run at least three times a week, I walk and cycle to work and rarely take the car. But my job is pretty sedentary; I write a lot as well after work so that's pretty sedentary" (PP10).

Some midwives (N=3) reported an increased struggle to maintain a healthy weight due to occupational influences, such as working shifts, unsocial hours and the access to less healthy snacks. These were seen as having contributed to weight gain and provided challenges to weight loss:

"The thing is as well, obviously starting the shift works, especially the ward placement that I've just finished, you're just inundated with chocolates, biscuits, sweets, and when you're working a 12 ½ hour shift and you've not had like a tea break or you don't have your lunch until 3 o'clock, and you can dip in and out of the staff room, grab a Quality Street, you do. It's very difficult. And the nightshifts as well, you know, the nightshifts I think it depends on how many you have. If there's one nightshift I won't eat, but obviously if you've got three in a row you need to then try to do something. But it's always afterwards, after the nightshifts, I just go mad on junk, my body wants junk food" (PP3).

Several midwives (N=5) spoke of the importance of exercise, but also about how the constraints of their working lives impacted on their ability to exercise:

> *"I do need to do some exercise and at the back of my head I know I need to do focussed exercise because although I'm active it's not"* (PP1).

> *"I joined a gym and I lost 3 stone and I'm kind of maintaining that but slipped a little bit over the Christmas time as we do"* (PP3).

The midwives who were over forty (N=5) identified an increased level of drive and resoluteness to acquire or maintain a healthy weight as they got older. There was also a shift in the reason for this change of emphasis from a focus on outward appearance to concerns about inner health. When asked why they felt this shift had occurred they stated that were aware of possible health consequences associated with obesity, such as raised blood pressure which had increased as they got older. They were keen to reduce their risk of long-term ill-health by achieving or maintaining a healthy BMI:

> *"My blood pressure is a bit high so I feel I want my weight to be lower because, hopefully that will help"* (PP5).

Whatever their age and experience several midwives discussed the impact of weight and BMI had on their body image:

> *"I am comfortable with myself, however I wish I could be slimmer. But I don't know, it's something I think every girl has her issues with her body she is never happy with her body"* (PP9).

> *"How we look as women I think is so important and it's so tied up with our mental and emotional wellbeing I think sometimes. Yes, that if you don't meet that ideal, or even the ideals that we set for ourselves for whatever strange reason. And I think it does, it affects all of us. There is this, there's an objectification of women's bodies I think, you know, we are all over the*

media, you know, our bodies are used to sell things, our bodies are used to control us within the medical model. I wonder how much of that as women we do to ourselves. We judge ourselves and we judge other women. And I know sometimes that I probably have fallen into that category of judging other women by how they look, and I don't like that about myself. I don't like that idea that we do and to sort of take part in that and to see myself perpetuating those ideas I think is not very helpful" (PP4).

To conclude, both mothers and midwives were happy to tell me their narrative on their weight journeys across the lifespan. This section has documented the perceived influence that life experiences has had on the weight of the mothers and midwives across the lifespan. How obesity has influenced the body image of the mothers will be documented in the next section.

6.3 Body Image

All the mothers (N=13) were asked to describe their body image prior to having children and during childbearing. This section will discuss how obesity has influenced their perception of their body image, as captured through the narratives.

6.3.1 Mother's Body Image Pre-Pregnancy and the Impact of Obesity

Most mothers (N=11) reported that they had a positive body image during early life. Those who had been a 'normal' weight in early life tended to report that body image was not something to which they had given a lot of thought:

> *"I was not particularly self-conscious about my body image; I don't think I ever have been really"* (SW4).

However, this positive body image, which was reported by those who were of normal weight pre-childbearing, was not present in those who had been overweight or obese throughout their lives. Those who had experienced weight issues (N=2) in their early lives

reported that body image was very much a focus of their early years. They remembered spending a lot of time comparing themselves with their peers:

> *"I think it was only when I went on my first diet around the age of 14, 15, when I suddenly thought oh actually, I think I've got a bit of a weight problem. I think, looking back on it now, I was probably comparing myself to other people, because I'm not that tall and I'm not particularly big framed either, so it does show on me. And you can compare yourself to people who are small, you know, a different frame, a different height, a different size, you know"* (SW2).

> *"Seeing other people skinny thin doesn't help!"* (CP1).

A couple of mothers (N=2) spoke of looking back and reflecting that, even though they felt they were fat at the time, they now know that they really weren't very big, when compared to the present day. They stated that they regretted and felt saddened at spending so much of their youth unnecessarily pre-occupied with negative feelings around their body image, which with hindsight was now perceived as misplaced:

> *"And I think also as a teenager you want to look good in clothes, you want to attract boys and all that kind of thing, so I think it was more of a case of that. But when I look back at pictures of me now at that time, I wasn't overweight, you know, because I think my ideal weight at the time was anything between 8 ½ stone and about 10 stone 3 or something and I was about 9 ½"* (SW2).

At the time of their interview, most of the mothers in the retrospective study (N=10) were attending Slimming World with the aim to lose weight. Most had either lost their excess weight or were currently losing weight (N=10). Weight loss appeared to have a positive effect on body image; this positivity increased in proportion to weight lost and was expressed in a reported increase in confidence:

"When I'm fat I don't have any confidence in myself, so when I am a weight that I think is acceptable, then I've got a lot more confidence" (SW6).

However, a few of the older mothers (N=2) reported having now 'come to terms' with their body shape and weight during adulthood. They reported being more at ease with their heavier weight and larger size, as they were less influenced by other people's opinions:

" I think I sort of went through a bit of a process with myself a few years ago and I don't live my life to please other people, I don't care that much what other people think" (SW2).

As stated earlier, many of the mothers (N=9) had been successful in losing their excess weight, mainly through attendance at Slimming World. However, some mothers (N=3) reported that their perceptions of their body image post weight loss did not match reality; several reported still feeling 'fat' even when they know they have lost their excess weight:

"It can make you feel you're too big .... I think you never really forget it once you become aware" (SW5)

"I still see that fat person, I don't see a thinner person at all, it's really weird. I don't know I really don't know. It's like if I look in a mirror that fat person, I see the fat person still, I think that's probably an issue I need to deal with" (SW1).

6.3.1 Mothers Body Image and Obesity during Childbearing

This section aims to explore the body image perceptions of the obese mother during childbearing. While, body image outside of pregnancy was dependent on age and size, body image in pregnancy was reported by mothers to be generally positive regardless of weight and size. Most of the mothers (N=6) stated being content with their body image during pregnancy:

"I wore my bump with pride" (SW7).

When asked about their more positive perception of weight and size in pregnancy, several mothers (N=7) stated that they felt that pregnancy explained to society and others why they were larger. Pregnancy was regarded as a more acceptable reason to be overweight and they expected that they would gain weight in pregnancy:

> *"Because I know that I am pregnant, and I know myself that there is a reason the way I am the way I am"* (CP1).
>
> *"I think it* (being obese) *was more accepting when I was pregnant, because I had an excuse to fall back on"* (OP1).
>
> *"I do remember when I got pregnant the second time, I was like well that's alright I haven't got to worry about what I eat anymore"* (SW5).
>
> *"When I was pregnant my weight seemed to be less of an issue, maybe because I had an excuse................. I just literally didn't even think about the weight I was putting on, I was pregnant, I was eating what I wanted, my belly was growing big, which is what's meant to happen, and everything else, like I say I didn't even notice how much I had put on"* (SW6).

On the other hand, not all the mothers were happy with their body image during pregnancy: one mother expressed displeasure with her weight and size. In this case the fact that she was pregnant with twins may have influenced her dissatisfaction:

> *"I didn't really see myself as anything really; I didn't really make an effort at all. I felt so big and so huge that I didn't .... I didn't want to look in the mirror very much. .... I didn't feel particularly very attractive at all, I felt like an incubator really, didn't really feel like a woman in a sense"* (SW8).

However, what was apparent from mother's narratives was that as long as the world perceived them to be pregnant, rather than 'fat'. This tended to occur later in pregnancy,

sometimes as late as the third trimester. Once recognised as pregnant, then it was thought by the mothers to be ok:

> *"It has only been what, about a month, where I have definitely gone, I look pregnant. I have had dirty looks in the street. People sort of stare when I walk past. They have looked at me. It is because I didn't look pregnant until now. It made me feel horrible, really uncomfortable and really awkward. Makes you want to cover up and not leave the house!"* (CP1).

> *"I was always conscious - do I actually look pregnant or do I just look like I have put weight on"* (SW9).

Most mothers (N=10), however, reported that they never really fully enjoyed the pregnancy. Some of this was attributed to the physical effects of complications and co-morbidities e.g. GD and musculo-skeletal conditions which affected their perception of their body image:

> *"I did have gestational diabetes with my youngest daughter and for the last week, I mean they only found it 2 weeks before she was born, and then last week I had to inject (insulin)"* (SW2).

> *"I got really bad carpel tunnel with (this pregnancy) and my GP, and I would rather somebody said to me it's because of your BMI or your weight and be upfront with me"* (SW9).

> *"I had very bad inflammatory hips with this one. And I was in a lot of pain; I was on the verge of crutches towards the end of it with him"* (SW10).

Several mothers (N=6) considered that some of their symptoms were directly attributable to the physical effects of obesity and this contributed to their negative perception of their body image in pregnancy:

"I have noticed perhaps early in my pregnancy this time, more than the other times, is the breathlessness" (CP2).

"To suddenly having your body carrying that extra weight no wonder I was so tired all the time, because it was such a small amount of time to put that weight on for me, because I never put it on that quick" (SW3).

"I got quite bad hip pain towards the end whether that's a natural thing or whether that was made worse by my weight I don't know" (SW4).

"I think my legs hurt as well and I was holding a lot of fluid in my legs but then I had very large legs anyway from fat. So yes, I think being overweight did contribute quite a bit. I tried to keep active as much as I could but then I was just exhausted by the end of it" (SW8).

Several mothers (N=6) discussed the effects of excessive GWG on their body image postnatally. One mother was particularly shocked at the resulting extra post-partum weight retention she was left with post-birth; she had thought (or was reassured by family, peers and healthcare providers) that the excessive GWG she had gained was okay and that the weight would be all baby.

"It did worry me, but it didn't worry me as much as it would have done, because of the fact that I knew I was pregnant. But it doesn't help when I had (the midwife) *saying 'yeah you are pregnant' .... But at the same time, it doesn't stop it from niggling in the back of your mind............... I was 11 stone four before I had* (the baby) *and then I went up to 15 stone four by the time I was 9 months pregnant. Which I thought, everyone kept saying, it's baby weight."* (SW3).

The increase in weight and the change in their bodies postpartum was also a cause of some distress for some mothers (N=3). When asked why, they said they were concerned about

some of the physical appearance of their bodies e.g. saggy stomachs. Some mothers (N=3) discussed how they attempted to conceal their bodies to disguise the effects of childbearing:

> *"And then after pregnancy I don't think I particularly liked the way that I looked .... I started to feel nice wearing baggy clothes. And so, I didn't particularly like the way I looked when I looked at myself, so I didn't look at myself" (SW5).*

> *"I remember probably 3 months after* (the baby) *had been born, I went out on my friend's birthday night out and I saw a photo of myself afterwards and that's when I realised how big I was and I asked her to take this photo down off of Facebook because it just made me cry .... it was after that I realised how big the pregnancy had got me" (SW6).*

> *"I am ashamed.......... but in the end, I have become very understanding that in order to have had my boys I sacrificed my body image" (OP1).*

To conclude, body image, therefore, was regarded as a personal perception based on individual experience and the intrinsic pressures. However, there was a trend towards a more negative body image if the individual was obese, which tended to become more positive with weight loss and the achievement of slimness. However, weight loss alone does not appear to guarantee a positive body image. The pressure to conform to the ideal of slimness was seen to be stronger in younger women, whereas the older women tended to less influenced by the perceptions of others.

This section has recorded a general negativity when the mothers expressed their feelings about their weight and size. It has documented how the mothers reported perceiving their body image (in retrospect) erroneously pre-pregnancy and were generally happy with their body image during pregnancy, which may contribute to reported levels of excessive GWG. They were less content with their post-pregnancy body image, especially if they had gained

excessive GWG or had seen changes to their body as a consequences of pregnancy e.g. saggy stomachs and stretch marks. The next section will explore the influence and impact of significant relationships on the body image of the mothers.

6.4 The Influence and Impact of Support

This section aims to explore the reported influence of significant relationships on the body image of the mothers in this study, as reported in the interviews with the mothers.

6.4.1 The Influence of Significant Relationships

Some of the mothers (N=4) reflected upon memories of conversations from childhood as having an influence on their relationship with their weight as an adult. One mother thought her pre-occupation with losing weight stemmed from her mother who was also concerned with her weight and struggled to lose weight:

> *"Oh, my diet's going to start on Monday, that's what my mum always says even now. So, she's always struggled as well so I don't know if maybe some of it comes from that"* (SW6).

Family members were reported as tending to be more direct and 'honest' in their discussions around weight and size, as well as being supportive, as some mothers (N=3) reported having close family members who were also experiencing a battle with their weight:

> *"And then I moved up here and my mum has been at Slimming World, had been at Slimming World before and had lost a lot of weight and then sort of managed to keep it off and she fluctuates a lot because she goes away a lot. And my sister as well she had two children about the same time as I did about a year earlier, she's always been bigger than me and she got to a size where she was quite large………… And so my mum came back and she said why don't the three of us just go and be a support system"* (SW5).

One mother, however, reported the almost evangelical attitude of a sibling who had managed to lose weight, which had a negative influence on her emotional well-being:

> *"My sister is a born again slimmer - she lectures me quite a bit………… in the end I was so stressed, I was coming in here and eating, watching the door frightened she would come in and I found it really quite stressful"* (SW8).

Mothers who had managed to lose weight (N=3) reported that they enjoyed, on the whole, the positive comments that they received when they were losing or had lost the weight:

> *"It's nice if people say, 'God you look good!', it's nice when it's that end and people saying you look good, it's not so nice if people are saying oh you look awful"* (SW4).

Receiving such positive comments were a confidence boost and positively impacted on their mental state and mood:

> *"But everyone says I have done fantastic and I have lost nearly a stone and a half in four months. When you feel good everything else feels better, it's like if you feel mentally better everything else is better, it just follows suit"* (SW10).

Partners were very influential in how mothers (N=5) felt about their weight. Most partners were very supportive and had not expressed any negative thoughts/feelings about their partner's weight. This is evident even if they themselves did not have a raised BMI:

> *"My partner is never horrible to me about my weight or my clothes sizes"* (SW6).

> *"My husband has known me when I was a size 12. And he was like I don't care whether you are 10 stone or 20 stone or whatever I still love you"* (SW9).

*"And ***** bless him says I don't care if you weigh 99 stone and can't move I will still love you, which is nice"* (OP1).

"My husband is very supportive and he often says 'out of the blue' that he just loves me for me – he's a bit of a romantic!" (CP2).

6.4.2 The Function and Influence of External Support

Slimming World was considered to be very influential to the weight loss success for all of the ten mothers recruited through this commercial organisation. This sub-section will explore the mother's experiences of attending an external commercial support group, as captured from the narratives of the mothers.

The group consultants, who's role at Slimming World is to guide and support the group and individuals, were perceived by all the mothers to be understanding and supportive; this was thought to be because had gone through what the mothers were experiencing i.e. they have themselves were overweight or obese and were losing or had lost weight through Slimming World:

"He (the group leader) *is fantastic; he has been doing that job ten years. And he is on that journey; he is constantly on that journey and he knows exactly what you are going through because he goes through it himself"* (SW1).

"(The group leader) *is so lovely, she is fab, and she doesn't pressure you at all …… I know she is there, and she is brilliant and she takes the stress out of it"* (SW8).

The receipt of peer support through Slimming World meetings was reported by the mothers to be of varied importance though. Several mothers (N=5) who expressed a viewpoint felt that they needed the support of a peer group, where they could share stories and gain moral support:

"When you go to the groups it inspires you to lose it (the weight)" (SW10).

"The groups have been quite good for people that I know who have got stuck, we have got a Facebook group and people comment on that if people need help and stuff" (SW4).

However, for some the group meeting was reported to be too intense. These mothers said that they tended to just attend to get weighed, rather than stay for the session:

"A lot of people don't really want to speak out in front of a group saying well actually, my eating's gone to pot because my husband's been ill all week or whatever. Quite often people don't want to share that in a big group" (SW2).

"I am not really into the whole group thing. I am not really bothered about sitting around and hearing how much weight other people have lost and other people have gained. It's always nice, I like to stay when I get an award and get a good clap. But no, I have never really needed the group support" (SW4).

Most mothers (N=8) reported having been subjected to a variety of educational strategies over the years, which had aimed to encourage healthy lifestyle changes. They perceived education and support as important in the battle to encourage people to eat healthily and maintain a healthy weight. However, the custom of using scare tactics to encourage individuals to lose weight was not appreciated by any of the mothers and was considered to be an ineffective way to tackle the problem of obesity:

"I just think fat people have an awful lot to contend with and trying to get pregnant you are told you will have problems. So, I think maybe people give up, I don't know, and it's not true is it, because I got pregnant dead quick. I think you are told things to try and shock you into doing something with your weight. But I think you have to get there yourself to be able to do it" (SW1).

Slimming World was considered to have a different approach, which was supportive and empowering. The influence of Slimming World and the role of support through the groups were reported to be very influential in educating mothers to eat more healthily and therefore lose weight. The ten mothers who were currently attending Slimming World classes were all at different stages of their weight loss journey but were all appreciative of the Slimming World plan. The researcher was invited to sit in on some group sessions and observed how the group's consultant discussed with the group how to prepare healthier versions of traditional meals, which were also quick and easy to prepare, as well as being nutritionally sound. Several mothers (N=6) described not knowing much about the nutritional value of food i.e. the food groups, its calorific value or how to eat the right amount of different foods to maintain health and a healthy weight, until going to Slimming World:

> *"I will just be trying to eat Slimming World friendly, because of the style of foods you are allowed it does seem to be there is nothing that I couldn't have while I was pregnant. And because you are allowed so many free foods and the extras there is nothing there that I couldn't have without putting weight on"* (SW3).

Being a member of a Slimming World group had taught the mothers a lot about eating more healthily and tips for preparing healthier options e.g.:

> *"I love dripping sandwiches, but I would not have them again now, look at all that fat. And if I cook a chicken, I cook it breast side down so all the juices run to the breast, and then all the fat I can take off all the fat skin and chuck it away. Join Slimming World - it teaches you so many things"* (SW1).

Slimming World was recognised as attempting to educate individuals as to how they can prepare healthy meals and ensure that the individual had a wide repertoire of dishes to ensure boredom was limited. However, the issue of an inability to cook for some mothers (N=2) reduced success at Slimming World and was used to shift the blame somewhat away from the individual:

> *"And this is the challenge I have with Slimming World, is preparing food from scratch, I find difficult because I'm not a natural chef, it's a chore for me and that's the part that I struggle with. I perhaps ought to do the one where they just send you food through the post and you just eat it, I thought that's quite a nice idea. But when you see them, the little meals, I think well I'd still have to have some veg with it so what's the point really"* (SW2).

> *"I find dieting ever so stressful I don't find it an easy thing. I don't like salad; I am a terrible 'carby' person. And being just me, I find it difficult to cook ………… and I sit there and go 'oh god I have got to eat something', that's the way I look at it, what the hell can I eat that I am allowed"* (SW8).

One mother even suggested an idea for a small business, where they considered opening a café, which would sell healthy meals influenced through attending Slimming World:

> *"Me and my mum always say that we want to open a little coffee shop where we do Slimming World meals and I think that would make a bucket because if there was somewhere like that in town I would always go there"* (SW6).

To conclude, this section has highlighted the influence of significant relationships during their lifespan of the participants was important to the mothers; this was both positive and negative, but always meaningful, especially with regards to the unconditional support that all of the mothers reported that they had received from their partners.

Slimming World had provided significant support to all the mothers during their desire to reduce and lose their retained post-partum weight. The role of education provided through attending Slimming World groups had positively influenced the current weight of the mothers. They appreciated the educational aspect of attendance at Slimming World classes, especially about the preparation of healthy meals and nutritional advice. The role and function of external support was reported to be important, especially through the Slimming

World leaders, although the role of the peer support was less clear. The next section will explore the midwives and mothers perceived causes of obesity.

6.5 The Perceived Everyday Causes of Obesity

This section aims to explore and contrast the midwives and mothers perceived causes of obesity. In particular it will discuss the everyday theories as to the cause of obesity as captured through the narratives of the mothers and midwives.

6.5.1 The Perceived Everyday Causes of Obesity – Midwives Perspectives

Most of the midwives (N=10) regarded the cause and the rise in obesity, generally and during childbearing specifically, as multifactorial, where they identified a broad range of environmental, lifestyle and social reasons for this rise in obesity. Genetics and a pre-disposition to gain weight as an evolutionary response mechanism to food shortages were also cited as influencing factors in the rise of obesity by midwives. The midwives emphasised the reduction in energy expenditure that has progressively occurred in modern everyday life, with the rise in the use of personal transport and the decrease in manual labour both at work and in the home. This is an example of how changes in society have influenced the rise in obesity. As identified by this midwife, this results in individuals who are not active and so this has contributed to the rise in rates of obesity:

> *"It is just lifestyle: a bit more sedate jobs or coming home and because you are so tired from work you do not want to do anything at the night-time so you sit and watch a bit of telly. And people aren't I don't think as active as they used to be. And cars and travel - transport, and the fact that people they are not walking to work because they are having to go into city centres to have their jobs or they having to commute which means either driving or public transport. Whereas, perhaps years ago, people would work more locally where they could walk to work"* (PP2).

Several midwives (N=5), when asked to expand on their perceived causes of obesity, focused more on the impact of the environment on individual behaviour and the effect on individual weight and size. They cited the increase in the availability and consumption of 'fast foods', increased portion sizes and the proliferation of processed foods i.e. high density/high energy foods such as sugars and fats, rather than low density/low energy foods such as fruit and vegetables as a major cause of increased rates of obesity:

> *"I look at my kids now and they will go to their friend's house for tea and it's like chips, pizza and we have takeaway land, we have fast lives where we want to grab food ……….. I think the amount of food that people consume may have gone up, but I think it's the type of food that we eat every day. Whereas* (fast food and takeaways) *before it would have been seen as something you had occasionally. Now because of our fast lifestyle it's changed"* (PP7).

A few of midwives (N=3), however, considered that the individual was solely to blame for their weight problem, mainly through eating what they perceived as the "wrong foods". They regarded that how a person behaved had a direct impact on an individual's weight, health and well-being. When asked to elaborate, they discussed how they felt that obese mothers tended to blame their circumstances for their weight, which they believed was outside their control. They stated that women tend to 'normalise' their obesity, whereas they felt that the obese mother needed to take more ownership of her weight problem:

> *"People* (think they) *can't control* (their weight), *it's happened to them and* (they) *have no control over it. But actually, people make themselves obese whether consciously or subconsciously"* (PP10).
> *"Postnatally, women blame the pregnancy, then the caesarean, and they say well that's it now, I am like that* (obese), *I am going to have to carry on. Then they accept that they are obese"* (PP6).

Over-eating or eating the 'wrong' foods, were considered by the midwives as related with gaining excessive GWG. Some of the midwives (N=3) considered that obese mothers used food to ameliorate emotional distress. The consumption of foods that were high in fat and

sugar e.g. chocolate and cake were regarded as “comfort foods” and were eaten in response to psychological stress. One midwife discussed how she could identify with the obese mother in this respect:

> *“I wonder how much, particularly for women, our eating habits are linked to our emotional health and wellbeing as well, you know, these ideas of comfort eating and what have you. And many women I think often experience that sort of lack of control don’t they in terms of life in general and maybe overeating or maybe eating bad food is expressing that lack of control”* (PP4).

Emotional ‘baggage’ was also considered by the midwives as a reason why obese mothers remained obese:

> *“A lot of ladies might have underlying problems or relationship troubles and something that is getting them down that’s making them feel they don’t want to exercise, or they don’t want to go out. And then perhaps feeling self-conscious and it’s a bit of a vicious circle because you can never get yourself out of that spiral”* (PP2).

6.5.2 The Perceived Everyday Causes of Obesity – Mothers Perspectives

The mothers cited three main influences on weight gain and obesity – societal causes, family causes and individual causes. Societal causes included the rise in car ownership and more sedentary occupations; family causes included having children, while individual causes alluded to psycho-social causes such as the pace of life and the influence of emotions on food choices. Often these factors were not regarded as single causes but were interwoven throughout their lives and together contributed to obesity levels. The mother’s perceptions of the cause of obesity generally mirrored that of the midwives; they too identified societal and environmental causes e.g. the rise in ‘fast food’ outlets as a positive influence on obesity rates. However, mothers tended to speak about obesity from a personal viewpoint, as opposed to the midwives who tended to take a more general societal perspective.

A couple of mothers (N=2) specifically blamed extrinsic factors as impacting on the level of obesity in society, which were perceived to be outside the realm or control of the individual or the family. For instance, one participant strongly placed the blame on the government for the high cost of healthier food choices:

> *"I think the government need to put more money into healthy eating; I think they need to reduce prices of fresh fruit and vegetables. Because I have found being at Slimming World that you need to eat those foods and the only foods that are cheap are things that are processed and rubbish and it's just fat………… healthy food costs more so the government needs to reduce prices on healthy food. I believe that the government are to blame really for the problems with obesity"* (SW1).

The role of shops to help individuals to resist the temptation of less healthy foodstuffs while shopping was cited by some mothers (N=4) as important, especially for mothers when providing healthy meals for their families:

> *"You walk in the foyer at Asda, which is where we shop, and it is just full of cakes and biscuits. And then you come round to the check out and most of the check-outs, there is a couple, but most of the check-outs have chocolate all at kid level still. And you think we have been going through this for how many years now, people have been complaining about chocolate. And every now and then a supermarket goes we have moved our chocolate from there and then it all comes back"* (SW7).

One mother suggested that obesity should be considered an addiction and afforded similar significance and importance as other recognised addictions such as smoking and alcohol misuse. When asked to elaborate she stated that she thought this was because of the addictive nature of certain unhealthy food components such as sugar and fat and the subsequent cravings to eat these types of foods that people often experience:

> *"I really do think it should be treated the same as smoking and like drug addiction and alcohol addiction...... people who haven't struggled with their weight will never ever get it, but that's why there's so many diets or healthy eating, Slimming World groups, and Weight Watchers, because it is a big issue"* (SW6).

The mothers spoke a lot about changes in their personal circumstances in early adult life as the underpinning cause of their obesity. This is an example of the perceived cause of obesity from a family perspective. As detailed in 6.2.1, mothers also spoke in detail about how meeting their life partners, settling down and having children, were other primary reasons underpinning their weight gain; this is an example of a perceived family cause of obesity. Other reasons given for gaining weight during adulthood was juggling the competing demands and the resultant stresses of family and work. This is an example of individual causes of obesity:

> *"We had a business that was hit quite badly by the recession, you know, young children and all the rest of it, and to be honest healthy eating was just the last thing on the agenda because we were racing around doing this, trying to be busy, trying to keep afloat, and you tend to grab stuff, especially if you're travelling a lot, you grab stuff. And especially if you're driving there's not a lot of healthy, there is now, it is better than it's ever been, but going back a few years it was hard to find healthy food if you're travelling"* (SW2).

Several mothers reported that their emotions significantly influenced the type and amount of food they consumed. Two participants, in particular, expressed the role of emotions on food intake, especially around the concept of 'comfort eating':

> *"If I am low, I tend to need comfort food. And the odd occasion I have binged on comfort food its things like cake"* (SW1).

> *"I think my issue with weight was probably, oh I don't know, from puberty. I was very skinny and was bullied for being skinny, and*

probably made me go the other way and made me eat more because of being bullied. .... I think that's given my issues with food and I think I eat as comfort to deal with things" (CP2).

There were clearly similarities and diversities in the perceived causes as discussed by mothers and midwives. This can be linked to the commonality of gender and being exposed to similar psycho-social and environmental influences. However, midwives emphasised the individual causes, while mothers focused on a more societal, environmental and familial influences.

6.5.3 Shopping, Cooking, Eating Patterns and Budgetary Influences

While the fundamental purpose for eating was considered to be to obtain nutrients to nourish and sustain the body, the mothers reported that they felt that the psycho-social and community-based patterns of eating were also significant factors influencing their weight. This sub-section aims to discuss the behavioural influences identified by mothers, namely shopping, cooking, eating and budgeting, which have impacted on their obesity, as captured from the mother's narratives.

Food was considered to have multiple functions within modern society, such as being central to all group celebrations and to the cementing of relationships. Eating was highlighted by some mothers (N=4) as a particular concern as it was associated with all community and religious customs e.g. marriages and funerals, Christmas and Easter. They recognised food as being present whenever and wherever people congregated for social events. A couple of mothers in particular described the effect that 'eating, drinking and socialising' had had on their weight: this was described as a cause of weight gain and as a stressor to be negotiated to limit potential damage:

"There's so many temptations in the way but there always will be so you've got to learn how to cope with those temptations haven't you.......... food is everywhere and you have to eat" (SW6).

Several mothers (N=3) reported that they had very busy lives and discussed the perceived stress of juggling work and the demands of family commitments, both with their immediate family and, in some cases, their extended family. This led to several instances where the mothers expressed an inability to find time to shop, cook and subsequently to eat healthily. All the mothers knew that they should eat more healthily and stated that they believed that this was the most sensible and sustainable method to lose weight and maintain a healthy BMI. However, several of the women (N=3) reported instances where, despite knowing that they shouldn't, they had resorted to 'takeaways' or 'less healthy meals' e.g. pies and pastries, especially when tired or time-limited:

> *"It's an easy option to go to the chip shop or to go to McDonalds than it is to prepare yourself a salad or chop vegetables, especially when you've been working for 12 hours that day and you're knackered……… like last night, I finished here, we had quite a long day* (at work) *but when I finished I was really hungry. It was nearly 6 o'clock before I got in there and the kids were what are we doing for tea, so we went to the chip shop, because we were all hungry and it's easy and, you know"* (SW2).

> *"And I struggle, when I'm stressed with the kids or if I've had a really busy day, I just want to grab something. So, to stay eating healthily you've got to always have the food in, food that's quick and easy to make, not just something you can grab like a bar of chocolate. So, it's time consuming making sure that you've got all those meals prepared and healthy things in the fridge"* (SW6).

Several mothers discussed specific personal reasons, which prevented them eating more healthily or achieving their desired weight loss as an influence on their obesity. Some mothers (N=2) described being unable to cook and an inability to shop for healthy foods. This is an example of a knowledge and skill deficit lay theory for gaining weight. This was cited as the explanation as to why those participants had experienced a yo-yo weight loss and gain pattern, where they lose weight, but they gain weight, because they can't cook a range of healthy food:

> *"I find it difficult to cook, she* (the group leader) *read my food diary the other week and she rang me and said I am reading your diary and it's so plain. And I said well I wouldn't make a big dinner because the girls wouldn't have, I suppose I could freeze meals, but I am not the type of person to do that. Whereas my mum and dad they will cook together and say oh what shall we have, and I sit there and go oh god I have got to eat something, that's the way I look at it, what the hell can I eat now that I am allowed"* (PP8).

Their diet was subsequently very restricted and, due to boredom with their limited food choices, any weight loss was temporary and was often regained when they started to introduce other potentially less healthy foods or increase their portion size.
Some mothers (N=3) identified their inability to shop for healthy foods was due to budget restraints, where towards the end of the week or towards 'pay-day' they had resorted to less healthy foods in order to make the budget stretch. When asked why, the participants stated that less healthy food was often the more processed types of foodstuffs, rather than fresh foods, and that this was often cheaper. This perception appeared to be a genuine concern, especially to the younger mothers:

> *"And even if you do find it, even now it's proportionately quite expensive compared to the cheaper, fattier stuff. So again, if you're on a budget it's difficult"* (SW2).

> *"And money wise as well, like last week I really struggled, because it was the week before payday and convenience foods and ready meals and things that aren't healthy for you are cheaper and easier than healthy food. And when you do have two kids as well, so to feed a family of four, but then obviously you want to keep your kids eating healthy so it is a constant battle to have the whole family eat healthily on as low a budget as possible"* (SW6).

"You can go and buy a multi bag of crisps for a £1 and they do loads of meal deals and special offers on the junk, but if I go in there and want to buy a punnet of blueberries or strawberries and a bag of apples and bananas I am looking at £10" (SW8).

The mothers found this emotionally difficult, as they were aware of the impact of their own choices on their health, their weight loss attempts and that of their family and children. When asked to elaborate the mothers said that they were very keen for their children to eat healthily to prevent them experiencing weight or health problems as they grow up:

"I try to give her healthy food, I don't fill her up with rubbish, I try not to have processed food like nuggets in the house" (SW1).

To conclude, this section has discussed the various personal perceptions of the causes of obesity captured from the midwives and the mothers. Shopping, cooking, eating patterns and budgetary constraints appeared to have had a significant impact on the lifestyle and eating habits on some of the mothers. These considerations were regarded, by the participants who raised concerns, to be very influential on the weight and health of the mothers and their families. The next section aims to explore, through the narratives of the mothers and midwives, how obesity has become normalised within families and communities.

6.6 The Normalisation of Obesity

This section aims to explore how obesity has become normalised in society and the perceptions of the effect of normalisation, as captured through the narratives of the mothers and midwives.

6.6.1 Midwives Perception of Obesity as a Social Phenomenon

Several midwives (N=4) commented on how they were getting used to seeing obese mothers during their professional role. They considered that this had impacted on their views about BMI and whether it truly reflected an abnormal condition:

"Normal BMI seems a bit low" (PP8).

"The cut off is too low – often the women look normal to me" (PP7).

All of the midwives (N=11) stated that they were aware, within the professional arena, of narratives around obesity being an epidemic. When asked to elaborate on this, one midwife considered that it was more of a pandemic and she felt that obesity was becoming the norm within modern society as rates of overweight and obesity overshadowed rates of normal weight:

> *"If you look at what an epidemic means in public health terms, yes, technically we do have an obesity epidemic. But in terms of the potential knock on effect it's going to have on the NHS it's worse than an epidemic, it's probably a pandemic. Because it's not just the obesity and needing more resources; it's that in 20 years they* (the obese) *are going to be having heart attacks and diabetes and all these other things that are associated with it"* (PP10).

However, not all midwives regarded obesity as an epidemic, as one would regard a disease. One participant felt that to compare obesity with a disease would then liken obesity with an infection with a specific disease pathway, which is under the control of medicine:

> *"If we turn it into a disease and we medicalise it then we take away that control from people themselves and that the medical model then controls the condition"* (PP4).

However, most midwives (N=7) considered obesity to be more likened to a lifestyle choice, which was under the control of the individual:

> *"I think you either rely on health care systems to make you well, or you realise that actually most of its down to you"* (PP5).

One midwife, in particular, spoke at length about how in some communities she believed that obesity was considered to be a 'normal' state of being. Celebrity and media influences with their perceived pre-occupation with dieting and slimness were seen as being in another world, exerting a minimal influence on the individual, their family or their community. Obesity, it was reported, was becoming accepted within some communities and therefore this had resulted in the individual not being concerned with their weight:

> *"In some societies it's normal (to be obese). I live in that environment at the moment and I can see who a family of bigger people and they are seem to think it's normal. There are acceptances that yes, all the celebrities (are thin), but they don't seem to strive towards that. They accept and they talk about the celebrities that are skinny, but a lot of the local people that I've seen daily know that the celebrities are in another world, it's almost as though there's a detachment"* (PP1).

This resulted in midwives increasingly becoming concerned that, as the normalisation of obesity increased, there would be less impetus on the individual to change their lifestyle as they are then stepping outside the normal boundaries of their community or family:

> *"They don't seem to be worried about their dress sense; they can wear skinny tops and skinny leggings because leggings are fashionable, and their mate next door is wearing leggings so they will. They don't perceive the fact that they are probably a BMI well a particular a few above thirty-five to forty BMI and they will still wear the same sorts of things as their skinny friends. They don't seem to have that perception or embarrassment about (being obese)"* (PP1).

> *"If you* (the midwife) *are saying to someone: we want you to lose weight for your health and well-being, we want you to change your lifestyle, what we are saying to her is we want you to be different from the rest of your family................ why we need to be very very careful about how we tackle the subject with them. We have to be*

perhaps more sensitive with obesity and weight and lifestyle in our discussions than we have ever had to be with any sexual transmitted illness. Because no one in their family will have HIV, as far as they know, but a lot of people might be obese or overweight or have really appalling lifestyles" (PP10).

When asked to elaborate, this midwife voiced that she felt that this would have an impact on midwifery practice and how midwives approached the topic of weight loss with mothers.

6.6.2 Mothers Perception of Obesity as a Social Phenomenon

The mothers were not overly concerned about the normalisation of obesity within society or communities. Some of the mothers (N=3) discussed how they were more concerned about how "normal" their weight and size were when compared to significant others within their families, friends, work peers and their wider social network. This comparison with selected others impacted greatly on their narratives about their own weight and size. The effect of the size and weight of others around you was reported by the younger participants (N=3) to be particularly significant. It appeared to shape how the mothers felt about themselves. This appeared to be 'relative' and depended on the size of significant others around them:

> *"A lot of my friends were, my close friends were bigger, my sister obviously was bigger, one of my best friends was bigger and so I just didn't feel any different. I felt like I was, I wasn't conscious that I wasn't some skinny one and I was just fat"* (SW5).

> *"I say go to the beach; the last time I was there because there's some real sights on the beach, when I was much much bigger it gave me the confidence to put a bikini on"* (SW5).

> *"I would avoid work nights out, when my friends invited me out, I would say no .... I wanted to see my friends, but I'm just so self-conscious that I wouldn't enjoy the night, I'd be just sat in the room feeling like the elephant in the room, like literally an elephant, because I just felt so big compared to my friends"* (SW6).

Therefore, if they were surrounded by others who were skinnier than they were they expressed feeling less happiness. Conversely, if they were surrounded by other people who were 'larger', then they reported feeling more content.

The media was considered to be discriminatory towards the larger women by using thin models to parade clothing across the digital mediums and through written accounts in articles in magazines and across the social media about celebrities who have lost weight:

> *"In magazines and on the telly, a lower weight is always more desirable and a lower clothes size………….. I think from seeing people on the telly and reading in magazines, oh this celebrity weighs 7 stone 4, you think that anything above 8 stone is like huge"* (SW6).

This produced a pronounced level of stress in some mothers (N=3), where they perceived pressure from several sources to conform to the ideal female shape, which was considered to be thinness:

> *"There's a lot more pressure on nowadays as well from the telly and from society, it's everywhere you look isn't it"* (SW6).

However, not all the mothers viewed the media as negative though; one participant in particular felt that the media helped to normalise obesity by the increased trend of showing overweight celebrities and using larger models:

> *"I don't think there's the pressure to be as slim as we used to be, because I think a lot of the celebrities are now not the twiggy stick thin figure that they used to be"* (SW5).

However, several mothers (N=5) reported feeling under some compulsion to comply with the perceived female stereotype of slimness. They felt under pressure to conform to a perceived ideal body shape:

"But I do feel a lot of pressure to weigh a certain weight …… a lower weight is always more desirable and a lower clothes size" (SW6).

When asked to describe where they perceived this pressure had originated from, some mothers (N=2) reported that they felt this pressure came from outside i.e. through the media and society:

"I still think that there is an expectation that for a woman to be I don't know attractive or ideal you need to be conform to a size twelve which is wrong. I think it's wrong, I think if you asked the odd, you got down and asked individuals they would probably say yes that's wrong and we don't agree with that" (SW5).

"Being skinny is what everyone wants to be, or everyone says they should be" (SW6).

Conversely, several more mothers (N=6) stated how they felt that this pressure came from within. While they stated that they were aware that society and the media celebrated thinness, the mothers felt that they were more influenced by their own internal dialogue, which was the driving force to lose weight:

"But probably most of the pressure to be fair comes from me" (SW5).
"I think I felt my own pressure because I know I am happier when I am slimmer, so no real pressure from anyone else" (SW7).

When asked to elaborate on what had influenced this internal dialogue, the idea of conforming to a certain weight and size appeared to be more prevalent in the younger participants i.e. those under thirty. They were more prone to making comparisons with others and reported that weight and size influenced how they conducted their lives.
To conclude, the overall perception, as discussed by the mothers and midwives, was that obesity is becoming more prevalent in families and communities. This then appears to influence how individuals regard their personal obesity. Extrinsic pressure towards slimness, when it was present, appears to exert an influence, but intrinsic pressure appeared to be

more influential as a driver for weight loss. This lay theory of 'relativeness' expressed through the narratives of the mothers is influential on the mother's perceived norms of body weight and size and could influence any subsequent drive to lose weight. The next section will explore how body weight and size impacts on happiness and mental well-being.

6.7 The Pursuit of Happiness and Mental Well-being

This section aims to explore how body weight and size impacts on happiness and mental well-being of mothers with obesity.

When asked what shape and size they would want to be and why this was, all the mothers (N=13) responded by expressing a wish to be slimmer. This could be expected as the majority of the mothers (N=10) were recruited to participate through Slimming World. However, when asked why they felt like this, they discussed how they would have increased confidence and would look more attractive if they lost their excess weight. While some of the older mothers (N=6) also identified increased health as a perceived goal, overall, the desire to be slimmer was also very much associated with their contentedness with life in general:

> *"The smaller I get the happier I am"* (SW3).

On further questioning, mothers felt that their goal to lose weight would increase their level of happiness. There appeared to be a correlation between weight and happiness, with increased weight loss increasing an individual's level of happiness and vice versa. The mothers who expressed this opinion stated that they experienced increased happiness the slimmer they were:

> *"I can do anything in life. I have got loads more confidence than I ever had; it's weird, more confident when you are not fat. You'd think because you were so fat you would have loads of confidence, because you are a bigger person"* (SW1).

> *"I feel a hell of a lot better about myself now than I did before I started at Slimming World; maybe I was just ready to lose weight"* (SW4).

> *"I don't like being fat, I am never going to be skinny; I know that, I quite happily accept if I am a size 18 for the rest of my life, I would be quite happy. But I don't like being this size, so I am not happy to accept it"* (SW9).

However, not all mothers associated happiness with slimness. One mother in particular spoke about losing weight as a positive experience for her as an individual, but recognised that a person's BMI doesn't necessarily equate with happiness and that happiness came from within:

> *"I don't think it's a healthy BMI that you need, I think you have got to feel better. If you feel better in yourself, it don't matter what BMI you are really does it"* (SW1).

Most of the mothers (N=10) identified how their lives revolved around weight and dieting, especially describing how it had become the focus of their lives. This was probably to be expected as most of the mothers (N=10) were, at the time of the interview, attending a Slimming World group, with the aim to lose weight. The mothers described how their lives were dominated by their desire to lose weight:

> *"It's frustrating more than anything. Because I do want to just be able to be spontaneous and not think about weight e.g. if my husband would say do you fancy a bottle of wine this evening and me not have to think 'oh can I fit it into my diet?'"* (SW9).

> *"This is the trouble; I want to be* (the woman) *that I was when I first met* (my husband) *and when I first met him I was................. I had nice boobs, I was curvy and I felt really confident and lovely – I was happy then - I would love to be that body again"* (SW8).

Some mothers (N=3) described how the aim to secure a loss of weight had become an overwhelming focus at times, where they felt that they had become unhealthily preoccupied with their weight and the desire to lose weight:

> *"My husband saw that when I was going through the Slimming World thing and I do obsess about it, once I'd joined and did obsess, because every week I was getting weighed and he said this is crazy you are just obsessed about your weight. And it does make you obsessed about it in a way that I'm not entirely sure of this whole week, but equally I can't deny that I needed to obsess about it to lose the two stone to start with. I think it's just a case of just being aware that it doesn't become this all-consuming obsession"* (SW5).
> *"I was only a few pounds away from it* (my target weight), *but I remember coming home after I'd got weighed one night and I cried, because I'd put on one pound or something, but I was still only 9 stone 11, or 9 stone 12. But that's how it got me in the end."* (SW6).
> *"And my weight now, everyone keeps saying well if you are happy with the way you are, if you are happy at the size you are now why don't you just stop"* (SW3).

One mother, however, who was also a healthcare professional, while she stated that she was aware of her weight and had felt negative at times, she had not let her weight influence her enjoyment of life or her ability to participate:

> *"I've always been pretty outgoing and I do what I want to do and you take me as you find me, but there are still days when I think "you could make more of an effort" and things like that, but it's never stopped me. It's never stopped me"* (CP2).

However, several mothers (N=6) described how their weight had stopped them participating in certain aspects of their lives and how their lives were 'on hold' until they lost the weight:

"I kind of feel like I've put my life on hold (until I'd lost all the weight) ………………… I just felt like I couldn't do anything or enjoy anything properly until I'd got to what I thought I wanted to be in my head" (SW6).

"I have chatted (on-line) to a few lovely guys and as soon as they say do you want to meet up, I go 'oh no maybe not'. Because the thought of if I walked in and they saw me and they think oh, that would be crushing, so I think let's not go down that road" (SW8).

A negative persona was clearly present in the mothers when they were obese; their self-esteem was reported to be lower before weight loss:

"I don't know. I didn't like myself really, I hated myself. I had low self-esteem, low self-confidence, low self-respect. I am working on it" (CP1).

"I feel a bit like a non-entity being overweight ……………….. "I feel that I have no confidence now, that confident person was when I was slimmer" (SW8).

Most of the mothers (N=9) said they felt more content when they were slimmer and weighed less; once they had managed to achieve a normal weight and BMI their confidence and self-esteem was reported to have improved:

"I am a weight that I think is acceptable…….. I've got a lot more confidence" (SW6).

"It is getting a lot more positive, because now that I have got down to a size 12, I am happy enough with that" (SW3).

Being obese and overweight was often cited by the mothers as being directly associated, not just with less happiness, but with poorer mental well-being. One mother reported poorer emotional well-being as a child but stated that there were many facets of her life,

which were also present during that time. She felt that these could have influenced her response, such as being bullied and frequent house moves, rather than it solely being attributable to her weight and size. However, several participants (N=5) were sure that the depression that they suffered was a direct consequence of being obese:

> *"It does depress me having been overweight. I have always fought with it and I just think it's a vicious circle, because you get depressed because you are overweight, and you overeat because you are depressed"* (SW1).

> *"Well, the problem for me was the fact that it's just another thing for me to be unhappy about, another thing, because when you are already down, because you are feeling fat, it didn't help that I then had that on top of it"* (SW3).

> *"But growing up and during the pregnancy my confidence has hit rock bottom and it's not far off that even now. I have always had an issue, I have always been on depression tablets, it's never been serious, but it's crossed the line into depression, because of my weight"* (OP1).

Obesity and mental well-being appeared to be closely interlinked, with obesity both as a cause of mental ill-health and as a confounding factor in the emotional well-being of an individual. This was confounded by the apparent link between high levels of emotional distress and subsequent poorer healthy eating choices. Self-esteem and self-confidence appeared to increase as weight was lost:

> *"Everyone says I have done fantastic and I have lost nearly a stone and a half in four months. When you feel good everything else feels better, it's like if you feel mentally better everything else is better, it just follows suit"* (SW10).

To conclude, mother's weight, happiness and mental health appeared to be interlinked, with increasing happiness expected to occur with increased weight loss. The next section will explore the narratives of the mothers regarding weight stigma and discrimination.

6.8 Stigma and Discrimination of the Obese Mother

This section aims to explore and discuss the narratives of the mothers regarding their experiences of weight stigma and discrimination. Most mothers recall being exposed to some level of stigma and discrimination, which they attributed to their weight.
Some mothers (N= 4) remembered assumptions being made, which were reported as erroneous, about their diet and level of exercise. They reported that other people had often applied the stereotypical supposition that they were obese because they ate too much, didn't eat healthily enough and couldn't control their eating patterns:

> *"It* (my BMI) *just gives you one snapshot of me for people to make judgments on. I think they* (people) *think you don't eat very healthily" (SW9).*

One mother also described experiencing this level of stereotypical behaviour when registering with a family doctor:

> *"When I registered with the GP practice, they did a tick form on their computer and I could see what they were ticking, but they weren't asking me, and they were ticking the more unhealthy options of the diet, but not really asking. I think people assume that what you eat is junk food and that you don't do any exercise"* (SW9).

This concept of assumptions and prejudgements based on size and weight was also discussed by one mother who also felt that obese individuals were largely ignored by others:

> *"I don't know if it's my perception of it is not right, but I don't think people look at you if you are overweight, people don't really want to listen to you. Unless they know you"* (SW8).

Three mothers also felt that individuals make moral judgments about an obese person based solely on his/her weight and size:

> *"I think that there is a general conception that you are obese, and you have got problems and you can't walk up a flight of stairs, you can't look after your kids, you can't run etc"* (OP1).

This was thought to be a normal response when meeting someone new, whereby an individual makes a quick judgement, a 'first impression', based solely on appearance:

> *"When you meet somebody for the first time you do, and everybody does it, everybody makes a judgment about that person"* (SW2).

> *"People are so horrible; they look at you and think 'oh I bet she had ten pies for her dinner' and things like that"* (SW1).

However, because of the negativity within society about obesity, the results of these instant judgements were reported by the mothers as tending to be deleterious. The mothers stated that they made similar judgements when they met an obese person, especially if they were larger than they were and therefore they were acutely aware of how they were perceived by others.

These stigmatising experiences were reported by the mothers as having had a hugely negative impact on their emotional well-being and self-esteem. They said that they had experienced negative emotions and feelings when subjected to such experiences. When asked to describe how they had made them feel, they used words such as "depressed", "low", "a scumbag" and "crap":

"People are very judgemental. And yes, for me that's quite psychologically hurtful and it does make me come home and think I hate myself" (OP1).

When asked to discuss their thoughts about how they perceived the language used to describe weight and size, all the mothers reported that the words "obese" and "obesity" were felt to be very negative expressions. They tended to use words such as "overweight" or "large" when asked to describe their weight or body size. Some mothers (N=4), who were also healthcare professionals tended to use the term "raised BMI" when they described an obese weight or body size. However, this was not evidenced in the mothers who did not have any prior healthcare knowledge. When asked to elaborate, the mothers felt that hearing the words obesity and obese, especially when targeted at the individual, was negative and this had deleteriously influenced their emotional well-being:

"You have vision of Jabber the Hut don't you, rolls of fat sitting there and it's just like 'oh my goodness'" (SW5).

Throughout the narratives there were many examples of negative language used by the mothers when talking about obesity. The mothers described other people's reactions to their size as overwhelmingly derogatory and reported perceiving such language as "poking fun", "mocking", and "jibes" when asked to describe these encounters. This was summed up by one mother, when she said:

"I think personally with the whole being characterised, labelled, as obese can be quite damning to that individual" (OP1).

When asked about their experiences of discrimination the results were varied, from no examples available, to some mothers (N=3) who vividly remembered examples of stigma and discrimination that they had personally experienced while obese:

"I think once, something was said when I was out with a friend. She's very slim, very shapely, how you expect to see a woman in today's

society, and then because of my size, I was referred to as a lesbian! (laughs nervously) – I know, but only the once" (CP2).

"I joined the TA years and years and years ago and that was a bit embarrassing because the uniforms that we had to wear they didn't do my size in a skirt and I always had to wear trousers. Which is fine: I wasn't really bothered, but on parade you like to think you are a woman, but I always looked like a bloke because I had to wear the blokes' uniform sizes" (SW1).

"When I was big, when I was a traffic warden, there was the odd time when somebody would go 'fat cow', which obviously isn't a nice thing. I remember one guy in particular and he sort of like really, and he just sort of said it but he really said it with such contempt, just complete, and that did hurt" (SW2).

Some of the mothers (N=3) reported how they had learnt strategies to cope with interpersonal encounters of stigma and discrimination. Some of these mothers shared how they had learnt how to cope with the world when obese by developing a strong outward–facing persona or a comic attitude:

"I have always had a bit of a thing about weight ……….. he (her father) *said to me you are putting on a bit of weight. And I turned round to him and said its people like you that make people anorexic. ……….. I have always had a bit of a tongue; I don't like people taking the micky"* (SW4).

"If people say I am obese, and they say you are big, I go 'Yeah, I know!'" (OP1).

"I don't pay any attention………… with my friends I don't think they would be silly enough to mention it (obesity) *around me"* (SW3).

Perceptions about stigma and discrimination tended to vary depending on the relationship between the mother and the person making the comment. Family, friends and colleagues were perceived differently to persons unknown to the individual. On further questioning these mothers stated that knowing the person made the difference in how they were perceived and accepted:

> *"Generally, at work I definitely think it's me that has a problem with my weight more than other people ………… whereas with people at work I am just me ……………. they probably have only ever known me bigger, so they have always known me"* (SW9).

A few mothers (N=3) thought that the media exhibited constant examples of stigma and discrimination towards overweight and obesity at a level that the mothers felt should not be acceptable. They highlighted that they felt this level of stigma and discrimination would not be acceptable if it was aimed at disabled persons for example:

> *"And one thing I have noticed recently is that on the TV, or even in adverts on the radio, it seems to be quite acceptable to poke fun at somebody's size and weight whereas you wouldn't dream of doing it about their race or their disability or anything like that. But if somebody is big …… there are certain things that it seems perfectly acceptable to point out in a mocking way, and that seems perfectly acceptable"* (SW2).

Subsequently, some of those who had lost weight described that they had noticed a difference in how they treated by others now they had lost weight. Even after the initial "congratulations stage" had passed, they reported fewer negative reactions from others. When asked why they felt that this happened, one participant summed this phenomenon as a consequence of how society judges the obese individual:

> "(When you are obese) *I feel like you are a scumbag. That's how you are made to feel, that you are scum that you are not worth knowing"* (SW1).

To conclude, stigmatising and discriminatory experiences were described by several mothers, which had a deleterious effect on their self-esteem. Some individuals reported that they were able to create a strong persona to protect themselves emotionally from the effects of these experiences. The influence of weight stigma appeared to lessen with subsequent weight loss. The next sub-section will explore obesity stigma and discrimination in the maternity services and how it impacts on mothers, midwives and midwifery practice.

6.8.1 Challenging the Perceptions of Midwives and Other Healthcare Professionals

The previous sub-section has documented, as commonplace, examples of negative comments and derogatory perceptions about obesity and obese individuals within society. This section will explore examples of weight stigma present within the maternity services and how it impacts on midwives and mothers, captured through the narratives of the mothers and midwives.

Several midwives (N=8) described in detail instances where they had been involved or overheard other staff when they expressed negative thoughts and opinions about an obese mother on the labour ward. Two participants summed it up as:

> *"If you have a woman coming into the unit with a raised BMI, the midwives will start talking and it's really upsetting .... there will always be a midwife who is going to pass judgement"* (PP9).

> *"They* (the staff) *always treat them nice in front of the women, but their feelings are different to what comes out from their mouths"* (PP6).

The negative narratives usually occurred away from the mothers, in places where women weren't allowed e.g. staff rooms, ward offices and staff changing rooms:

> *"There was a woman with a BMI of about 50 or 52 and her mobility was very impaired, she could hardly move, she couldn't really get out*

of bed very well........... A sort of sense of disgust and 'how could she possibly have allowed herself to get into such a state'" (PP4).

While these comments had not occurred directly in front of the mother, sometimes they were reported to have occurred in places where mothers were present or where other patients/family members possibly could have overheard:

> *"A lot of the comments, not in the room and not to the woman, but in the corridor outside where the handover was taking place from the doctors particularly............... And not being subtle about that at all, you know, anybody could have heard"* (PP4).

> *"I don't think she heard, but there were people walking past and they* (the ones making the comments) *would have had no idea whether one of those people were her birth partner"* (PP4).

However, one mother, who had also been a healthcare professional before having a family, remembered situations where nursing colleagues had made subjective comments about obese patients in their care and so stated that she knew that staff made such comments:

> *"You do hear the nurses talk about patients............. such as 'oh that lady gave me a hard time because I had to spend extra time trying to get her to move on to her side'. And yet she is in because of a fractured leg and you think well yeah but then they go on to say 'oh yeah I had to really hump her'. And there were jibes and it will be about obesity or other things, such as 'oh god she smells'"* (OP1).

Some of the examples were reported by the midwives as being quite upsetting to hear. Such comments as these were remembered by midwives to be unnecessary:

> *"Subjective judgements are not necessary to the provision of good quality care"* (PP4).

One midwife reported feeling quite shocked at hearing a particularly negative conversation in a corridor about an obese mother who was having a caesarean birth:

> *"He* (a doctor) *was talking about how he had to put his scuba diving equipment on to get down there* (to the incision site), *and how they should have got a rubber sheet and put some like fairy liquid on it to move her from one place to the other so that she would slip"* (PP1).

Increasing seniority does not appear to lessen the incidence of derogatory comments; one midwife reported an experience where she received a direct comment from a consultant, which she thought was rude and insulting to the mother:

> *"I remember walking out of the room and one of the consultant obstetricians patted me on the back and said, 'oh well done, you delivered the fat lady'"* (PP12).

The midwives who had identified that they had heard a significant negative discussion about an obese mother were asked whether they had actually challenged the individual or not. Their responses varied. Some midwives (N=3) felt unable to challenge the comments, namely because they were still quite junior, for example. For some, there was the rationale of not wanting to alienate themselves within the team. Some midwives thought that the negative comments could be considered as possibly being normal banter, an element of being part of the close-net culture on labour wards, where cliques existed and where it was important to fit-in and be part of the team:

> *"Maybe it was just a diversion in their day, and they would all just get back to* (work) *and maybe individually they all thought later 'oh god he shouldn't really have said that'.* (But) *they didn't say anything, so we don't know"* (PP1).

One particular midwife, who was in a junior role, had regretted her decision not to challenge the healthcare professional:

> *"I wish I had, I wish I'd said, "that's not very nice", but you know.............. you're a bit worried about it just going to make my position worse"* (PP1).

A small number of midwives (N=2), however, did feel able and willing to challenge the comments:

> *"I remember everyone around the obstetrician was laughing and I just felt so awful. I remember saying 'oh that's a horrible thing to say' and walking off, just feeling really angry that how can someone say that ... I just feel as health professionals we have to be caring and we have to think about the way we speak. Because we're privileged to be in that position that we can care for people and, you know, it just really upset me"* (PP12).

> *"I did have to say to them 'do you think maybe you could just keep your voices down a little bit, you're being very loud and I think your language is probably not appropriate, this is a human being that we're looking after'"* (PP4).

The midwives, who recalled such experiences, were unanimous in their condemnation of such encounters and all described how distressed they felt. One midwife in particular expressed her upset at being involved in such an experience:

> *"And that really stuck in my mind because I remember thinking oh my god, that woman perhaps heard what you said, because the doors on the labour ward you can hear everything. And it wasn't far from the room as well and I just thought the poor woman might have heard what you said, that's awful. And that's one memory that just really sticks to my mind; I just thought that's so awful"* (PP12).

On further questioning, when asked how they felt this could be eradicated within the healthcare arena, a few midwives (N=4) spoke about the value of relational continuity, where healthcare professionals, including midwives and doctors, could get to know the mother behind the obesity:

"I think doctors haven't got that relationship. But then again, they are coming in and they are not always building that relationship up like midwives do. So perhaps there needs to be a bit of continuity with medical staff, have a better relationship with the women and know how they are feeling" (PP2).

And they described how they felt that the concept of relational continuity, where the caregiver could get to know the mother better, could have directly improved the quality of care provided for individual mothers:

"Maybe if you get to know somebody you get more familiar with them. It's obviously a lot easier, because you start to see behind the person. Yeah, you see the person, don't you? Whereas on the ward when people come in so fleetingly there's assumptions made as soon as they walk through the door" (PP1).

Relational continuity was also perceived as a way to indirectly empower obese mothers. An obese mother would be more enabled to voice her concerns, express her opinions and discuss her requirements and needs:

"Because continuity of carer is important (for the woman) ……… *with the correct midwife who will empower her"* (PP9).
"It's been about that individual discussion with the woman ………. it's about feeling your way into the relationship and as you start to build a relationship with her and she starts to trust you, you know what is it appropriate to talk to her about" (PP4).

One midwife took this further and described an example where a lecturer at a university was obviously very obese, yet her size was never an issue, because she was well-respected and admired. Another midwife, who had spent some time as an independent midwife, described how getting to know the mother i.e. continuity changed her perspective about a mother. She felt that the environments that care were given was also influential:

"And having looked after women with higher BMIs who have had home births, you discuss that as part of the birth plan all the way along, about what she would like …… I've always felt that she was a normal healthy woman, but with a slightly higher body weight. So again, it depends very much on the setting" (PP4).

Education was also described by one midwife as the medium for tackling stereotypical behaviour by health care professionals:

"I think it's just educating midwives really ……… I think telling them you need to be careful the way you approach it. I think it's the way education needs to go into it with midwives and just give them confidence. Because I don't think they are confident at all, they see a woman with a raised BMI walk in and they are going to think 'oh gosh'. But they shouldn't, because that will then show, even if they don't want it to, subconsciously that will show to them. So, I think there is a lot of education to midwives that is needed about that to just make them grow in confidence" (PP9).

This section has explored and documented the presence of obesity stigma present within the maternity services and how this impacts on midwives and mothers. It has discussed how relational continuity, where a known midwife provides the care to the mother was regarded as an avenue to reducing the incidence and impact of obesity stigma for mothers with obesity during childbearing.

6.9 Summary

This chapter has discussed the everyday, or lay, theories held by mothers and 'expert' theories held by midwives with regard to the causes of obesity. Midwives tended to focus on trends and concepts at the societal level, where mothers tended to be individually focused. Both cited changes in their roles and lifestyles as potential causes for individual

weight gain; for the mothers this was associated with having children, while for midwives' occupational influences impacted on weight gain.

While the rates of overweight and obesity outrank the rates of normal BMI, the normalisation of obesity was different for both mothers and midwives. Again, the midwives view obesity as becoming normalised within communities and society, whereas the mothers were more concerned with how they fitted in to their world.

In conclusion, this chapter has captured the lifespan experiences of the mother and midwives and the influence on obesity. The mother's perception of their body image pre-pregnancy, during pregnancy and postnatally has been explored along with their perception of obesity and pregnancy. It has been suggested that it is important for the obese woman to be recognised as pregnant rather than obese. Carrying excess weight has been shown to have a deleterious effect on pregnancy symptoms and several mothers were distressed with the amount of weight they retained and the effect on the appearance of their bodies post-birth. Obesity has been shown to have a significant impact on the emotional well-being of women, from levels of happiness to depression, low self-esteem and reduced confidence. The mother's relationships with significant others such as partners and friends had a substantial impact on their perception of their weight and body image.

For midwives they recalled significant incidences of stigma and discrimination with the maternity services and have provided insights into how professionals can challenge this and improve the care provision for the obese mother during childbearing.

This concludes the three data chapters. The next chapter is the discussion chapter which aims to demonstrate how the research has answered the research aims. Through the discussion it will provide the reader with an explanation and exploration of the findings of this study and how the interpretive conclusions were reached, leading into chapter 8, which will provide recommendations for future practice and research.

Chapter 7: Discussion

7.1 Introduction

This discussion chapter endeavours to return the reader to the initial research question of the thesis, with the aim of discussing the results and the findings of the study in the context of the wider literature (Thomas 2017). The chapter will demonstrate how the research has answered the aims of the research study. It will provide the reader with an explanation and exploration of the findings of the study, how the interpretive conclusions were reached and outline the original contribution that this study has contributed to the debates in this field.

The aim of the study was to capture, explore and interpret the experiences of obese mothers during childbearing and the views of the midwives who have experience of providing care for obese mothers as part of their professional role. There were several outcomes expected of this study. First, the study would capture the experiences of obese mothers through the generation of data on the mothers' experiences of obesity and provide an understanding of the experiences of obese mothers during childbearing and their experiences of the maternity services. Second, the study would capture the views and experiences of midwives who care for obese mothers during childbearing and provide an understanding of their experiences. Third, through the analysis of the data generated, the researcher would be able to contribute to theoretical and practice debates within academic and professional arenas. Implications for policy, including midwifery practice, would be identified and which might influence future provision of maternity services and the practise of midwifery. Lastly, the study would identify areas for further research.

The literature review had highlighted the need for more research to understand obese women's experiences of childbearing and capture their opinions and views of the maternity services. It had highlighted the need for a greater understanding of the impact of obesity in pregnancy especially around three key areas, namely postpartum weight retention from excessive GWG, the influence of weight stigma in pregnancy and how lay theory, as applied to pregnancy, lacked the perspectives of obese mothers. The literature review had also highlighted the dearth, at that time, of literature that captured and evaluated the

professional perspective. Literature published since inception of this study has significantly contributed to the debates in these areas.

Through the analysis of the data four strands emerged: the reductionist approach to obesity in maternity care, the nature of lay theories of obesity held by obese mothers, the care and management of mothers with obesity and the midwife's role, and midwifery culture in relation to maternal obesity. These strands and related sub-strands will be evaluated against the existing literature-base, including expert opinion, systematic reviews, primary research and current midwifery practice. The discussion within this chapter will be interwoven around these four strands.

First, the chapter will provide a discussion as to how the maternity care system impacts on the midwife's ability to practice as an autonomous practitioner and how this subsequently constrains the health promotion role of the midwife in the care of the mother with obesity. It will show how this starts at the booking-in appointment, where the mother's BMI is ascertained. The use of BMI as a diagnostic rather than a mere screening tool limits the provision of a holistic assessment of the woman's health at the beginning of the midwife-pregnant woman relationship. This focus on the BMI measure, rather than a more holistic approach, not only results in women with a BMI ≥ 35 (kg/m^2) being placed automatically onto a high risk, medicalised pathway of care, which restricts her choices for birth, but also constrains the midwife's ability to practice as an autonomous practitioner at a moment in the relationship where a proactive and dynamic approach to health promotion can be established.

The chapter will then go on to discuss how once the mother has been placed on the high-risk medicalised pathway, her ability to bring a sense of agency and choice to promoting and supporting her own health is crowded out. What could have been defined as a relationship focused on promoting health and wellbeing of mother and baby instead becomes a relationship of managing risk in a reductionist way. Subsequently, many opportunities to provide holistic and woman-centred health promotion and care are missed, because of how the provision of maternity care is operationalised. There is also an educational shortfall for both mothers and midwives. Mothers require information about obesity, GWG and

childbearing and midwives need support to enable them to impart the necessary information and have meaningful conversations with mothers about obesity, GWG and childbearing. This all impacts on the ability make use of the occasions for health promotion within antenatal and postnatal care encounters and so needs to be addressed. The result is that the opportunities for health promotion offered by the midwife-mother relationship sustained over 7 to 8 months are lost, so that encouraging self-understanding and self-help in managing and minimising GWG and reducing future levels of obesity cannot be achieved. The fact that the definition of the mother-midwife relationship is defined in terms of managing risk makes it harder for both parties to raise obesity issues and this will also be discussed in this chapter. This difficulty is reinforced by other factors: the uncertainty of midwives in raising the issue because of the fears of the mother's response, the reluctance of mothers in raising the issue and their belief it is up to the professional to raise it, plus the nature of the underpinning lay theories of obesity of the mothers. All of these factors reinforce the tendency not deal with the issue.

Finally, this chapter will discuss how midwives wish to facilitate a positive birth experience for the obese mother and, despite being constrained by the maternity service provision, aspire to be able to support the obese mother to 'look forward', rather than focus on past events, which is a more positive and strength-based perspective for both mothers and midwives. The potential for relational continuity of carer (CoC) and alongside midwifery unit (AMU) birth centre provision to reduce stigma and discrimination for the obese mother will be suggested. The chapter will conclude that, paradoxically, placing obese women on a high-risk medicalised pathway, instead of reducing risk, may result in longer-term obesity-related problems.

7.1.1 How the Current Study Adds to the Body of Knowledge: the Original Contribution

Despite the recent increase in interest in maternal obesity reflected in the number of publications, this study makes an original contribution to the body of knowledge by identifying features of maternity care, which are obstructing effective health promotion with obese mothers.

The discussion of the BMI at the 'booking' appointment may not be the right moment, as it coincides with the beginning of the mother-midwife relationship. The current requirement for midwives to screen mothers for obesity at the first antenatal appointment and to assign the obese mother to a high-risk care pathway, constrains the midwife's autonomy to promote individual health and well-being. This reductionist approach to maternity care results in maternal obesity becoming the 'elephant in the room' that no-one wants to discuss, but which is considered to be an important focus of communication by both mothers and midwives. Subsequently, individual conversations about risk and choice are often not undertaken, but when they do, they focus on the reduction of choice for the obese mother. For instance, the high-risk care pathway for the obese mother restricts her choices for birth and precludes the use of an AMU, which subsequently has an impact on birth outcomes.

This study contributes to the body of knowledge by identifying aspects of the mothers lay conceptions of obesity with which healthcare professionals must engage if they are to undertake effective health promotion during pregnancy. Both mothers and midwives have differing perceptions of the usefulness and role of the BMI tool (as a screening tool) and the link between BMI and health during childbearing. Mothers believe their obesity as having a minimal impact on their health during the childbearing years; they regard obesity as having negative consequences on health once they reach middle age. The BMI bandings are perceived by mothers as too broad for individuals to use to monitor weight loss. During pregnancy mothers do not worry too much about weight gain; they perceive that midwives expect gestational weight gain and they see weight gain as an acceptable consequence of childbearing. This study contributes to the body of knowledge by identifying that mothers,

in retrospect, however, were very concerned about their post-partum weight retention and often wish they had received support to minimise excessive GWG antenatally.

Mothers identify various lay theories to explain their current weight; these predominantly focus on the influence of interpersonal relationships and gender roles and need to be addressed by midwives if they are to undertake effective health promotion activities. The approach of the midwife is also important; a forward-looking and positive-approach is a strategy to provide a strength-based style to supporting mothers to manage and minimise excessive GWG during pregnancy. This study also adds to the body of knowledge by identifying the important role that relational continuity of carer (CoC) has on reducing the incidence of stigmatising events through the strengthening of the mother-midwife relationship. The ability to bring all these aspects discussed here together hinges on the importance of relational CoC to facilitate a strong mother-midwife relationship (see figure 7.1).

Figure 7.1: The Original Contribution

The Midwife's Role in the Care and Management of Obese Women in Childbearing

- Support systems of care provision to foster a robust mother-midwife relationship
- Support to undertake sensitive discussions
- Forward-facing, positive-emphasising advice and support
- Changing the focus to minimising excessive GWG with the focus of addressing post-partum weight retention
- Consider re-introducing routine weighing at each antenatal appointment to facilitate a discussion about GWG and lifestyle/diet

The Reductionist Approach to Obesity in Maternity Care:

- Consider reviewing into how BMI is used in the maternity services
- BMI to be part of an individual risk assessment discussion at the 15-week appointment to determine the care pathway allocation
- Positive discourses with Mothers when discussion risk and choice
- Consider terminology used – is BMI relevant to mothers?

Promoting the Role of The Midwife to Enhance the Health and Experiences of the Obese Mother During Childbearing

Midwifery Culture in Relation to Maternal Obesity:

- Recognise the impact of obesity stigma on mother's experiences of labour care e.g. the 'apologising' mother.
- All grades of staff to tackle incidences of judgemental behaviour and stereotyping narratives by healthcare professionals
- Supports the use of AMU's if no co-morbidities or complications are present
- Supports the roll-out of relational CoC schemes to reduce weight stigma

The Impact of Lay Theories of Obesity:

- Midwives encouraged to recognise and utilise the lay theories held by obese mothers
- Providing individually focused advice and support to minimise excessive GWG
- Enhance the educational input by midwives during pregnancy to challenge erroneous lay beliefs

7.2 The Reductionist Approach to Obesity in Maternity Care

This section aims to explore the missed opportunity for midwife-led health promotion due to the reductionist approach evident in the provision of maternity services. It will start by exploring the use of the BMI tool within the maternity services. The section will then go on to explore the impact that a raised BMI has on a mother's choice through the concept of risk.

The assessment of risk is a common component at all stages of the maternity care system in the UK (Healy, Humphreys and Kennedy 2016) and a large part of the midwife's role is to assess risk and assign mothers into evidence-based risk categories (Bryers and van Teijlingen 2010). The focus of modern maternity care is to avoid risk in order to promote safe physical outcomes for the mother and child: this reductionist perspective sits within the medical model of childbirth, which views birth as an unreliable process that is inherently risky (Bryers and van Teijlingen 2010). The medical model privileges the physical above the psychological and emotional outcomes and has adopted risk assessments in order to identify the risks and take measures and apply interventions to minimise their impact (Healy, Humphreys and Kennedy 2016; Bryers and van Teijlingen 2010). However, this approach to maternity care provision results in an oversimplification, where care focuses on surveillance and intervention, rather than salutogenesis, with its focus on generating health (Downe 2010). It also alienates the mother, resulting in negativity towards the health care professionals (Smith and Lavender 2011; Nyman, Prebensen and Flesner 2010). This reductionist approach to care starts at the 'booking' appointment with the assessment of a mother's BMI.

7.2.1 The Calculation and Use of the BMI Tool

The findings of this study suggest that midwives and mothers have differing perspectives on the calculation and the use of the BMI tool, which when reviewed against the existing evidence will enhance the debates in this area.

The calculation and discussion of a woman's BMI has been incorporated into maternity care over the past decade, as part of the range of screening tools used to assess maternal well-

being (RCOG 2011). It is expected that it will be performed by the midwife at the first antenatal appointment - the initial assessment commonly known as the 'booking' appointment, which occurs between eight to twelve weeks gestation (NICE 2008). One aim of this first appointment is for the woman's named community midwife to take a full and comprehensive obstetric, medical and social history from the woman and, through doing this, ascertain her risk status (Baston 2014). Once this risk assessment is completed the woman is then assigned to a specific maternity care pathway and a mother who has a BMI ≥ 35 (kg/m^2) is routinely allocated to a high-risk care pathway, regardless of any other factors determined during this initial assessment (Denison et al 2018; Modder and Fitzsimmons 2010; NICE 2008).

However, other equally important aspects of the 'booking' appointment are to make possible information sharing and exchange and to begin the development of a supportive relationship between the mother and the midwife, which will be sustained throughout the childbearing experience (Deery and Hunter 2010). For many mother's pregnancy is the first contact she will have, as an adult, with the health services and healthcare professionals, so it is important that this first appointment is of high-quality as it will provide the basis for the on-going midwife-mother relationship (Baston 2014; Hunter et al 2008). Mothers in this study all recalled being weighed at 'booking', but many did not remember much of a discussion with the midwife about their BMI. Most of the mothers had heard of the BMI measurement and all of the mothers were aware of the BMI number that signalled obesity i.e. a BMI ≥ 30 (kg/m^2). They regarded the calculation of BMI as an important and a necessary part of a health assessment, when they consulted a healthcare professional. However, their understanding of the significance of their BMI was less apparent. They stated that knowledge of their BMI did not give them any indication of how healthy they were on a personal level. Atkinson and McNamara (2017) found similar perceptions about BMI in obese mothers, where it is something that is 'done to' them at the 'booking' appointment, but nothing is then said or done to address the obesity or provide information about weight management.

All the midwives in this study stated that they always ascertain the BMI of a mother during the 'booking' appointment. Several midwives in the study questioned whether the 'booking'

appointment was the right time to discuss weight and BMI. They felt that for most women weight and BMI was a sensitive topic and one that was too sensitive a subject to be raised at the first encounter with the midwife. While midwives understood their role in providing health promotion in maternity care, they were concerned that the relationship between the mother and the midwife was being compromised by the requirement to discuss weight and BMI at the initial meeting. This supports the conclusions of studies that found that midwives are reluctant to give advice about weight management in pregnancy as they do not wish to undermine the midwife-mother relationship due to the sensitive nature of the topic of obesity (Foster and Hurst 2014; Knight-Agarwal et al 2014; Heslehurst et al 2013a). This study moves the debate forward by identifying the tension between the requirement, on the one hand, for the midwife to diagnose obesity through estimation of the BMI at the 'booking' appointment and refer to consultant-led care, which would include an automatic allocation to a high-risk pathway, and, on the other hand, the obligation to establish a good relationship on which an effective programme of health promotion can be developed. Ascertaining a woman's BMI in early pregnancy is the most opportune time as it identifies pre-pregnancy obesity (RCOG 2011; NICE 2008). However, altering the timing of the discussion to the second appointment, which occurs at fifteen weeks, where the focus of the appointment is to review the mother's risk status once all tests such as the 'booking bloods' and ultrasound dating scans are available, which would include BMI, may facilitate a more informed decision-making discussion and enhance the mother-midwife relationship.

Midwives in the study expressed varying views as to the value of using the BMI assessment tool within childbearing. They were generally quite accepting of its use as an assessment tool and it was thought to provide midwives with quantifiable criteria upon which future care was organised. However, when questioned about this specifically, the midwives were less clear about the link between poor outcomes and a raised BMI during childbearing. They were aware of the increased risks associated with obesity while childbearing, such as increased risk of developing GD, for instance (Faucher and Barger 2015; Li et al 2013; Guelinckx et al 2008; Kristensen et al 2005), but they were unconvinced that a BMI ≥ 35 (kg/m^2) *alone* should necessitate an automatic allocation to a high-risk care pathway. Their misgivings echoed those expressed by others on this aspect regarding the BMI bandings and the links made to ill-health (Nuttall 2015; Chan and Woo 2010). The midwives were keen to

be able to take a more holistic approach to the health assessment of the obese mother and spoke about possibly undertaking or referring mothers for other investigations and assessments following the initial screening of all mothers using the BMI. They wished to be able to have a more customised discussion that included an assessment of diet, exercise and fitness, and collecting data on which to base a more personalised communication would take time and resources. To facilitate a mother to make informed decisions about her pregnancy options, discussions that have the aim to formulate a plan of care for the pregnancy and examine possible care pathway options may be better undertaken during the second antenatal appointment at fifteen weeks, when all obtainable data from investigations and screening tests were available for review.

One critical aspect from the findings in this study is that BMI had little meaning, status or usefulness in mothers' everyday lives. Mothers in this study stated that they did not routinely use the BMI tool to assess weight gain, health status or weight loss. It's significance for them lay in it being recorded at the first appointment with the midwife during early pregnancy. Midwives have a role to educate and inform mothers of the evidence underpinning midwifery care (Bick 2011; Spiby and Munro 2010; Brown, Crawford and Carter 2006), which in this context would include the link between raised BMI, the risk of ill-health and its effect on pregnancy outcomes. BMI could be used, therefore, not just as a screening tool, but as a conversation starter, where it is a method employed to facilitate a discussion about diet, weight and lifestyle with mothers during antenatal appointments with a midwife throughout pregnancy.

BMI was not reported to be routinely used as part of the mother's individual weight surveillance. Mothers stated that the BMI categories are too broad to be useful, for instance when losing weight. Instead, they tended to focus on weight in kilograms or stones/pounds and the subsequent weight loss and changes in dress size, rather than changes in BMI. BMI tended to be calculated after weight loss had been achieved, when comparisons were made between before and after, changes in the BMI category were then made. This raises an important issue for midwifery practice. If midwives are using terminology that mothers do not recognise as significant to them, in order to engage with mother's midwives should consider a shift in their focus to weight, rather than BMI, during conversations with

mothers. Instead of the current practice to use BMI when speaking to mothers, BMI could be reserved for use with mothers to estimate how much pre-pregnancy obesity and/or post-partum weight retention needs to be lost to achieve a normal BMI within post-birth conversations during postnatal care encounters.

Several mothers remembered having their BMI calculated at other encounters with healthcare professionals e.g. practice nurses when accessing contraception e.g. the combined oral pill. Attending for contraception services was often the first time that the mothers had been told what their BMI was since pregnancy and they remembered conversations that motivated them to join Slimming World and lose weight, such as being told they needed to lose weight or they would not be given another prescription for the combined oral contraceptive pill. The mothers therefore viewed BMI as a tool used by healthcare professionals as part of a medical or health assessment, where its significance lay in the hurdle or obstacle it posed. This does not appear to be discussed in the literature and would warrant further research into how it ties into everyday understanding and theories around obesity. How the BMI is used to assess risk and how this impacts on choice for mothers will be developed in the next sub-section.

7.2.2 Risk and Choice for the Obese Mother in Maternity Care

The findings in this study suggest that midwives and mothers have perspectives on risk and choice relating to the care of the obese mother, which when reviewed against the existing evidence will enhance the debates in this area. This sub-section aims to explore how risk impacted on choice for the mothers and the perspectives of midwives in this study.

Some midwives favoured the medical model, especially those who had experienced a long career within the NHS and constructed risk through this lens. However, there were several experienced midwives, who were practising or had practised as independent midwives or in education, whose perspective lent itself to a more social model of childbirth, encompassing a more holistic approach towards childbearing (Davis-Floyd 2001; Edwards 2008) and different construction of risk. Individual perspectives appeared to be dependent on the

midwife's personal philosophy on birth, which itself was shaped by their experiences as midwives in keeping with Walsh (2007).

A mother's BMI at 'booking' determines her care pathway for the rest of the pregnancy (Keenan and Stapleton 2010; NICE 2024b; NICE 2008). In the NHS Trusts employing the midwives who participated in this study, if the mother had a BMI ≥ 35 (kg/m^2) at the 'booking' appointment at 8-10 weeks gestation she was automatically allocated to a high-risk pathway, which was heavily weighted towards an interventionist and medicalised care approach. Keenan and Stapleton (2010) found that healthcare professionals often did not mention obesity as a risk factor during the initial booking interview but used their obesity to risk assess and identify choices available to these women, which tended to be a high-risk pathway. This constrains the choices available for birth; an obese mother, for example, would not be encouraged to birth at home or in an FMU (NICE 2014b), and if she chose to do so, would be doing so 'against medical advice' and outside of accepted guidelines, although an AMU is increasingly being recommended for obese women with no complications or co-morbidities (Denison et al 2018). This echoes the findings of studies and guidance in non-pregnant populations that report that the BMI tool is currently being used as a diagnostic tool, rather than as a screening tool, as it is often the only criteria used to determine levels of risk (Aune et al 2016; Nuttall 2015; Frankenfield et al 2001).

In this study several midwives expressed the opinion that allocating all mothers with a BMI ≥ 35 (kg/m^2) to a high-risk pathway was unfair because they considered it might lead to iatrogenic outcomes since it is a pathway associated with a 'just-in-case' attitude approach leading to relatively high levels of intervention (Hermann et al 2015; Abenhaim and Benjamin 2011). Midwives considered that an allocation to a high-risk pathway precluded mothers from accessing midwifery-led care, which has been demonstrated through research and reviews to promote positive birth outcomes (Sandall et al 2016a). The findings of this study support the perspective that midwives are acutely aware of their function in assessing risk throughout pregnancy and how this influences midwives' practice, and this is not just related to obesity (Edwards 2008; Walsh 2007). They regard their role as gatekeepers to the maternity services but were aware that applying risk criteria in a pre-determined and mechanistic way reduces maternal choice for birth i.e. the more the perceived risk the less

the choices for birth available to the obese mother. This presents a dichotomy between a midwife's role to facilitate choice and her responsibility as a risk assessor.

Midwives, in this study, discussed how they associated varying levels of risk with differing levels of BMI. This is supported by evidence which shows increasing levels of BMI is associated with increasing levels of risk including both morbidity and mortality (Lewis 2007; Grimes 1994), such as the incidence of GD (Chu et al 2007) and complications such as caesarean section (Neumann et al 2017). They stated that the risk in mothers increased as the BMI increased, but thought that there were lower incidence of complications risks and fewer effects in lower levels of obesity i.e. less risk in a mother with a BMI 30-39 (kg/m^2) when compared with those seen in mothers with a BMI 40-50 (kg/m^2). They, therefore, thought that classifying all women with a BMI ≥ 35 (kg/m^2) as high risk, which was the guideline in the Trusts of the midwives in this study, resulted in a reduced choice for all obese women, despite varying and different individual risks. Those midwives who talked about this issue wanted to have the time and ability to screen mothers using other tools in addition to the BMI. They would like to see a more detailed assessment of risk used, which assessed other criteria such as fitness and nutrition, and considered the presence or absence of co-morbidity; they wanted an individualised assessment drawing on multiple indicators. This is supported by Grieger et al (2018) who suggest that screening for the signs and symptoms of underlying metabolic syndrome during pregnancy and managing these as high-risk improves pregnancy outcomes.

Several midwives wanted to be able to give mothers with obesity an individual risk assessment and have a conversation with mothers about their specific risk. They wanted to be able to have a discussion which promoted maternal self-esteem and self-confidence, and one that was empowering and facilitating, rather than restrictive and tick-boxing. This finding echoes the thoughts of mothers in this study, who expressed the desire for more communication about individual risk provided in a sensitive and constructive way. However, if midwives were to be facilitated to provide this aspect of care, it would require longer or more frequent antenatal appointments. The midwives in this study stated that, while it is a core competency of the role of the midwife to be able to provide health education and information (ICM 2011a), further training would be necessary to support them in this role

enhancement and this echoes findings in the existing literature (Arrish, Yeatman and Williamson 2016; Arrish, Yeatman and Williamson 2014; Heslehurst et al 2013b; McNeill et al 2012).

Several midwives in this study were often themselves unconvinced that the risk associated with obesity during childbearing was sufficient to warrant enrolment onto a high-risk care pathway. Midwives were concerned that conversations with obese mothers tended to be too general and were aware that they often lacked detail about the specific risks as applied to the individual mother. This concern expressed by midwives was underpinned with the perceived negative impact that the discussion may have on the mother-midwife relationship. This supports the findings of the qualitative study by Keely, Gunning and Denison (2011), who concluded that mothers need more information on obesity risks in childbearing and that midwives need more support and training to disseminate this information. A review of the literature undertaken by Smith and Lavender (2011) concluded that care for the obese mother should be tailored to the individual, so that the mothers feel that the maternity service is meeting their specific needs.

Conversely, mothers in this study did not regard themselves as at risk during their pregnancy, because of obesity. They felt that their obesity did not influence their choices for birth, and most were happy with the care they received during childbearing. This echoes the findings of the study by Lingetun et al (2017) who reported that mothers in their study using internet-based blogs considered themselves to be normal and did not recognise their obesity as a risk factor, and so did not require support from healthcare professionals to manage or control GWG. Lauridsen, Sandoe and Holm (2018) also questioned whether pregnancy was an appropriate time to target obese women, as they do not see pregnancy as a time for change. This highlights a gap in knowledge of 'risk' of the mother, which needs to be addressed and could be provided by midwives during antenatal care.

To conclude, this section has discussed how this study has identified that the discussion around BMI at the 'booking' appointment may not be the right moment, as it coincides with the beginning of the midwife-mother relationship. Midwives were often not convinced as to the appropriateness of using the BMI during pregnancy and mothers do not always see the

link between raised BMI and ill-health. Mothers regard BMI as a tool used by healthcare professionals and find its categories too broad to make it a useful aid to monitoring weight gain or weight loss. However, BMI is currently used by midwives to assess risk in maternity care and assign mothers to specific care pathways for birth.

This section has highlighted how midwives would like to be able to offer mothers more screening tests and so be able to provide mothers with a care pathway that is individualised, and which recognises the unique differences between mothers of differing BMI. The initial assessment of the BMI, therefore, marks the beginning of the reductionist approach to maternity care, which restricts a mother's choice for birth, but also constrains the midwife's ability to practice as an autonomous practitioner at a moment in the relationship where a proactive and dynamic approach to health promotion could be initiated. Midwives need to review how they view BMI in maternity care provision and how they use BMI to educate, inform and support mothers (see table 7.1).

Table 7.1: The Reductionist Approach to Obesity in Maternity Care - Considerations for Practice

Current Practice	Considerations for Practice
BMI is assessed at the 'booking appointment' at 8-10 weeks gestation and used as a diagnostic test.	BMI is used as a screening test as part of a range of physical and biochemical tests.
Dominance of an obese BMI as an indicator necessitating automatic referral to a high-risk care pathway. Allocation to a pathway occurs following the 'booking' appointment at 8-10 weeks gestation.	BMI is used as a screening test, alongside multiple indicators to determine the appropriate pathway allocation. An individualised review and discussion occurs at the 15-week appointment where decisions regarding care pathways are decided.

The next section will discuss some insights from the experiences of mothers and midwives, such as the lay theories held by obese mothers and the effect of pregnancy on the body image of obese mothers; this discussion will lay the foundations for a discussion on the role of the midwife in caring for the obese mother and minimising excessive GWG.

7.3 Insights from the Experiences of Mothers and Midwives

This section will discuss the experiences of obese mother and midwives in their professional role. It will begin by examining the impact of lay theories of obesity and pregnancy and progress to discuss the normalisation of obesity within society and provide a discussion on body image and pregnancy, as captured from the narratives of mothers with obesity.

7.3.1 The Lay Theories Held by Obese Mothers

The interviews with the mothers in this study revealed that they draw upon a number of lay or everyday theories relating to obesity. Mothers in this study were keen to describe and discuss their own unique experiences relating to their current weight.

Research has established that the predominant expert theories about the cause of obesity are behavioural, such as poor personal eating habits such as eating until overfull; passive eating i.e. eating while distracted; rules about meals and foods originating in childhood experiences and using food as therapy e.g. as a reward (Sawkill, Sparkes and Brown 2013; Brogan and Hevey 2011) or to ameliorate negative emotions (Darbor, Lench and Carter-Sowell 2016; Pool et al 2015). These beliefs are often expressed in and reinforced by the focus of professional intervention which focus on encouraging individuals to change these behaviours (Ogden and Flanagan 2008). Mothers in this study made sense of their obesity partly through a lifespan framework in which obesity is shaped with certain life stages and the adoption of particular roles such as that of partner and mother.

Mothers in this study expressed various lay theories and beliefs, which they felt had influenced their current weight, their level of obesity and their varying success at weight loss. It focused significantly on interpersonal and relational influences. This aspect became important once the mothers' started to 'settle down'; before they met their life partners, they were more active and eating was lower on their priority list, so their weight remained within normal BMI range. This changed during the 'courtship' period when eating-in and cooking became more of a common occurrence and was regarded as one of the primary causes for weight gain in adulthood. Mothers spoke about how, when they became responsible for feeding a partner and a family, food and eating was high on their list of responsibilities. The roles the mothers came to adopt in their lives therefore shaped the

behaviours they enacted. Studies have identified that social relationships and gender roles are important influences on food behaviours e.g. cooking and eating (Lindsay 2015; Devine, Bove and Olson 2000; Charles and Kerr 1988) but have not researched the direct correlation or impact on obesity.

Most mothers in this study reported a perceived connection between how the ability to exercise lessened as they accumulated gender-based roles such as partners/wives and mothers, as fitting any exercise into their increasingly busy lives needed more organisation and preparation than they believed they had time for. They believed that if they had remained as active as they were when they were younger, they would not have gained weight and stated that if they had more time to be more active then this would helped them control or lose their current excess weight. This lack of time and energy radiated throughout the narratives, with mothers also discussing how busy their lives were e.g. juggling caring responsibilities with paid employment. They believed this negatively influenced their ability and motivation to cook meals, eat healthily and exercise enough to control their weight. The link between exercise and weight has been established (Morales, Gordon-Larsen and Guilkey 2016), especially with regard to weight gain and weight loss (Portzer et al 2016; Dryer and Ware 2014), but in this study this has taken a holistic perspective and placed the impact of reduced exercise in adulthood and weight gain within the socio-cultural gender-based arena.

Some mothers in this study subscribed to a skills deficit lay theory. They spoke about how they did not know how to prepare or cook healthy meals, either because of poor knowledge of what constitutes a healthy diet or through poor cooking skills. These factors were often remedied through attendance at Slimming World, which focused on healthy eating and healthy cooking to facilitate weight loss (Barber et al 2013; Stubbs and Lavin 2013; Pallister et al 2009). Others, especially the younger mothers in the current study, spoke about budgetary constraints and the impact this had on providing healthy meals for the family. All these accredited causes often resulted in the mothers resorting to take-out meals. The importance of home cooking skills has been shown to improve the quality of the diet and the resultant health benefits in the short term (Blamey et al 2017; Ducrot et al 2017), but

research suggests the need to study the impact of this in a broader theoretical framework encompassing the wider psycho-social influences on health outcomes.

Mothers in this study reported significant weight gain occurring during pregnancy and childbearing. During the interviews, mothers expressed several lay theories about GWG and obesity in pregnancy. They reported that they expected to gain lots of weight during pregnancy, but that this was GWG due to the developing fetus and bodily changes during pregnancy. While some were concerned about their level of GWG and raised this with healthcare professionals, they were reassured that this was 'normal' and so believed that there was little to be done to manage or minimise excessive GWG during this time. Unless they were already healthcare professionals, mothers in this study did not regard obesity during childbearing as having a potentially negative impact on their health or that of their unborn baby. They expected and believed that they would be able to lose the excess weight promptly after birth, but they found that in reality excessive GWG during pregnancy had been difficult to lose post-partum.

The Health Belief Model examines the influence of lay theories on a person's health knowledge and experience, and through their behaviour, assesses *"the extent to which people are motivated to change their health behaviour"* (Nettleton 2013: 37). It looks at how individuals weigh up the risks and benefits, alongside their personal beliefs about the risks, mirrored against a backdrop of social and cultural influences. Understanding what drives mothers to make changes will inform how midwives approach the topic, deliver the information and support mothers to make changes to the health behaviours (Bowden 2006). The study by Ledoux et al (2017) found that the health beliefs of mothers during pregnancy significantly impacted on rates of GWG, with low levels of knowledge and erroneous health beliefs increasing the risk of excessive GWG. This suggests a necessity on behalf of midwives to be more aware of a mother's psychological feelings about their pregnancy and weight/body image; this is thought to enhance the impact of any support to make lifestyle and behavioural changes provided to an obese mother (Wahedi 2016: Wiles 1998).

Ajzen and Fishbein back in 1980 developed their 'theory of reasoned action', where an individual's intention was an important influence on their ability to make alterations to their lifestyle and where an individual will consider their underpinning beliefs, social pressure and intention to change before a behaviour change is undertaken. Midwives might expect a mother to act promptly on learning about the risks and consequences of unhealthy eating or obesity, but change is based upon a person's individual evaluation of the risk and this is not a quick process (Hill et al 2017; Bowden 2006). The pressure felt by mothers in this study to make lifestyle changes was stated to be particularly strong during the postnatal period, when the mother was more focused on 'regaining her figure' post birth. A more individualised approach during the postnatal period based on the mother's personal motives towards weight loss may improve uptake and success rates. This supports the evolving evidence-base, which suggests that postnatal health promotion interventions are more successful than antenatal strategies (Vincze et al 2017; Bick et al 2015; Van der Pligt et al 2013).

Effective midwifery communication and care becomes possible only when midwives engage with the theories and beliefs of the mother; this is especially important, as Shub et al (2013) discusses, because mothers with obesity often underestimate the consequences of their weight and more importantly the need to minimise excessive GWG. However, Luck-Sikorski, Riedel-Heller and Phelan (2017) suggest that targeting health promotion at the obese individual may have the opposite effect, as regarding obesity as an individual's problem may increase the stigma associated with obesity. Midwives would need to consider the potential stigmatising consequences of any health promotion strategy (Duarte et al 2017; Puhl, Luedicke and Peterson 2013; Puhl, Peterson and Luedicke 2013).

Mothers may be more motivated if the discussion on healthy lifestyles during antenatal care were superimposed onto a background of body image and weight during pregnancy and particularly post birth. The systematic review by Hartley et al (2015) found a direct link between excessive GWG and depression, body image dissatisfaction and a lack of social support. This is especially important as excessive GWG and subsequent post-partum weight retention appears to be particularly difficult to lose (Dinsdale et al 2016). Retained excessive GWG, which is not lost inter-pregnancy, can also negatively impact on the next pregnancy

(Wallace et al 2014; Linne and Rossner 2003) and if subsequently retained post-childbearing can lead to long-term obesity with its associated risks to cardiovascular and metabolic ill-health and psychological distress in later life (Phillips, King and Skouteris 2014). Therefore, minimising excessive GWG reduces the risk of obesity in middle-age and the danger of developing obesity-related disease in later life. Promoting a healthy weight gain and minimising excessive GWG during pregnancy has long-lasting potential health benefits for women, which starts in childbearing (Abrams et al 2017; Atkinson et al 2012); there is a huge potential for midwives to contribute, not only to the health of the mother during childbearing, but to the health of the mother during the remainder of her life.

Midwives need to challenge the lay belief that putting on lots of weight during pregnancy is acceptable and expected, and that losing post-partum weight retention is easily achievable. Mothers often do not feel that during pregnancy they require a discussion about monitoring or minimising excessive GWG, as they expect to gain weight during pregnancy (Murray and Hassall 2014; Groth and Kearney 2009; Schmitt et al 2007). This is echoed in the findings of this study. However, once the mother enters the postpartum period, one of the findings in this study was that mothers wished they had received earlier support to minimise excessive GWG. While there is a dissonance here between what mothers perceive that they want and what they need during pregnancy, it could be hypothesised that mothers will regret not receiving or heeding this antenatal support post-birth. This study has identified that it is important for midwives to engage with and midwives who take a forward-thinking approach to antenatal care would be able to address this deficit.

The mothers in this study stated that they would have appreciated a discussion about post-partum weight retention and healthy eating, plus support to reduce weight and improve their appearance and body image post-birth. This niche, which has not been filled by the maternity services, has been provided by Slimming World, a commercial organisation, which has developed a programme to support mothers during pregnancy and following the birth. The concern expressed by mothers' post-birth about post-partum weight retention is important for midwives and supports current debates (Han, Brewis and Wutich 2016) and policy guidance (Denison et al 2018; NICE 2010). An understanding of the possible consequences for mothers who gain excessive GWG during pregnancy and retain this weight

post-partum i.e. the potential for personal distress at the resultant weight and body shape, increased risk of postnatal depression and a less positive body image post-birth, could be used to direct midwives to influence mothers' behaviours during the antenatal period by focusing on the future. A more forward-looking perspective could be taken by midwives during pregnancy, whereby the midwife encourages the mother to look beyond pregnancy and birth and envisage how she wants to look and feel as a new mother. This concept will be developed further within section 7.4.

An obese mother is less likely to acknowledge discussions around obesity risk and ill-health unless the midwife addresses her lay beliefs about the cause of her obesity and her attitudes regarding weight loss. Thibodeau and Flusberg (2017) favour the use of personal testimonials to influence the development of individuals' lay theories, where the cause and solution to an individual's obesity lies with the individual but is supported by health policy interventions to ameliorate the social and environmental background. A study by Beruchashvili, Moisio and Heisley (2014) evaluated two lay theories, entity theory where individuals believe that personal attributes such as self-control are fixed, as opposed to incremental theory where individuals believe that personal qualities are changeable. This study suggests that in order for an individual to manage and control GWG, it is important that the mother receives individual support, based on an understanding of their lay theories and their motivations for weight management. This echoes the findings of two meta-analyses of lifestyle interventions to manage GWG who found that personalised support for all interventions must consider psycho-social and psychological components and provide individualised and personalised support to maximise effectiveness (Oteng-Ntim et al 2012; Gardner et al 2011), which would include consideration of the lay theories of an individual. Mothers are keen to tell their own story (Nyman, Prebensen and Flensner 2010): this was evident in the interviews and this suggests that midwives should take the time to listen.

To conclude, this sub-section has identified the potential to use the narratives and lay theories held by the obese mother to provide individualised support and guidance to the obese mother during childbearing. This strategy is currently employed successfully within Slimming World, where attendees share their stories with the group to empower and support others. This could be a strategy for midwives to use to underpin the support and

advice they offered to mothers during childbearing. This finding supports the theory of Thibodeau and Flusberg (2017), who endorse the use of personal testimonials, but the findings in this study also advocates the use of a mother's personal narratives. The next sub-section will develop the discussion through an evaluation of the impact of the normalisation of obesity.

7.3.2 The Normalisation of Obesity

The rates of obesity within the UK have steadily increased over the last few decades (PHE 2017); currently combined overweight and obesity rates total almost 70% of the adult population in England (Health Survey for England 2017). Therefore, obesity has moved from a relatively rare occurrence in previous decades to a much more common occurrence. This has influenced how obesity is perceived within families and social networks and it has been demonstrated that this has resulted in a general underestimation of individual obesity and has become less of a driver for weight loss (Muttarek 2018). There is also evidence that obesity is becoming more accepted (Foster and Hirst 2014; Hodgkinson, Smith and Wittowski 2014; Keightley et al 2011; Schmeid et al 2011), although there are simultaneously signs of growing intolerance of obesity (Luck-Sikorski, Riedel-Heller and Phelan 2017; Bombak, McPhail and Ward 2016; Shentow-Bewsh, Keating and Mills 2016; Merrill and Grassley 2008). This sub-section will develop the discussion through an evaluation of the impact of the normalisation of obesity.

The weight of an individual's friends and family has been found to have a significant influence on his/her weight, as it is thought that people have a tendency to want to have a weight near to that of their significant others (Barbieri and Paolo 2015; Strulik 2014; Bagrowitz, Watanabe and Umezaki 2013; Blanchflower, Oswald and Van Landeghem 2009). This echoes the finding within this study where mothers stated that they were not overly concerned about the concept of the normalisation of obesity within society or communities. They were more interested about how "normal" their weight and size were when compared to significant others within their families, friends, work peers and their wider social network. This echoes the findings of a review study which evaluated whether being exposed to images of slim or fat models inspired or disheartened dieters (Papies and Nicolaije 2012),

where midwives stated that they believed that celebrity and media influences, with their perceived pre-occupation with dieting and slimness, were not significant to the individual mother. In this study, this was felt more acutely in the younger mothers, who described instances where they felt so anomalous, when compared to those around them, even to the extent of avoiding certain social situations. This is reflective of the findings of the study by Beeken et al (2018). Even when they were with friends, who they knew accepted them for who they were rather than what they looked like, they still felt uncomfortable and distressed if they were heavier than their friends. If midwives understood how the mothers in their care were influenced by their significant others, then midwives could tailor their support and advice to more fully meet the mother's needs.

However, the older mothers, who were over 40 years of age, in this study were not overly concerned about appearance and did not spend time making comparisons with others in their social and family settings. They were more concerned with the health risks that obesity was associated with as they grew older and discussed how they were trying to lose weight to improve their health and had seen older family members suffering from health challenges that they related to obesity. This has been substantiated in the findings of the study by Beeken et al (2018) and challenges the notion of the normalisation of obesity.
When asked to explain further their drive and motivation to lose weight, mothers in this study spoke about the pressure they felt as women to conform to the social ideal of slimness, but this was more felt intrinsically i.e. the pressure came from within, rather than from any outside pressure, which were not considered to provide relevant comparisons. In this study within certain communities the celebrity and media influences were seen as removed and unrelated to the lifestyle of the obese individual. It appeared, therefore, in this study to have had less influence than is usually reported (Siervo et al 2014; Nash 2012a). Midwives need to tap into this intrinsic drive.

The midwives in this study commented on how they perceived that obesity was more commonplace within the communities in which they practised. They felt that the normalisation of obesity was having a negative impact on their ability to educate and support mothers about GWG. The literature also suggests that midwives are also prone to the effect of the normalisation of obesity as they are becoming used to seeing larger

mothers (McCann et al 2017; Foster and Hirst 2014). This was not reported as an observation by the midwives in this study, but they did discuss how the focus on obesity as an abnormal state becomes less of a driver for change for the obese mother when the majority of people around her, including her family and friends, are also obese. As obesity becomes a more accepted state in modern society, this possibly requires a rethink for midwives with regard to the health promotion strategies they use in their practise (Hill et al 2017). It supports the findings of this study to focus the discussion on an individual basis, where women focus on their lifestyle story and lay theory, as supported by Nyman, Prebensen and Flesner (2010).

This sub-section has identified the normalisation of obesity as a growing issue within society, where overweight and obesity (BMI ≥25 kg/m^2) are becoming more common than normal weight (BMI 20-25 kg/m^2). This has an impact on the health promotion messages, especially regarding individual drivers for making lifestyle changes, such as the issue of 'relativism' within obese mothers during childbearing. The next sub-section aims to add to the discussion by providing insights into body image in pregnancy from the perspectives of the obese mother.

7.3.3 Body Image during Pregnancy

This sub-section aims to explore body image in pregnancy and, through the narratives of the mothers in this study, will show the importance of understanding a mother's body image. This would then facilitate the midwife to provide more individualised support to mothers to adjust to the changes to their body during pregnancy. The findings in this study suggest that the mothers have perspectives on the effect that obesity has on a mother's body image during pregnancy, which when reviewed against the existing evidence will enhance the debates in this area.

The perceived "ideal body" in Western culture is slimness (Nash 2012a; Lorber and Martin 2011; Bordo 1993). Pregnancy is regarded by mothers as a legitimate time to gain weight and relax their attention to conforming to this social ideal. How mothers regard GWG has been shown to be multi-dimensional and very dependent on previous experiences of weight

gain, weight losses and how aware they are of obesity stigma (Jarvie 2017; Siervo et al 2014; Mehta, Siega-Riz and Herring 2011). In this study mothers were more likely to have exhibited a positive body image if they had had a normal weight pre-pregnancy, even if they were now obese. They discussed positive earlier life experiences, which appeared to have created a more robust self-image that was enduring, even if they were now struggling to return to a lower BMI. Conversely, women in this study who reported a more negative body image tended to have been obese throughout their lives. They recalled constantly comparing themselves with others, which they believe had a negative effect on their self-esteem during their formative years. This echoes the findings of Heslehurst et al (2013a) who found that there was a clear relationship between a mother's past experience with her weight and how she felt about her weight during pregnancy. This suggests that there is an opportunity for midwives to address body image concerns with mothers during pregnancy; providing support to mothers to improve their body image has been shown to be protective against depression, especially in mothers who had a normal BMI pre-pregnancy (Seung-Yong, Brewis and Wutich 2016).

The majority of the mothers in this study (N=10) were recruited via Slimming World and therefore could be considered to be very motivated to lose weight, since the focus of Slimming World is to help individuals to lose weight and Slimming World is successful in this respect (Sacher et al 2016; Stubbs et al 2015; Stubbs et al 2013; Lavin et al 2013). The reasons cited by the mothers in this study as to their motives for wanting to lose weight focused on two areas: to enhance their attractiveness to others and/or to improve their health. The older mothers reported they were less influenced by others, while the younger participants discussed personal attractiveness to others as a significant personal driver for their attempts at weight loss. This is comparable with the findings of the study by Siervo et al (2013) who concluded that younger women are more interested in body image and appearance, rather than weight loss per se. Research undertaken by Slimming World (Avery et al 2016; Barber et al 2015; Avery et al 2010; Pallister et al 2010) found that postnatal mothers want to lose their post-partum weight retention in order to feel better about their body size/shape and to improve self-confidence, echoing the findings of this study. It also appears that it takes time for a woman's perception of her body image to catch-up with reality; some participants in this study stated that even once they had lost weight, they

often reported that they still felt fat. Again, the importance of the narrative in the understanding of a mothers' individual journey could help the midwife to support the mother to navigate through her unique and personal childbearing experience.

Mothers in this study, as stated earlier, said they experienced a more positive regard towards their body image during pregnancy. They expressed the perception that pregnancy was regarded as a more acceptable reason to be larger than when non-pregnant, echoing the findings of Smith and Lavender (2011) who found that the obese mother *"felt free from the stigma of being overweight"* (page 784). However, this requires that they be recognised as pregnant rather than just fat, with several mothers in this study reporting feeling relieved once the pregnancy started to 'show'. This echoes the findings of Nash (2012a), who found that once they were seen by others to be pregnant the obese woman could then relax and start to enjoy their pregnancy. Pregnancy is regarded as an excuse for obesity (Lingetun et al 2017).

Neiterman and Fox (2017) mothers spoke about how they felt that they had lost control of their bodies during pregnancy. Following the birth of the baby, a mother is expected to regain control over her body (Hodgkinson, Smith and Wittkowski 2014). While pregnancy is a time for decreased worry about weight gain (Lingetun et al 2017: Smith and Lavender 2011), the postpartum period is regarded as a stressful time for mothers who renew their efforts towards regaining or improving their pre-pregnancy bodies (Smith and Lavender 2011; Clarke et al 2009a). This was substantiated in this study, where mothers recalled not worrying about GWG during pregnancy, as they expected to gain weight during pregnancy and lose it once the baby was born. While mothers were generally accepting of weight gain and changes to their body during pregnancy, many mothers in this study expressed distress and dismay when asked how they felt regarding how much post-partum weight retention they had following the birth. Despite expressing satisfaction with their bodies around its capacity to produce new life, many mothers in this study were unhappy with the resultant change in body shape and weight. Several were amazed at how much weight, which some had been told was just baby weight, was actually retained as fat post-birth, along with stretch marks and saggy stomachs. In this study post-partum weight retention was regarded more negatively post-birth than GWG, even if excessive. Once the excuse of being pregnant

had passed, they were all keen to gain more control over their bodies. Indeed, this is why several mothers stated that they attended a Slimming World group. This echoes the evidence where postnatal mothers expressed more interest in losing weight and adopting healthy lifestyle behaviours (Vincze et al 2017; Bick et al 2015; Van der Pligt et al 2013). In this study several mothers stated that the remit of the midwife was too brief post-birth and they would have liked longer postnatal support from their midwife. This supports the findings of Dinsdale et al (2016) who concluded that postnatal support regarding weight management is just as important as antenatal support. Midwives could extend the length of their professional input post-birth for mothers with postpartum weight retention and work alongside health visitors and general practitioners (GP's).

Postnatally, losing weight increased the happiness and self-esteem of the mothers in this study. Increased rates of anxiety and depression were recalled by the mothers when they were obese, with the obesity being regarded as the cause of their depression. Most mothers in this study reported increasing levels of happiness as their weight reduced; they felt increasingly more attractive and more confident. This finding supports that of Hamermesh and Abrevaya (2013), who found that beauty has a direct correlation with levels of happiness, especially among women, which is probably linked to women's body image, although the effects of obesity stigma lasts beyond the weight loss (Levy and Pilver (2012).

This sub-section has explored body image in pregnancy through a discussion of the narratives of the mothers captured in this study. While this study does not add substantively to the body of knowledge on body image of the obese mother during childbearing, it validates how this knowledge could enhance the role of the midwife in providing more individualised support to mothers to adjust to the changes to her body during pregnancy and post-birth. The postnatal period provides an opportunity for the midwife to support the obese mother to make the necessary lifestyle and behaviour changes to tackle any post-partum weight retention (see table 7.2).

Table 7.2: The Lay Theories Held by Obese Mothers - Considerations for Practice

Current Practice	Considerations for Practice
Minimal acknowledgement of maternal lay theories of obesity by midwives during antenatal care episodes. Generalised non-specific advice regarding lifestyle and health behaviours.	Acknowledgement of the impact of maternal lay theories on the impact of health promotion activities. Individualised support and advice for mothers about changing lifestyle and health behaviour.
Minimal discussions to challenge erroneous lay theories around GWG and post-partum weight retention.	Increased confidence of midwives to challenge the lay beliefs held by obese mothers.
During pregnancy the focus of health promotion is aimed at intrapartum outcomes.	Change the focus to managing and minimising excessive GWG with the focus of addressing post-partum weight retention and postnatal body image.
Antenatal care that focuses on the mother, with scant regard for her significant others.	Provide midwifery care that acknowledges and works with her significant others.
Maternity care that focuses attention on the antenatal and intrapartum periods.	Provide increased postnatal support and extended postnatal care for obese mothers by midwives.

The next section will address areas of interest regarding the midwife's role in the care and management of the obese mother and his/her role in supporting the mother to minimise excessive GWG. It will develop the discussion around the forward-facing perspective introduced earlier in this chapter.

7.4 Care and Management of Maternal Obesity and the Role of the Midwife

The findings of this study suggest that the midwives and mothers have perspectives on the care and management of maternal obesity, which when reviewed against the existing evidence will enhance the debates in this area. This section aims to explore the role of the midwife in the care of mothers with obesity, with the focus on the promotion of health. It will outline a new model of thinking to engage with the obese mother to positively impact

on the effectiveness of midwife-led health promotion activity. Within this section the views of mothers and midwives about GWG will be explored and the role of the midwife in minimising excessive GWG, utilising this new way of thinking.

7.4.1 The Role of the Midwife and the Promotion of Health

One model of public health aims to enable individuals and communities to make lifestyle choices that will reduce morbidity and early mortality thus enabling populations to live healthy and productive lives (Finlay 2006). Health care professionals have had a health promotion role within their professional remit for several decades and midwifery is no exception. The International Definition of a Midwife requires midwives to counsel and educate women and their families on matters relating to childbearing and reproductive and sexual health (ICM 2011a). In the UK the health promotion role of a midwife is regarded as a core midwifery competency and midwives are thought to be in a unique position to deliver health promotional messages to mothers and their families (NMC 2009; Bowden 2006). The role of the midwife is central to the achievement of positive birth outcomes, both physical and psychological (Hoope-Bender et al 2014).

Pregnancy is regarded as a 'teachable moment', where mothers are receptive to health promotion messages (Phelan 2010), although this isn't always supported in the literature (Lauridsen, Sandoe and Holm 2018). However, Layte and Turner (2013) in their Irish study regarded pregnancy as the period where mothers are able to assess their lifestyle behaviours and make changes that will improve the long-term health of both themselves and their families. It is thought that tackling obesity in childbearing mothers, through strategies such as minimising excessive GWG, will improve the health of the mother, reduce maternal ill-health associated with obesity in later life, enhance the health of the children and the improve the health of the wider family unit (Abrams et al 2017; Atkinson et al 2012), although achieving a weight that is within the normal BMI pre-conceptually is thought to be preferable (Hill et al 2017; Mullins, Murphy and Davies 2015).

Midwives in this study were keen to focus on looking forward, rather than looking back. This new insight allows midwives to think differently about the effectiveness of antenatal

appointments with regard to maternal obesity and GWG. The midwives discussed how focusing on the current weight of the obese mother was implicitly focusing on past events of which neither party had any influence upon; backward-looking conversations were regarded as inherently negative and tended to lend itself to a restrictive discussion. The midwives believed looking forward would facilitate a positive and empowering discourse with mothers. The midwives who spoke about a model of forward-facing care saw that counselling mothers about GWG with a forward-facing perspective would strengthen the relationship between the midwife and the woman. This approach could also facilitate the development of more meaningful conversations between mothers and midwives, reducing the reductionist type of conversations (tick-box exercises) between the obese mother and the midwife often seen in current care encounters. The focus would be more evidence-based and focused on the pregnancy and GWG, rather than being subjective and focused on pre-pregnancy obesity.

Midwives in this study stated that when they were able to do so, they appreciated their health promotion function and community midwives in particular saw their role as guiding and educating mothers, rather than telling/instructing. This is comparable with motivational interviewing (MI), which is a counselling method used to encourage individuals to make behavioural changes and has been successfully used within general practice between family doctors (GP's) and obese patients (Carels et al 2007). When used in healthcare, the focus of MI is to encourage shared decision-making between the patient and the healthcare professional, where the discussion aims to encourage the individual to devise a personal action plan towards reaching his/her required goal (Van Buskirk and Wetherell 2014; Lundahl et al 2013). MI has been shown to be effective from the first patient consultation and is increasingly used within midwifery practice arena, such as smoking cessation (Van Buskirk and Wetherell 2014), and is starting to be used by midwives to encourage the adoption of a healthy lifestyle in pregnancy (Warren, Rance and Hunter 2017).

Several midwives in this study spoke about the benefits of changing the narrative to a positive and empowering discourse, rather than a negative and prohibitive one, where mothers were involved in discussions about what options and pathways were available to them across the maternity services. Midwives spoke about how most discussions on choice

usually focused on which choices were not available to the obese mother. Removing this reductionist approach to antenatal care encounters, where the need to allocate a mother to a care pathway based on risk constrains would allow more positive conversations to take place, which would enhance the midwife's health promotion role and address the issue of maternal obesity with the mothers. The concept of taking a forward facing perspective and using a positive narrative would enable the midwife to exploit the opportunities for health promotion offered during midwife-mother encounters over 7 to 8 months, providing the mother with knowledge and skills and encouraging self-understanding and self-help in managing and reducing their obesity beyond the childbearing window. However, in this study it was found that encouraging mothers to focus on the health benefits of any lifestyle or behavioural changes was not a particularly strong motivating factor for mothers during childbearing. While childbearing is considered as an important and unique opportunity for health professionals to provide health messages to a receptive audience (Phelan 2010), how midwives undertake this 'hard sell' during this period of a young woman's life may make the difference between success and failure. This is particularly important as the mothers in this study expected to gain weight during pregnancy. This echoes the evidence within the literature which demonstrates that obese mothers do not regard themselves at increased risk during pregnancy due to obesity (Lingetun et al 2017; Hodgkinson, Smith and Wittkowski 2013; Shub et al 2013; Schmied et al 2011).

The mothers in this study stated that they also believed that midwives anticipated that mothers would gain weight. If the focus of any discussion around minimising excessive GWG solely focused on health outcomes, rather than on appearance and especially postnatal appearance, which was a significant influence on the mothers in this study, then perhaps midwives are missing an opportunity to improve the uptake of advice and support. The uptake of advice and support in the non-pregnant population is traditionally seen as very low (Thibodeau, Perko and Flusberg 2015; Lavin et al 2015; Chan and Woo 2010; Lewis et al 2010). However, as pregnancy is often a time for mothers to reassess their lifestyle some success has been reported with health promoting interventions to control GWG (Fieril et al 2017; Avery et al 2016; Haby et al 2015; Smith, Taylor and Lavender 2014; Adamo et al 2013; Bogaerts et al 2013b; Thangaratinam et al 2012b; Powell and Hughes 2012).

This is a missed opportunity and the findings of this study in combination with others makes a contribution to the debate by suggesting that midwives could tailor their support depending on the motives of the mother at different stages of her pregnancy, considering the mother's lay beliefs and providing person-centred care interventions (Olander et al 2011). This approach would support the lifestyle interventions identified and evaluated in the literature (Fieril et al 2017; Avery et al 2016; Haby et al 2015; Jewell et al 2014; Smith, Taylor and Lavender 2014; Adamo et al 2013; Bogaerts et al 2013b; Thangaratinam et al 2012b; Powell and Hughes 2012).

Effective health promotion depends on understanding and engagement with the conceptualisations and theories held by obese mothers. The medicalised approach to the understanding of the cause of obesity focuses on deficits in individual-led behaviours and lifestyles and regards the subsequent solution as encouraging the obese individual to reduce their dietary intake and increase their exercise levels (Puhl, Peterson and Luedicke 2013; Bacon and Aphramor 2011; Chan and Woo 2010). However, individuals develop their own personal beliefs about the causes of obesity, through their experiences and environment within families, communities and society and these vary with a spectrum of imputed causes from individual to societal (Thibodeau, Perko and Flusberg 2015). Knowing how the individual sees the perceived causes of their obesity will aid the healthcare professional to appreciate the individual's perspective and understanding an individual's drive to change will facilitate the midwife to tailor their advice and approach to improve the impact of his/her health promotion role.

To conclude, this sub-section has discussed the missed opportunities for health promotion by the midwife. Effective health promotion depends on understanding and engagement with the conceptualisations and theories held by obese mothers. It has identified a need to take a more forward-facing, positive discourse with mothers, taking into account personal beliefs and lay theories and the issue of the normalisation of obesity within families and communities.

7.4.2 Midwifery Support to Monitor, Control and Avoid Excessive GWG

A key message from a recent report by the International Federation of Gynaecology and Obstetrics (FIGO) focused on the need for healthcare professionals and service providers to optimise maternal nutrition and health to enhance the health of mothers in the short and long term (Hanson et al 2015). This sub-section aims to discuss the role of the midwife in supporting mothers to monitor, control and avoid excessive GWG.

Pregnancy itself could be regarded to be a possible risk factor to the development of obesity due to the propensity of mothers to gain weight in pregnancy (Van der Pligt, Bick and Furber 2017; Soltani 2009; Sarwer et al 2006; Linne and Rossner 2003; Soltani and Fraser 2002). Research has shown that during pregnancy women usually expect to gain weight over and above the obvious increase provided by the fetus development and physiological adaptations, and expect to lose any weight gain following pregnancy (Keely et al 2017; Murray and Hassall 2014; Olander et al 2011; Smith and Lavender 2011; Groth and Kearney 2009; Schmitt et al 2007) and this was echoed in the narratives of the mothers in this study. This suggests that pregnancy is perceived as a legitimate reason to gain weight.

Schmitt et al (2007) in their meta-analysis suggest that weight gain in pregnancy is inevitable due to hormonal changes and lifestyle behaviour adaptations, plus the development of the fetal-uterine unit as the pregnancy develops. Weight gain during pregnancy consists of the fetus itself and the uterine environment, systemic physiological adaptations e.g. extra circulating blood volume, plus maternal fat stores for labour and breastfeeding (Murray and Hassall 2014). In normal weight mothers it is recommended that they gain between 11 – 16 kilograms (kgs), mainly in the second and third trimesters (Murray and Hassall 2014). However, in the UK recommendations for weight gain in pregnancy have not been determined, although NICE and the RCOG have produced guidelines to help professionals give evidence-based advice about weight management in pregnancy (Denison et al 2018; Modder and Fitzsimmons 2010; NICE 2010). The US Institute for Medicine (IoM) has produced guidelines, which suggest differing levels of weight gain depending on a woman's BMI (ACOG 2013; Riley 2011; Rasmussen et al 2010). The IoM suggest restricting weight gain to between 15-20 lbs (6 – 11kgs) if overweight and to between 11-20 lbs (5 – 9kgs) if obese (ACOG 2013). However, these guidelines have not been shown to produce any positive

effects on perinatal outcomes (Einerson et al 2011) and are not thought to be useful in managing a pregnancy complicated by obesity (Denison et al 2018; Saade 2015). Low levels of GWG and especially weight loss during pregnancy has been associated with increased rates of SgA babies (Cox Bauer et al 2016; Oza-Frank and Keim 2013; Blomberg 2011).

GWG declines with increasing BMI (Power et al 2018) and studies have found that excessive GWG in normal weight mothers is usually more than that in obese women (Mehta, Siega-Riz and Herring 2010). It is thought that, as the latter have already laid down the fat stores necessary for labour and breastfeeding, so the physiological drive to store fat is reduced (Bagheri et al 2012). However, some studies suggest that the obese mother may gain excessive GWG due to psychological consequences of their obesity e.g. depression and body image dissatisfaction (Hartley et al 2015; Hill et al 2016; Hill et al 2013). In this study both midwives and mothers expected GWG; mothers were relaxed about weight gain and regarded pregnancy as a physiologically inevitable and a socially acceptable reason to gain weight and midwives too, expected the mothers to gain weight during pregnancy, because of the necessary growth of the baby and uterus etc.

Pregnant women predominantly obtain information and support through interactions with midwives during antenatal care (Grimes, Forster and Newton 2014) and during routine antenatal appointments mothers expect to receive advice centred on healthy eating in pregnancy (Baston 2014). The midwife is required to discuss the importance of a healthy diet during pregnancy and discuss what foods to avoid, those to eat with caution and those to limit intake, again taking a negative and restricted approach to health promotion. This is in order to promote maternal and fetal health (Modder and Fitzsimons 2010). Studies have demonstrated that midwives do not provide sufficient information on weight or diet, despite mothers expecting and wanting more information and discussion (Nikolopoulos et al 2017; Padmanabhan, Summerball and Heslehurst 2015; Stengel et al 2012).

Many midwives, in this study, stated that they felt confident when advising mothers about GWG. This is in contrast with literature and evidence mainly from the UK and Australia, where midwives have been shown to have a lack of nutritional knowledge related to pregnancy (McCann et al 2017; Arrish, Yeatman and Williamson 2014; Arrish, Yeatman and

Williamson 2016) and would appreciate more training in this area (Wenneberg, Hamberg and Hornsten 2014; Biro et al 2013; Wilkinson, Poad and Stapleton 2013). While confidence in nutritional knowledge may be variable, midwives reported anxiety when discusses GWG with mothers due to the paucity of UK-based national guidance on GWG produced or endorsed by National Institute for Health and Care Excellence (NICE) or the Royal College of Obstetricians and Gynaecology (RCOG) for use by midwives within NHS Trusts. Globally, Scott et al (2014) deliberates the lack of weight policies and the urgent need for guidance. This supports the existing literature-base findings that states that midwives are reluctant to discuss nutrition due to lack of guidance about GWG (Wenneberg, Hornsten and Hamberg 2015; Waring et al 2014; Heslehurst et al 2013b; Wilkinson, Poad and Stapleton 2013; Biro et al 2013).

The study by Stengel et al (2012) suggests that healthcare professionals do not provide effective counselling regarding managing GWG and are therefore unlikely to successful influence the lifestyle behaviour of the obese mother during pregnancy. Mothers want to have the conversations about weight and GWG and felt that midwives needed to be able to discuss this throughout pregnancy, starting in early pregnancy and continuing into the postpartum period (Nikoloulos et al 2017), although this has been recognised as a difficult topic to discuss (Holton, East and Fisher 2017; Smith, Cooke and Lavender 2012). This is supported by the findings in this study, which found that mothers wanted, expected and needed support to minimise excessive GWG, yet did not receive it. Schmied et al (2011) in their Australian-based study also concluded that midwives urgently needed education and training in many aspects of care associated with maternal obesity, such as nutritional advice.

Effective communication by midwives in maternity care is regarded as a key component underpinning safe and effective care (Raynor and Oates 2014; Murphy and King 2013) and to be effective the communication needs to be non-judgemental (Fieril et al 2017). A study by Keenan and Stapleton (2010) identified the conflicting values of both the healthcare professionals as to the causes of obesity and the socio-cultural beliefs of the participants. Often this resulted in communication that was *"crude, blame-inducing, highly insensitive"*, which had the effect of *"hardening and disenfranchising women"* (Keenan and Stapleton 2010:381). A small qualitative study by Furber and McGowan (2009) confirmed that

communication is a key component of care and that poor communication leads to reduced levels of satisfaction. Health care professionals, including midwives, need to communicate effectively and holistically in order to provide effective care (Nyman, Prebensen and Flensner 2010; Furber and McGowan 2009). This was echoed by midwives in this study, who were reluctant to broach the topic of obesity, BMI or GWG, more because this was a sensitive topic, which if undertaken poorly risked negatively impacting on the mother-midwife relationship, rather than a general lack of confidence or knowledge.

Mothers in this study considered communication with midwives as a very important part of the antenatal care they received. However, they expected more of an individual discussion centred on their specific needs. Instead they reported that the discussion was brief and had focused on *"what not to eat".* Mothers in this study recalled that they had expected and would have valued advice and discussion on weight management in pregnancy, healthy eating, exercise and how to minimise excessive GWG, where appropriate. This is an example of a missed opportunity and supports the existing body of evidence supporting a more individualised and comprehensive discussion on healthy eating and controlling GWG during antenatal care encounters (Nikolopoulos et al 2017; Olander et al 2015; Padmanabhan, Summerball and Heslehurst 2015; Stengel et al 2012).

In this study, captured for the first time, is the concept of the *"elephant in the room"*, meaning the subject that no-one wants to raise, but which everyone is aware about. Both midwives and mothers discussed how they had wished to discuss weight during antenatal care encounters, but neither party wanted to initiate the conversation. Some mothers had said that they wanted and had expected to receive health promotion advice about weight management and/or obesity management but did not receive any. They wanted and expected discussions about BMI and GWG, yet they didn't want to raise the topic during antenatal appointments in case they were *'told off'* about their weight for instance. Midwives were unsure how mothers would react to a conversation about weight especially during the first antenatal care encounter i.e. the 'booking' appointment. Obese mothers were perceived by some midwives in this study to be potentially sensitive about weight and BMI. They were therefore unsure as to how the mothers would react to the topic of obesity; they did not want to jeopardise the midwife-mother relationship and so didn't discuss it,

other than to determine the mother's BMI and allocate her to a specific care pathway. In this study some reluctance to discuss BMI and weight also stemmed from the short-term nature of pregnancy and the concept that raising the topic of obesity was fruitless, which may be reduced if the midwife focuses more on reducing excessive GWG. There was also no impetus for the midwives in this study to discuss GWG as the pregnancy unfolded. However, not talking about GWG portrays to the mothers that GWG is considered by midwives to be unimportant during pregnancy; raising the topic during antenatal care encounters would demonstrate to mothers that GWG is worthy of consideration during childbearing. This supports the study by Foster and Hirst (2014) who concluded that during care encounters mothers have a significant influence on whether midwives will discuss obesity and midwives need support to address this issue.

This is a missed opportunity and suggests that midwives need to take the lead in the initiation of conversations relating to BMI and GWG in order to address the health promotion role of the midwife and meet the mothers' needs for information and discussion (Hoope-Bender et al 2014). Communication underpins health education and promotion in midwifery practice, where information, support and advice on health-related topics is transmitted to the mother during care encounters (Concoran 2013; Deery and Hunter 2010). Atkinson and McNamara (2017) in their study regarded this as an "unconscious collusion" concluded that both mothers and midwives were reluctant to talk about weight and BMI and skirted around the subject to avoid addressing the issue. This study regards this as less of an 'unconscious collusion' and more a 'conscious avoidance', as the midwives in this study were aware that they did not utilise the opportunity or autonomy to exercise their full health promotion role. Also, mothers in this study, who's narrative was captured during pregnancy, were not complicit with the midwives, as they stated that they would have been receptive to the advice and support had they received it. This supports the findings by Nikolopoulos et al (2017) who found that mothers would welcome discussions by midwives and that these conversations should begin early in pregnancy and that these conversations with midwives are considered by obese mothers as important so long as the information and support is tailored to the individual mother (Swift et al 2017). However, the evidence suggests that midwives are often reluctant to discuss weight with mothers and are acutely aware of the possible conflict between raising the topic of obesity and the effect on the

mother-midwife relationship (Knight-Agarwal et al 2014; Jewell et al 2014; Wilcox et al 2012). This was highlighted in the narratives of the midwives in this study.

Routine weighing of mothers during the antenatal period as a screening test became common practice post-war; sufficient maternal weight gain was suggestive of adequate fetal growth and maternal nutrition (Farrar and Duley 2007). However, its sensitivity and specificity were inadequate in the detection of growth restricted fetuses, for instance, and during the 1990's a mother was weighed only at the 'booking' appointment and routine maternal weighing at subsequent antenatal visits was discontinued (Dawes, Green and Ashurst 1992; Hytten 1990). However, because of the concerns around rising obesity rates and excessive GWG, it is now recommended that obese mothers are re-weighed during the third trimester (Denison et al 2018; Modder and Fitzsimmons 2010).

There has been a call to re-introduce routine antenatal maternal weighing as a strategy to monitor and minimise excessive GWG (Preston and Norman 2015; Richens 2008). However, the evidence-base to support the efficacy of routine maternal weighing throughout pregnancy is less clear (Devlieger et al 2016). In studies that looked at this topic they found that routine weighing did not have an influence on reducing GWG (Fealy et al 2017; McCarthy et al 2016; Brownfoot, Davey and Kornman 2015) and may cause distress and anxiety in the mothers (Steer 2015; Warriner 2000), although a study by Heslehurst et al (2017) found that obese mothers would welcome frequent weight monitoring during pregnancy and some mothers expect to be weighed during pregnancy (Allen-Walker et al 2017).

As a strategy to raise the opportunity to discuss GWG and counsel a mother about healthy eating and minimising excessive GWG, there may be advantages to re-introducing routine weighing back into antenatal care (Allen-Walker et al 2015; Daley et al 2014; Knight-Agarwal et al 2014). This perspective was echoed within this study; both midwives and mothers raised the topic of weighing mothers at each antenatal care encounter with health care professionals. All the mothers remembered being weighed at booking, but few were re-weighed as the pregnancy progressed, yet many had expected to be re-weighed at each antenatal visit. Some of the midwives in this study supported the re-introduction of routine

re-weighing as a strategy to facilitate a conversation about GWG, which would be meaningful to the mother. The midwives viewed this as a way of raising the topic of GWG at each antenatal appointment and providing on-going health education and advice tailored to the individual mother. It may also be an opportunity to broach *"the elephant in the room"* as part of the forward-facing approach to health promotion during antenatal care encounters with midwives. Time within an antenatal appointment is currently, on average, ten to fifteen minutes per mother, so it is imperative that the midwife makes good use of that time. The practice of routine weighing of mothers at every antenatal appointment and at least once during the postnatal period could be re-introduced in order to guide and focus the discussion between mother and midwife. This would form part of the strategy to minimise excessive GWG and encourage a healthy lifestyle by facilitating the raising of the topic of GWG and enabling an individually focused conversation. This may be part of the solution to tackling *"the elephant in the room"*.

To conclude, this section has identified the missed opportunities for health promotion by the midwife. It has discussed how taking a more forward-facing, positive discourse with mothers could improve the impact of health promotion activity. The midwife's role in regard to monitoring and managing GWG was discussed, likening raising the topic of GWG to *"the elephant in the room";* a topic that neither midwives or mothers wanted to raise in conversation, but which both recognised needed to be discussed. Taking a positive forward-facing perspective, using routine weighing as a means to initiate the conversation is proposed as a way of addressing the *"the elephant in the room"*. Recognising the impact of post-partum weight retention on a mother's body image postpartum must drive midwives to address *"the elephant in the room"* during the antenatal period (Poston 2017).
(see table 7.3).

Table 7.3: Care and Management of Maternal Obesity and the Role of the Midwife - Considerations for Practice

Current Practice	Considerations for Practice
Discussions between mothers and midwives tend to focus on pre-pregnancy obesity, which takes a backward-facing perspective.	Discussions between mothers and midwives should focus on monitoring and preventing excessive GWG, which would take a forward-facing perspective.
Advice and support have a medicalised focus, based on deficits in individual-led behaviours.	Advice and support to have a holistic focus, based on an understanding of individual drivers and motives for change.
General, non-specific focus to discussions around diet, focusing on 'what not to eat'.	More time within antenatal appointments to provide support and advice to minimise excessive GWG.
Routine weighing occurs at 'booking' to calculate the BMI. Obese women are re-weighed during the third trimester and the BMI is recalculated.	Re-introduce routine weighing at each antenatal appointment to facilitate a discussion about GWG and lifestyle/diet.

The next section will focus on midwifery culture and how addressing some of the practise issues could improve the care of the obese mother and enhance outcomes. Continuity of carer (CoC), where the midwife can build a sound mother-midwife relationship, has the potential to improve outcomes through addressing *"the elephant in the room"* and could reduce the impact of institutional and societal stigma and discrimination often experienced by obese mothers.

7.5 Midwifery Culture and Maternal Obesity

The findings in this study suggest that the midwives have perspectives on midwifery culture and maternal obesity, which when reviewed against the existing evidence will enhance the debates in this area. This section aims to explore the concept of midwifery autonomy and its role in the care of obese women during childbearing. It will discuss the value of midwifery-led care in promoting positive birth outcomes and the importance of reducing the iatrogenesis associated with allocating all mothers with a BMI ≥ 35 (kg/m^2) to a high-risk care pathway. The incidence and influence of stigma and discrimination and its link to

midwifery autonomy will be discussed. Ways to facilitate the use of midwife-led initiatives in the care of the obese mother in order to promote safe and positive outcomes, including the reduction in stigma and discrimination, will be evaluated.

7.5.1 The Midwives Role in Facilitating a Positive Birth Experience

Midwifery-led care, as a means to promote good pregnancy outcomes, will be explored as part of the drive to reduce the iatrogenic damage associated with allocating the obese mother to a high-risk care pathway, where she is subjected to the 'cascade of intervention', which increases the risk of instrumental and operative birth with their associated risks (Walsh 2007). Physiological birth is facilitated by an environment, which is safe and secure, facilitated by continuous support in labour and co-ordinated by midwives (Dahlberg and Aune 2013; Swann and Davies 2012).

Autonomy and the ability to practise autonomously is an important facet of all professionals, including midwifery (Warmelink et al 2015; Pollard 2003). The concept of autonomy is fundamental to the definition of a midwife: autonomy originates from the Greek 'autos' meaning self and 'nomos' meaning 'hold sway' and so has its origins in self-governance and, in midwifery practice, goes hand-in-hand with professional accountability (NMC 2018: ICM 2017b). However, the concept of midwifery autonomy is complicated, not least because of the multi-professional hierarchy in the NHS maternity care system in which most midwives in the UK practise. Midwives are required to work within guidelines and policies determined by the employing NHS Trust, and these are underpinned by national guidance, such as NICE guidelines, and often work within consultant-led hospital environments within a maternity care system promoted by the RCOG. The level at which individual midwives are able to exert their autonomy in their day-today clinical practice is dependent on the individual philosophy of the midwife and their place of work i.e. within the NHS or in Independent Practice. Increasing autonomous practice facilitates midwives to provide a high standard of evidence-based care (ICM 2017a).

In this study several midwives discussed a desire to be able to encourage obese mothers to exercise more choice over their desired place of birth. Midwifery-led care in labour was regarded by the midwives as a conduit for facilitating good outcomes for women e.g.

increased rates of spontaneous birth, increased maternal satisfaction, and which is supported in the literature (Sandall et al 2016a). However, if a mother is categorised 'at risk' of complications due to her obesity, currently she is not often enabled to access midwife-led care; she is habitually allocated to a high-risk pathway where her care is consultant-led and follows a medicalised pathway. This precludes her from benefitting from midwifery-led care and often subjects her to a 'just-in-case attitude' towards interventions and procedures (Abenhaim and Benjamin 2011). Examples of this within the study include the use of epidural analgesia just in case they need an operation or the siting of a venflon just in case they have a post-partum haemorrhage (PPH).

The application of midwifery-led care to obese women, however, could improve the rates of normal birth in this group (Swann and Davies 2012; Nagle et al 2011). Hollowell et al (2013) found that multiparous obese mothers who had no complications or co-morbidities may have lower obstetric risks than previously thought. They concluded that the obese mother could be suitable to birth in an AMU, so they could benefit from midwifery-led care, but be close-by a consultant-led environment with access to obstetric and neonatal expertise if required. In this study AMUs were considered by midwives to be suitable birthing environments for women with mild-moderately raised BMI i.e. a BMI between 30-39 (kg/m^2), who had no co-morbidities or complications such as pre-eclampsia or gestational diabetes. NICE (2014b) currently supports the premise that obese mothers with a BMI 30-35 (kg/m^2) should be able to choose the place of birth following a discussion with a healthcare professional. Some of the midwives in this study would support the option of birthing in an AMU for mothers with a BMI of up to 40 (kg/m^2); this would allow mothers to use midwifery-led initiatives such as being able to mobilise and adopt comfortable positions. This could help to reduce the obstetric outcomes seen when obese women were subjected to consultant-led care based solely on their BMI e.g. an increased operative birth rate (Neumann et al 2017), rather than the presence of co-morbidity or obstetric complications. None of the midwives in this study supported obese mothers being encouraged to birth in a FMU due to the distance to a consultant-led environment should complications arise.

Currently, the use of AMU's is only offered to a few mothers with a BMI $\geq$ 30-35 (kg/m^2) within the UK maternity care system (NICE 2014b), although recent guidance suggests using AMU's for obese multiparous mothers with no complications or co-morbidities (Denison et

al 2018). Some of the midwives recalled instances where, with the support of midwifery supervision (NMC 2017a), obese mothers who were wanting a home birth were sometimes offered this option in the interests of increased safety, as a sort of compromise. The findings from this study support a move towards a more individualised risk assessment for the obese mother, which would facilitate a more individualised plan of care. This proposal is substantiated in the literature by studies that have demonstrated that midwifery-led care is a safe alternative for the obese mother who does not develop co-morbidities during pregnancy, but is at increased risk e.g. through obesity (Rowe, Knight and Kurinczuk 2018: Daemers et al 2014; Gottvall et al 2011). In these studies, there was less intervention required for the obese mother during labour e.g. less operative/instrumental births and less use of epidurals as analgesia, with no difference in neonatal hypoxia or perinatal deaths. Therefore, midwifery-led care has been demonstrated to be a suitable model for birth to reduce interventions, while not increasing the risk of adverse birth outcomes for mothers or neonates (Li et al 2015; Daemers et al 2014; Gottvall et al 2011), even in women with high levels of obesity i.e. BMI 35-40 (kg/m^2) (Rowe, Knight and Kurinczuk 2018). The desire to improve the maternity care experience for obese mothers was evident in the narratives of the midwives. All the midwives in this study stated that they wanted to promote normality whenever possible. This supports the findings of studies that have demonstrated that midwives want to utilise midwifery-led care for obese mothers to promote normality and physiological birth against a backdrop of a medicalised high-risk pathway (Kerrigan, Kingdom and Cheyne 2015; Singleton and Furber 2014).

In this section, midwifery autonomy has been shown to be an important facet of a midwife's professional role yet is constrained by the current maternity care provision. Increasing midwife's ability to fulfil their professional role could improve outcomes for the obese mother (Hoope-Bender et al 2014). Midwifery-led care, as a concept to promote good pregnancy outcomes, has been explored as part of the drive to reduce the iatrogenesis associated with allocating the obese mother to a high-risk care pathway. The use of AMUs has increasingly been included in policy guidance as environments where the obese mother can receive midwifery-led care, but be close enough to consultant-led care should the need arise (Denison et al 2018; Rowe, Knight and Kurinczuk 2018). This requires midwives to be able to exercise their autonomy throughout the childbearing continuum. Midwives need to

be empowered to assess risk on an individual basis, make plans with the mother to manage her GWG and be able to facilitate choice for her birth experience, fully addressing *"the elephant in the room"*. The next section will discuss the impact of midwifery-led care on the reduction of stigma and discrimination.

7.5.2 Stigma, Prejudice and Judgementalism among Midwives

Mothers in this study provided many examples of stereotyping, stigmatising and discriminating encounters with healthcare professionals and midwives throughout their lives and during pregnancy, which supports the existing body of literature (DeJoy, Bittner and Mandel 2016; Arden, Duxbury and Soltani 2014; Mulherin et al 2013). In these studies participants spoke about the significant negative impact of these experiences and they were aware of the importance of first impressions, where people made assumptions and voiced negative reactions based solely on their outward appearance. Weight stigma has also been shown to reduce the quality of care provided for obese individuals by healthcare professionals (Phelan et al 2015) and has an effect on pregnancy outcomes (De Joy and Bittner 2015). Phelan et al (2015) found that stereotypical attitudes held by some healthcare professionals towards obese individuals negatively impacts on their decision-making and judgement. This section aims to explore influence of stigma and discrimination within the maternity services, documenting instances of stigmatising conversations across the professions caring for mothers during childbearing. The practical issues of caring for the obese mother and the phenomenon of the *'apologising mother'* will be explored, with the concept of relational continuity of carer (CoC) suggested as a possible strategy to reducing stigmatising and discriminating occurrences.

In this study midwives were asked about the practical difficulties encountered when caring for the obese mother. The midwives spoke about difficulties undertaking an abdominal palpation, obtaining a readable cardiotocograph (CTG) tracing and supporting the anaesthetist with siting an epidural. There were also equipment issues which impacted on a midwife's ability to provide good quality of care e.g. a lack of right-sized beds and blood pressure cuffs etc. Midwives in this study were acutely aware of the possible psychological trauma and distress this could cause to the obese woman. This echoes the existing

literature, which documents midwives' practical difficulties when caring for the obese mother (Holton, East and Fisher 2017; Schmeid et al 2011).

Many of the midwives in this study recalled that mothers with obesity were heard to apologise for being obese. This was particularly seen in the intrapartum period, rather than during other maternity care encounters and has been identified in one other study during childbearing in a study by Singleton and Furber (2014). Most of the midwives who spoke about this in this study were dismayed at the idea that obese mothers were apologising in labour for being obese, while a few thought that it was appropriate for obese mothers to apologise for making a midwife's job more difficult. Evidence suggests that obese mothers feel ashamed of their weight and are acutely aware of possible stigma and disrespect from healthcare providers including midwives (Bombak, McPhail and Ward 2016; Mulherin et al 2013; Furber and McGowan 2011; Nyman, Prebenson and Flesner 2010). Bombak, McPhail and Ward (2016) discuss how the obese mother may feel that she is being blamed for her obesity by being allocated to a high-risk pathway, which she perceives as stigmatising and discriminatory, although healthcare professionals would be allocating women based on medical evidence and guidance. The obese mother perceives that she is receiving differential treatment because of her weight, being punished for her obesity by having her choices constrained and having to endure interventions (De Joy, Bittner and Mandel 2016). Obese mothers appear to be more vulnerable to stigma to obesity stigma (Hodgkinson et al 2016; Brewis 2014); the obese mother may be therefore apologising to ameliorate the situation and possibly to seek to improve the midwife-mother relationship during labour.

In this study midwives reported various examples of judgemental behaviour and stereotyping narratives by healthcare professionals within the maternity services. These tended to be undertaken outside of earshot of the mother e.g. in rest areas and in the midwife-only areas, although some midwives reported that they occurred in busy corridors for instance, with the worry that they may be overheard by passers-by. Midwives in this study reported various difficulties encountered in challenging such behaviours, which was dependent on the midwife's level of experience and status within the team; those with less experience and lower status in the labour ward hierarchy generally found it more difficult to challenge such behaviour. One reason given for such behaviour was that it was regarded as normal labour ward chatter, perceived as part of the labour ward environment, while some

midwives found such occurrences as unnecessary to the provision of good quality care. However, midwives have an advocacy component to their professional role (NMC 2018) and in this study expressed difficulty in being an advocate for a mother with obesity, due to the risk of being ostracised by their peers. There is a documented culture of bullying within the NHS, where midwives do not wish to stand-out from the crowd (Gerrard and Smith 2016; Primanzon and Hogan 2015; Gould 2004) and which negatively impacts on midwives ability to be an advocate for mothers, especially if this care steps outside accepted guidelines. In this study the ability to be a mother's advocate was very dependent on the midwife's personal philosophy around pregnancy and birth, but those who worked in a consultant-led unit were reluctant to challenge the medical hierarchy or their colleagues, which echoes the findings in the literature (Gerrard and Smith 2016; Primanzon and Hogan 2015; Gould 2004).

Continuity of Carer (CoC) is a concept where a single midwife (or a small team of known midwives) provides care to a mother across the childbearing episode, with the midwife acting as the mothers advocate and co-ordinator of her care, referring to specialists and working with the multi-disciplinary team where necessary (Sandall et al 2016b). CoC includes the caseholding model of care, and while it is traditionally applied to low-risk women, examples are available to demonstrate that it can be applied equally to high risk mothers (Sandall et al 2016b; Tracy et al 2013; Sandall, Davies and Warwick 2001). CoC is often referred to as relational continuity, which implies a supportive relationship between mother and midwife. Relational continuity is provided by a midwife through a caseloading or team model, which is either community or hospital-based, and can provide care for low and high-risk mothers (Bohren et al 2017). The main focus is that a mother's care is provided by a single midwife who sees her throughout pregnancy and is her main point of contact, with the midwife being supported by a wider multi-disciplinary team (Sandall et al 2016b). CoC schemes were first suggested in the 'Changing Childbirth' report (DoH 1993) and has more recently been advocated in the 'Better Births' campaign, which recommends that CoC schemes be rolled out across the maternity services (Cumberledge 2016). This is supported by a study by Tracy et al (2013) who demonstrated that caseload midwifery, with CoC as a predominant component, is safe and cost-effective for all mothers regardless of risk.

The power of relational continuity to potentially reduce stigma and discrimination is apparent and this could be routinely incorporated within the current maternity care system. Singleton and Furber (2014) saw CoC as a way to support the obese mother, who they recognised to be vulnerable group requiring the support that a caseholding scheme could provide. In this study the role of relational continuity was regarded by the midwives as an important facet in building sound interpersonal relationships between the obese mother and midwife. Relational continuity is the key to improving mother's satisfaction with their birthing experience through the impact of the improved quality of the midwife-mother relationship (Bohren et al 2017; Richmond and Page 2016; Dahlberg and Aune 2013). This fostering of deeper relationships with obese mothers was considered by the midwives in this study to be important in breaking down barriers, as the midwives gave examples of where the presence of good quality relationships lessened the risk of stigmatisation and discrimination. The role of multiprofessional education to breakdown stereotyping and discriminatory attitudes was also purported as a positive way forward.

Mothers in this study valued the relationship between themselves and their named midwife; those who had experienced seeing the same community midwife during antenatal appointments and postnatal visits were increasingly more satisfied with the mother-midwife relationship and the whole childbearing experience. They thought that they would have felt more comfortable in asking questions about weight and GWG; this could be another component in facilitating a discourse on *"the elephant in the room"* discussed earlier. Relational continuity, through the enhanced mother-midwife relationship, could also reduce the experience of stigma and discrimination perceived by obese mothers in the current maternity care provision, where mothers do not usually receive care from a known midwife (or team of midwives) throughout the childbearing episode. Mothers are often looking for a social, rather than a medical childbirth experience (Parry 2008) and the increase in maternal satisfaction with their care with CoC schemes is substantiated through many recent maternity satisfaction surveys (Redshaw and Heikkila 2010; DH 2007; DH 2004) and midwives have demonstrated that they enjoy working within such schemes (Fenwick 2017). However, the link between relational continuity and maternal satisfaction for the obese mother per se has not been substantiated in the literature and therefore warrants further empirical research (Heslehurst et al 2013a).

This section has explored the incidence and influence of stigma and discrimination within the maternity services and has documented incidences of stigmatising conversations across the professionals caring for mothers during childbearing. The practical problems of caring for the obese mother have been discussed and the phenomenon of the apologising mother explored within this section. Relational continuity, with its focus on the midwife-mother relationship, is proposed as a possible strategy to reduce stigmatising and discriminating occurrences in maternity care (see table 7.4).

Table 7.4: Midwifery Culture and Maternal Obesity - Considerations for Practice

Current Practice	Considerations for Practice
Awareness of the special requirements and equipment needed to care for an obese mother during the intrapartum period.	Recognise the impact of obesity stigma on mother's experiences of labour care e.g. the 'apologising' mother.
Awareness of judgemental behaviour and stereotyping narratives by healthcare professionals within the maternity services and this is regarded as normal labour ward chatter.	All grades of staff to tackle incidences of judgemental behaviour and stereotyping narratives by healthcare professionals within the maternity services.
Automatic referral to consultant-led care (high-risk pathway) for all mothers with a BMI ≥ 35 (kg/m^2) resulting in limited access to midwifery-led care.	Choices for birth to include AMU's for mothers with BMI ≤ 40 (kg/m^2) with no complications or co-morbidities – this would facilitate midwifery-led care.
CoC schemes usually only available to low-risk mothers only and so this precludes obese mothers accessing midwifery-led care.	Relational continuity schemes available to all mothers – this would enhance the midwife-mother relationship and reduce the risk and impact of obesity stigma.

7.6 Evaluation of this Study

This section aims to reflect on the strengths and limitations of this study. It will provide an evaluation and reflection on the sample recruited to participate and the completion of the semi-structured interview. The impact of the participants recruited on the study will also be discussed and evaluated.

7.6.1 Strengths of this Study

This study has added an original contribution to the subject of maternal obesity and has provided insights to stimulate discussion and debate. It has made practice considerations to enrich the experiences of obese mothers during childbearing and has provided proposals to cultivate midwifery practice and enhance the role of the midwife to better meet the needs of the obese childbearing mother.

7.6.2 Limitations of this Study

The initial design of the study was to recruit mothers who were currently pregnant and follow them through their childbearing journey, capturing their experiences as they happened. However, the reality was that few mothers (N=2) agreed to participate during pregnancy. Perhaps, recruiting at the initial booking interview was too early. There may have been many reasons for poor recruitment of participants to the study. For instance, it is recognised that mothers may not be feeling well during the first trimester e.g. morning sickness; they may be 'shocked' at being told they are obese and may not appreciate being singled out to participate in research at this time. 'Booking' is also an appointment where the midwife provides a wide variety of information on a range of different topics and there are lots of decisions to be considered by the mothers at this time. Perhaps the mothers were too overwhelmed with information to consider participating in a research study.

Recruiting from a small midwifery-led unit may have limited the researcher's access to potential participants. However, the midwifery team at the chosen standalone midwifery birth centre also provided the full range of antenatal and postnatal midwifery care to a wide geographical area. This coupled with the researcher's well-established close working relationship with the unit, enabled access to a wide pool of potential recruits.

Difficulties in the recruitment of participants onto research studies that focus of sensitive topics are commonplace and it has been shown to be difficult to recruit women with obesity onto research studies (Heslehurst et al 2013a; Tierney et al 2010; Knight and Wyatt 2010). Tierney et al (2010) experienced difficulties when recruiting obese mothers onto their research study. They found that due to the stigma that obesity attracts the mothers were unwilling to take away their written information and were thought to be reluctant to talk

about their obesity within a research setting. This was echoed in Heslehurst et al's (2013a) study; they found that recruiting mothers into their research, which also focused on obesity, was challenging as the mothers often stated that they felt they would not have anything worthwhile to contribute, despite meeting the study's inclusion criteria.

Where mothers had completed childbearing or had paused between childbearing episodes, this also creates some limitations. One such concern is the self-reporting of the mother's BMI during childbearing. The inclusion criterion was that the participants had a BMI that placed them in the obese category at some time during their childbearing episode(s). However, there was no way for the researcher to verify that the potential participant had a raised BMI during her pregnancy. This would have been difficult to quantify, although access to their maternity or GP records may have resolved this issue. However, the researcher trusted the woman to recall her BMI as truthfully as possible; as obesity stigma is commonplace and this was a sensitive topic, studies has demonstrated individuals are often reluctant to participate (Tierney et al 2010), therefore the researcher saw no reason to believe that the participants were not being truthful.

The retrospective accounts differed in time with varying lengths of time having passed since the participants completed their childbearing episode. This means that the care they received, while interesting, may not reflect current maternity care and may therefore be of dubious relevance. As time had elapsed between their childbearing, there is a potential impact of the recall of the mothers as they remembered their experiences; perceptions may change over time and meanings may only be relevant within a given situation or context (Benner 1994).

The mothers in this study reported that they all regarded themselves to be well and healthy. Their BMI ranged between 30 and 40 (kg/m^2) during childbearing, but they did not regard their level of BMI as a significant risk factor within their childbearing experiences. This may have influenced their perception of obesity as an indicator of poor health. The study sample was self-selecting once they were deemed to be obese; it could be considered that those who did agree to participate had specific viewpoints that they wished to vocalise and that therefore there was a recruitment bias. However, this does not mean that their views were

not valid, but interpretation of the findings needs to take into consideration the women that agreed to participate. The majority of the participants were recruited through Slimming World: the participants were mothers who now wanted to tackle their obesity and believed that it could be changed. This has implications for both the trustworthiness and the interpretation of the findings and also impacts on the transferability of the interpretive discussions. Academic debate and further studies will determine whether they are transferable across the maternity services and are applicable to similar circumstances and environments for both mothers and midwives.

The mothers who participated in the study were all of Caucasian descent, although when the researcher attended the Slimming World groups the attendees reflected of the diverse population of the local areas. The researcher noted that while information packs were given out to a wide range of potential participants of varying ethnic origin, this did not produce a representative sample, which encompassed the experiences of a wide range of ethnicity and culture. Future studies could seek support from local gatekeepers of community groups within areas with higher levels of ethnicity with the aim to recruit a more ethnicity-representative sample.

The mothers who participated in the study were recruited from Slimming World groups located in the East Midlands. Therefore, the views generated and captured in the data are reflective of the population in those geographical areas and may not be representative of other communities. Further studies could seek to recruit from a wider range of Slimming World groups with the aim to recruit a more diverse sample.

The midwives within this study were recruited from across the UK and, due to a constraint of time and funds to conduct face-to-face interviews, several of these interviews were conducted over the telephone. The researcher acknowledges that this is restrictive as body language is unavailable for interpretation from both the researcher and the participant. This potentially may have impacted on the richness of the data collected, although Saura and Balsas (2014) did not regard telephone interviewing to negatively influence the data collection, nor the reliability or credibility of their research study. As the midwife participants were recruited from across the UK, they potentially were practising using

differing local guidelines, which may have impacted on their response to the interview questions and the interpretation of the collected data.

The midwives and the mothers recruited to this study were not known to each other. This perhaps was a limitation as the accounts could not be directly contrasted and compared. However, it might have been an advantage as the data generated could have been limited if the midwife and mother were inter-connected. It would be interesting to conduct a study on obese mothers and the midwives who had provided them with direct care.

7.7 Summary

This chapter has shown how the use of BMI as a diagnostic, rather than a screening tool, short circuits the holistic assessment of the woman's health (and impediments to that) at the beginning of the midwife-mother relationship. The substitution of a more holistic approach to deciding upon the appropriate care for an obese mother for the BMI-focused risk assessment not only results in women with a BMI ≥35 (kg/m^2) being placed automatically onto a high risk, medicalised pathway of care, but also constrains and reduces the midwife's ability to practice as an autonomous practitioner at a moment in the relationship where a proactive and dynamic approach to health promotion can be established. How midwives regard the BMI tool could be reassessed and better use made within midwifery practice to facilitate discussions on healthy lifestyle behaviours.

Once the mother has been placed on the high-risk medicalised pathway her choice is marginalised and the ability to bring a sense of agency and choice to promoting and supporting one's own health is crowded out. Being facilitated to take a more holistic and individualised risk assessment the midwife could practice in a more autonomous way than is currently expected. Rolling out the use of relational continuity schemes and AMU's to promote midwifery-led care can promote optimum birth outcomes for all mothers, including the obese mother. CoC schemes also have the potential to reduce stigma and discrimination due to the strengthening of the mother-midwife relationship.

The definition of the relationship that is about managing risk makes it harder for the midwife to raise obesity issues. This is reinforced by other factors: the uncertainty of midwives in raising the issue i.e. the mothers will be upset or angry; the embarrassment of

mothers in raising the issue and their belief it is up to the professional to raise it. This has been likened to *"the elephant in the room"*. The re-introduction of routine weighing during the antenatal period would give the midwife the opportunity to initiate a discussion about GWG. Further discussions about GWG would ensue and the midwife would be empowered to meet her health promotion obligations. As mothers state that they need help and advice during pregnancy to manage GWG to avoid the distress they perceive post-birth, it is incumbent on the midwife to address the *"the elephant in the room"*. The proposal to take a more forward-facing and positive perspective to the issue of obesity, by focusing on minimising excessive GWG rather than obesity per se, facilitates a more objective discussion and minimises the negative overtones often reported by obese individuals.

Every mother was able to recall their own lay theories around the development of obesity in this study. If a midwife understood the impact of a mother's lay theories, he/she could adapt her health promotion strategy to increase the impact of the health messages. For instance, many mothers thought that appearance and relativity to significant others were more important than the health concerns, especially in the younger aged mother. Obesity and ill-health were regarded as something that occurred in middle-age. The BMI categories were too broad to be meaningful to mothers.

For a midwife to meet her health promotion obligations to address *"the elephant in the room"* would require extra resources, notably more time per antenatal and postnatal appointments, an increase in the frequency of these visits and the ability to provide preconception care and longer post-birth support. This would require a re-think about the provision of antenatal care and postnatal care, although the roll-out of relational continuity schemes may incorporate these automatically, as there is more emphasis on individualised care and the strength of the midwife-mother relationship.

Thus, in summary, this study has added an original contribution to the subject of maternal obesity. The following and final chapter will provide a conclusion to the study through a discussion and evaluation of the practice implications of the findings of this research and an identification of aspects warranting further research.

Chapter 8: Conclusions – Practice Implications and Future Research

8.1 Introduction

The aim of this study was to capture, explore and interpret the experiences of obese mothers during childbearing and the views of the midwives who have experience of providing care for obese mothers as part of their professional role. One outcome of the study was to identify possible implications for policy, including midwifery practice, which could impact the future provision of maternity services and the practise of midwifery. The study would also identify areas for further research.

This chapter will provide a conclusion to this study through a concluding discussion and evaluation of the practice implications of the findings of this research and an identification of aspects warranting further exploration.

8.2 Suggested Practice Implications

Practice Implication One: *In light of the findings of this study consideration should be given to better utilise the assessment of BMI throughout the antenatal period.*

The initial care encounter between the mother and the midwife provides the foundation for the future interpersonal relationship between the mother and the midwife. A robust professional relationship has been shown to promote the effectiveness of the midwife's health professional role and the health promotion role is a key component of midwifery care. The health promotion role of the midwife has been shown to be one which is set to be enhanced and developed as the profession moves forward, despite the current under-usage of this component of care. Discussing weight and BMI at the first antenatal appointment may have a profoundly negative effect on the mother-midwife relationship just at a moment in the relationship where a proactive and dynamic approach to health promotion could be established. Therefore, the first antenatal appointment may not be the best time to discuss the implications of a raised BMI and to do so may negatively impact on the mother-midwife

relationship. This thesis supports the promotion and enhancement of the health promotion role of the midwife, supporting the mother-midwife relationship, where midwives:

- ascertain BMI at the first antenatal appointment at 8-10 weeks gestation, but the discussion with the mother should be moved to the second antenatal appointment at 15-16 weeks gestation
- use the second appointment to discuss the results from the screening tests undertaken at the 'booking' appointment at 8-10 weeks gestation and BMI fits within this remit of screening
- utilise BMI and re-introduce routine weighing during each antenatal appointment as a conversation starter, where it is a method employed to facilitate a discussion about diet, weight and lifestyle with mothers during antenatal appointments with a midwife throughout pregnancy

Practice Implication Two: *In light of the findings of this study consideration should be given to enable midwives to fulfil their health promotion role by using a holistic and individualised approach to the maternity care provision for the obese mother.*

Current discussions in the literature suggest a move from fragmented maternal and newborn care focusing on risk and pathology, towards a preventative and supportive care approach. This would empower mothers to participate and be involved in activities which will promote their health and well-being. Midwives are in the prime position to take the lead during childbearing and utilise their full range of skills and abilities.

The current focus on risk and pathology underpins every antenatal care encounter. Once the mother has been placed on a high-risk medicalised pathway her choices are marginalised for her birth experience. There is no incentive for the mother or midwife to bring a sense of action to the promotion to her own health. For the midwife, health promotion is crowded out due to the focus on risk assessment required by the reductionist and medicalised focus of antenatal care. Once the focus has been skewed towards managing risk at 'booking' this makes it harder for the midwife to raise such issues as weight, GWG or healthy eating, especially when trying to take a positive and forward-facing wellness approach to midwifery

care. Within this study mothers stated that they would like more support to reduce excessive GWG antenatally and so have less post-partum weight retention post-birth. While mothers may relax their control over their weight during pregnancy, once post-birth there is a degree of regret the mothers face regarding their resultant post-partum weight retention. This thesis supports the promotion and enhancement of the health promotion role of the midwife, building on the importance of the mother-midwife relationship, where midwives:

- are provided with time to discuss weight, BMI and lifestyle behaviours with mothers to help mothers to minimise excessive GWG during pregnancy
- adopt forward-facing discussions with mothers that focus on postnatal period and how to prevent post-partum weight retention
- listen and utilise mothers lay theories around obesity to provide an individualised care package
- provide individual risk assessments for each woman based on a range of screening tools

Practice Implication Three: *In light of the findings of the current study consideration to supporting and developing the role of the midwife.*

The primary focus of the midwife's role as the assessor of risk misses an opportunity to use all of the midwife's skills and knowledge. The use of BMI as a diagnostic, rather than a screening tool, limits the ability of the midwife to undertake a holistic assessment of the mother's health during the 'booking' appointment. The midwife does not then make an individual assessment of risk but is required to place the mother automatically onto a high-risk pathway for all mothers with a BMI ≥35 (kg/m^2). This then not only subjects a mother to a medicalised pathway of care, which has been shown to have iatrogenic effect on pregnancy outcomes, but also limits the midwife's ability to practice as an autonomous practitioner. This thesis also supports the evidence that encourages the use of midwifery-led strategies to promote good outcomes, where midwives:

- provides mothers with an individual risk assessment, rather than using a blanket policy of allocating all mothers with a BMI ≥35 (kg/m^2) to a high-risk pathway

- are supported in the provision of midwifery-led strategies to promote physiological birth, including AMUs for obese mothers without co-morbidity or complications
- engage with relational CoC schemes for obese mothers to reduce the impact of weight stigma
- present a positive approach to risk and choice

8.3 Suggested Areas for Further Research

Research Recommendation One: *In light of the findings of this study research needs to be undertaken to ascertain women's perception of BMI.*

The findings of this study suggest that mothers do not use the BMI tool in their personal experiences. They felt that the categories were too vast to be meaningful to assess individual well-being and they regarded BMI as a tool used by healthcare professionals. The BMI bandings were also considered too broad to monitor weight loss. Further research is warranted to determine whether this is reproducible outside of this study.

Research Recommendation Two: *In light of the findings of this study research needs to be undertaken to capture the views of the mothers and the midwives who provide direct care for the mother.*

The findings of this study were based on the experiences of obese mothers and midwives with experience of caring for obese mothers. However, the midwives were not the midwives who had provided actual care to the mothers in the study. It would be interesting to reproduce this study to capture the experiences and perspectives of the obese mother and the midwife who actually provided the care to the obese mother.

8.4 Summary

To conclude, it has been shown in the literature that obesity and excessive GWG impacts both on pregnancy outcomes and later life morbidity and mortality. In the current maternity care system, however, the opportunities for health promotion offered by a robust midwife-mother relationship sustained over 9 to 10 months are lost. The result is the possibility to encourage and support maternal self-understanding and self-help to minimise excessive GWG and reducing post-partum weight retention cannot be achieved. Thus, paradoxically, placing obese women on a high-risk medicalised pathway, instead of reducing risk through the support and management of GWG, results in longer-term obesity-related problems. The role of the midwife during childbearing could have been defined around a relationship focused on promoting the wellness of the mother and baby.

This thesis recommends a reorganisation of the maternity care system to enhance the health promotion role of the midwife, creating a care environment which promotes the mother-midwife relationship built on strategies such continuity of carer. Facilitating the midwife to provide more than a risk assessment approach to care would support mothers to take control of their GWG and have far reaching effects for her health and that of her family. Rolling out the use of AMUs for obese mothers with no complications or comorbidities supported by a known midwife (CoC) would improve pregnancy outcomes, enhance satisfaction and reduce the experience of weight stigma.

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APPENDIX 1: Participation Information Sheets and Consent Forms

1.1 Longitudinal Study Design

NHS Trust Logo

"An Interpretive Exploration of Obese Women's Experiences of Childbearing"

Introduction:

I would like to introduce myself and my research.

My name is Rowena Doughty. I am a midwife currently employed as a senior lecturer at De Montfort University. I am also a research student at De Montfort University studying for a PhD. However, although I am a midwife, I won't be involved in any care that you receive from the maternity services.

What is the Study about?

I am exploring women's experiences of pregnancy and childbearing who, like you, have a raised BMI i.e. a BMI equal to or greater than 30. Women's experiences of childbearing are very important, and I would like you to be involved in this study.

You have just completed your 'booking interview' with your midwife and your midwife has identified you as a potential participant.

What is BMI?

BMI is an abbreviation for Body Mass Index (BMI). BMI is calculated by measuring your height and weight. The calculation of BMI is weight in kilograms divided by your height in metres squared.

BMI is a tool used by healthcare professionals to determine whether you are underweight, normal weight, overweight or obese. A BMI of <18.5 = under weight; a BMI of between 18.5 and 24.9 = normal range; a BMI between 25.0 and 29.9 = overweight or pre – obese, while a BMI equal to or greater than 30 = obese.

Invitation

I would like to invite you to take part in my research study. Before you decide I want you to understand why the research is being done and what it would involve for you.

I would like to meet with you and go through the information sheet with you and answer any questions you have. This should take about 10 minutes.

Part 1 tells you the purpose of this study and what will happen to you if you take part.

Part 2 gives you more detailed information about the conduct of the study.

Please feel able to ask us if there is anything that is not clear.

Part 1:

What is the purpose of the study?

I am exploring women's experiences of pregnancy and childbearing who, like you, have a raised BMI i.e. a BMI equal to or greater than 30. Women's experiences of childbearing are very important, and I would like you to be involved in this study. You have just completed your 'booking interview' with your midwife and your midwife has identified you as a potential participant.

The aim of the study is to explore the experiences of women with a raised BMI during childbearing, including their experiences of maternity services, which will inform health care providers about women's experiences of childbearing.

Why have I been invited?

You have been invited to participate because it has been identified by your midwife that you have a raised BMI i.e. a BMI equal to or greater than 30.

Do I have to take part?

It is up to you to decide to join the study. I will describe the study and go through this information sheet. If you agree to take part, we will then ask you to sign a consent form. You are free to withdraw at any time, without giving a reason. This would not affect the standard of care you receive.

What will happen to me if I take part?

If you consent to be involved I would like to visit you in a place convenient to you and talk with you about your experiences of pregnancy and birth – once at around 24-28 weeks of pregnancy and then again at around 34-38 weeks of pregnancy, plus once more when your baby is around 1-3 months of age. These would occur at a date, time and venue that is convenient to you.

All information will be kept securely and anonymised to protect your identity.

How long these visits will be?

It is difficult to put a time limit on these meetings; the length of time will be controlled by you, so each meeting will be as long as you wish it to be, but on average they will be about an hour long. At these meetings we will discuss your experiences of pregnancy, birth or motherhood.

With your permission I will audio-record the meetings.

Expenses and Payments:

Unfortunately, I don't have a budget to cover expenses etc, but to minimise any expense to you I will meet you somewhere which is convenient to you i.e. in your home.

What else will I have to do?

Nothing, apart from agreeing to meet with me to discuss your experiences.

Consent:

While I would very much like you to agree to be involved, it is very important that you don't feel you have to participate. It is therefore completely up to you whether you choose to be involved - your care during your pregnancy and birth will not be influenced in any way by your decision to participate or not to participate. You are also free to withdraw your agreement at any time and again your care during the rest of your pregnancy and birth will not be influenced by your decision.

What will you gain from participating?

I cannot promise the study will help you, but the information I get from this study will help improve the treatment of childbearing women with a raised BMI.

I hope you will enjoy the experience of being part of a research study and gain satisfaction from knowing that your participation will give health care providers and professionals an insight of your experiences of childbirth, which may influence the way they offer care to others in the future.

What if there is a problem?

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information on this is given in Part 2.

Will my taking part in the study be kept confidential?

Yes. I will follow ethical and legal practice and all information about you will be handled in confidence. The details are included in Part 2.

This completes Part 1: if the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 before making any decision.

Part 2:

What will happen if I don't want to carry on with the study?

If at any time you wish to withdraw from the study, you are free to do so.

Please be assured that your continuing care throughout the rest of your pregnancy and birth will not be affected in any way from not participating or withdrawing that participation once the trial has started.

However, if you withdraw from the study, we will need to use the data collected up to your withdrawal. Information collected may still be used.

What if there is a problem?

Complaints: if you have a concern about any aspect of this study, you should ask to speak to the researcher who will do her best to answer your questions. However, if you remain unhappy and wish to complain formally, you can do so in writing to the researcher's supervisor (Dr Sally Ruane: Room 0.15a, Hawthorn Building, De Montfort University, City Campus, Leicester. LE1 9BH).

Will my taking part in this study be kept confidential?

Any e-mail correspondence will be secured in a separate folder (not on Microsoft Outlook), which will be password protected.

All interviews will be written-up as soon as possible after the event and then the tapes will be securely kept by the University. All information will be secured in an electronic word file and be password protected.

The written information will be anonymised and stored electronically in a password protected word document. Any paper copies will be stored in a secure filing at the University.

Within the final write-up of the research the anonymity of all participants will be maintained through the removal of identifiers e.g. name, age, address and names will be anonymised through the use of a different name.

Only the researcher and the researcher's supervisors will have access to the information.

If you join the study, some parts of your maternity records and the data it contains will be looked at by the researcher.

Involvement of your Midwife:

Your midwife may be aware of your participation in this study, but this will not affect in any way the care and support that she will provide during pregnancy, birth or afterwards.

What will happen to the results of the research study?

Once I have completed the research the findings will be written up and submitted to the university in support of my PhD studies. Any findings that are worthy of note will be shared with other health care professionals through journals and conferences.

Who is organising and funding the research?

There is no funding this research study. It is being supported by De Montfort University.

Who has reviewed the study?

All research in the NHS is looked at by independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by both the De Montfort University Research Ethics Committee and the National Research Ethics Service (NRES).

Any Questions?

If you want to speak with me at anytime you are very welcome to contact me.

Contact Numbers:

Phone: 0116 2078757 (voicemail) or

Email: **rdoughty@dmu.ac.uk**

What Now?

If you are interested in learning more about participating in this study, I will be available to discuss it further when you return to see your midwife to discuss the results of the blood tests that you have just had taken at your next antenatal visit at around 15-16 weeks of pregnancy. Please complete the reply slip below and post it in the enclosed SAE if you wish to participate.

- -

Reply Slip

I am interested in participating in your research study and would like to meet with you after my next antenatal appointment to discuss the study further.

Name: ....

Phone Number: ....

Best time to call? ....

NHS Trust Logo

Centre Number: UHL-11037
Study Number: 11/EM/0156
Patient Identification Number for this study:

CONSENT FORM

Title of Project: **"An Interpretive Exploration of Obese Women's Experiences of Childbearing"** Name of Researcher: **Rowena Doughty**

Component	**Please Initial**
I confirm that I have read and understand the information sheet (version 3 / date: 17-07-11) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my midwifery or medical care or legal rights being affected.	
I understand that data collected during the study may be looked at by individuals from my supervisory team at De Montfort University and from regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.	
I agree to the researcher digitally recording the interviews.	
I agree to the researcher being able to use quotes that will not personally identify me.	
I have also had explained the professional remit of the researcher working within the Nursing and Midwifery Council (NMC) Code of Professional Conduct: Standards for Conduct, Performance and Ethics (2008), including her professional responsibility to report any concerns to her Supervisor of Midwives.	
I am also aware that the researcher will not be involved in my maternity care at any point of my childbearing experience.	
I agree to my GP being informed of my participation in this study.	
I agree to my medical records and obstetric notes being accessed by the researcher and the study Sponsor.	
I agree to take part in the above study.	

Name of Participant:
Date: Signature:

Name of Person taking consent: Rowena Doughty
Date: Signature:

APPENDIX 1: Participation Information Sheets and Consent Forms

1.2 Retrospective Study Design

1.2.1 Mothers

"An Interpretive Exploration of Obesity and Childbearing"

Thank you for expressing an interest in participating in my research study. Before you make any decision, please take some time to read the information contained on the next few pages.

Introduction:

I would like to introduce myself and my research.

My name is Rowena Doughty. I am a midwife currently employed as a senior lecturer at De Montfort University. I am also a research student at De Montfort University studying for a PhD.

What is the Study about?

I am exploring women's experiences of pregnancy and childbearing. I am also interested in the professional perspective to this important topic area and would like to hear about your experiences and views of caring for women who are obese while childbearing.

What is BMI?

As you are aware BMI is an abbreviation for Body Mass Index (BMI). BMI is calculated by measuring your height and weight. The calculation of BMI is weight in kilograms divided by your height in metres squared.

BMI is a tool used by healthcare professionals to determine whether a person is underweight, normal weight, overweight or obese. A BMI of <18.5 = under weight; a BMI of between 18.5 and 24.9 = normal range; a BMI between 25.0 and 29.9 = overweight or pre – obese, while a BMI equal to or greater than 30 = obese.

Invitation:

I would like to invite you to take part in my research study. But before you decide, I want you to understand why the research is being done and what it would involve for you.

Part 1 tells you the purpose of this study and what will happen to you if you take part.

Part 2 gives you more detailed information about the conduct of the study.

Please feel able to ask us if there is anything that is not clear.

Part 1:

What is the purpose of the study?

I am exploring women's experiences of pregnancy and childbearing who, like you, had a raised BMI i.e. a BMI equal to or greater than 30. Women's experiences of childbearing are very important, and I would like you to be involved in this study.

The aim of the study is to explore the experiences of women who had a raised BMI during childbearing, including their experiences of maternity services, which will inform health care providers about women's experiences of childbearing.

Why have I been invited?

You have been invited to participate because when I attended your community group, it was identified that you have a raised BMI i.e. a BMI equal to or greater than 30, when you had your child(ren).

Do I have to take part?

It is up to you to decide to join the study. I will describe the study and go through this information sheet. If you agree to take part, I will then ask you to sign a consent form. You are free to withdraw at any time, without giving a reason.

What will happen to me if I take part?

If you consent to be involved I would like to visit you in a place convenient to you and talk with you about your experiences of pregnancy and birth. This would occur at a date, time and venue that is convenient to you.

All information will be kept securely and anonymised to protect your identity.

How long will this visit take?

It is difficult to put a time limit on this meeting; the length of time will be controlled by you, so that the meeting will be as long as you wish it to be, but on average it will be about an hour long. With your permission I will audio-record the meetings.

Expenses and Payments:

Unfortunately, I don't have a budget to cover expenses etc, but to minimise any expense to you I will meet you somewhere which is convenient to you i.e. in your home.

What else will I have to do?

Nothing, apart from agreeing to meet with me to discuss your experiences.

Consent: While I would very much like you to agree to be involved, it is very important that you don't feel you have to participate. It is therefore completely up to you whether you choose to be involved. You are also free to withdraw your agreement at any time.

What will you gain from participating?

I cannot promise the study will help you, but the information I get from this study will help improve the care offered to childbearing women with a raised BMI.

I hope you will enjoy the experience of being part of a research study and gain satisfaction from knowing that your participation will give health care providers and professionals an insight of your experiences of childbirth, which may influence the way they offer care to others in the future.

What if there is a problem?

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information on this is given in Part 2.

Will my taking part in the study be kept confidential?

Yes. I will follow ethical and legal practice and all information about you will be handled in confidence. The details are included in Part 2.

This completes Part 1: if the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 before making any decision.

Part 2

What will happen if I don't want to carry on with the study?

If at any time you wish to withdraw from the study, you are free to do so.

What if there is a problem?

Complaints: if you have a concern about any aspect of this study, you should ask to speak to the researcher who will do her best to answer your questions. However, if you remain unhappy and wish to complain formally, you can do so in writing to the researcher's supervisor (Dr Sally Ruane: Room 00.16, Hawthorn Building, De Montfort University, City Campus, Leicester. LE1 9BH).

Will my taking part in this study be kept confidential?

All interviews will be written-up as soon as possible after the event and then the tapes will be securely kept by the University. All information will be secured in an electronic word file and be password protected.

The written information will be anonymised and stored electronically in a password protected word document. Any paper copies will be stored in a secure filing cabinet at the University.

Within the final write-up of the research the anonymity of all participants will be maintained through the removal of identifiers e.g. name, age, address and names will be anonymised through the use of a different name.

Only the researcher and the researcher's supervisors will have access to the information.

What will happen to the results of the research study?

Once I have completed the research the findings will be written up and submitted to the university in support of my PhD studies. Any findings that are worthy of note will be shared with other health care professionals through journals and conferences.

Who is organising and funding the research?

There is no funding this research study. It is being supported by De Montfort University.

Who has reviewed the study?

This study has been reviewed and given favourable opinion De Montfort University Research Ethics Committee.

Any Questions?

If you want to speak with me at anytime you are very welcome to contact me, by phone: 0116 2078757 (voicemail) or email: **rdoughty@dmu.ac.uk**

What Now?

If you are interested in learning more about participating in this study, please complete the reply slip below and post it in the enclosed SAE.

- -

Reply Slip

I am interested in participating in your research study and would like to meet/talk with you to discuss the study further.

Name: ....

Mobile Phone Number: ....

Best time to call? ....

University Logo

CONSENT FORM

Title of Project: **"An Interpretive Exploration of Obese Women's Experiences of Childbearing"**

Name of Researcher: **Rowena Doughty**

Component	**Please Initial**
1. I confirm that I have read and understand the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.	
3. I understand that data collected during the study may be looked at by individuals from my supervisory team at De Montfort University, where it is relevant to my taking part in this research. I give permission for these individuals to have access to these records.	
4. I agree to the researcher digitally recording the interviews.	
5. I agree to the researcher being able to use quotes that will not personally identify me.	
6. I have also had explained the professional remit of the researcher working within the Nursing and Midwifery Council (NMC) Code of Professional Conduct: Standards for Conduct, Performance and Ethics (2008), including her professional responsibility to report any concerns to her Supervisor of Midwives.	
7. I agree to take part in the above study.	

Name of Participant:

Date: Signature:

Name of Person taking consent: Rowena Doughty

Date: Signature:

APPENDIX 1: Participation Information Sheets and Consent Forms

1.2: Retrospective Study Design

1.2.2 Midwives

"An Interpretive Exploration of Obesity and Childbearing"

Thank you for contacting me and expressing an interest in participating in my research study. Before you make any decision, please take some time to read the information contained on the next few pages.

Introduction:

I would like to introduce myself and my research.

My name is Rowena Doughty. I am a midwife currently employed as a senior lecturer at De Montfort University. I am also a research student at De Montfort University studying for a PhD.

What is the Study about?

I am exploring women's experiences of pregnancy and childbearing. I am also interested in the professional perspective to this important topic area and would like to hear about your experiences and views of caring for women who are obese while childbearing.

What is BMI?

As you are aware BMI is an abbreviation for Body Mass Index (BMI). BMI is calculated by measuring your height and weight. The calculation of BMI is weight in kilograms divided by your height in metres squared.

BMI is a tool used by healthcare professionals to determine whether a person is underweight, normal weight, overweight or obese. A BMI of <18.5 = under weight; a BMI of between 18.5 and 24.9 = normal range; a BMI between 25.0 and 29.9 = overweight or pre – obese, while a BMI equal to or greater than 30 = obese.

Invitation:

I would like to invite you to take part in my research study. But before you decide, I want you to understand why the research is being done and what it would involve for you.

Part 1 tells you the purpose of this study and what will happen to you if you take part.

Part 2 gives you more detailed information about the conduct of the study.

Please feel able to ask us if there is anything that is not clear.

Part 1:

What is the purpose of the study?

I am exploring women's experiences of pregnancy and childbearing. I am also interested in the professional perspective to this important topic area and would like to hear about your experiences and views of caring for women who are obese while childbearing.

The aim of the study is to explore the experiences of women who had a raised BMI during childbearing, including their experiences of maternity services, which will inform health care providers about women's experiences of childbearing.

Why have I been invited?

You have been invited to participate, because as a health care professional you have had experience of caring for women who are obese during their childbearing episodes.

Do I have to take part?

It is up to you to decide to join the study. I will describe the study and go through this information sheet. If you agree to take part, I will then ask you to sign a consent form. You are free to withdraw at any time, without giving a reason.

What will happen to me if I take part?

If you consent to be involved I would like to visit you in a place convenient to you and talk with you about your experiences. This would occur at a date, time and venue that is convenient to you.

All information will be kept securely and anonymised to protect your identity.

How long will this interview take?

It is difficult to put a time limit on this meeting; the length of the meeting will be as long as you wish it to be, but on average it will be about an hour long. With your permission I will audio-record the meetings.

Expenses and Payments:

Unfortunately, I don't have a budget to cover expenses etc, but to minimise any expense to you I will meet you somewhere which is convenient to you.

What else will I have to do?

Nothing, apart from agreeing to meet / talk with me to discuss your experiences.

Consent:

While I would very much like you to agree to be involved, it is very important that you don't feel you have to participate. It is therefore completely up to you whether you choose to be involved. You are also free to withdraw your agreement at any time.

What will you gain from participating? I cannot promise the study will help you, but the information I get from this study will help influence the care offered and identify ways in which care can be improved for childbearing women with a raised BMI.

I hope you will enjoy the experience of being part of a research study and gain satisfaction from knowing that your participation influence the finished research.

What if there is a problem?

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. The detailed information on this is given in Part 2.

Will my taking part in the study be kept confidential?

Yes. I will follow ethical and legal practice and all information about you will be handled in confidence. The details are included in Part 2.

This completes Part 1: if the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 before making any decision.

Part 2

What will happen if I don't want to carry on with the study?

If at any time you wish to withdraw from the study you are free to do so.

What if there is a problem?

Complaints: if you have a concern about any aspect of this study, you should ask to speak to the researcher who will do her best to answer your questions. However, if you remain unhappy and wish to complain formally, you can do so in writing to the researcher's supervisor (Dr Sally Ruane: Room 00.16, Hawthorn Building, De Montfort University, City Campus, Leicester. LE1 9BH).

Will my taking part in this study be kept confidential?

All interviews will be written-up as soon as possible after the event and then the tapes will be securely kept by the University. All information will be secured in an electronic word file and be password protected.

The written information will be anonymised and stored electronically in a password protected word document. Any paper copies will be stored in a secure filing cabinet and kept at the University.

Within the final write-up of the research the anonymity of all participants will be maintained through the removal of identifiers e.g. name, age, address and names will be anonymised through the use of a different name.

Only the researcher and the researcher's supervisors will have access to the information.

What will happen to the results of the research study?

Once I have completed the research the findings will be written up and submitted to the university in support of my PhD studies. Any findings that are worthy of note will be shared with other health care professionals through journals and conferences.

Who is organising and funding the research?

There is no funding this research study. It is being supported by De Montfort University.

Who has reviewed the study?

This study has been reviewed and given favourable opinion De Montfort University Research Ethics Committee.

- -

What Now?

If you have any questions or want to speak with me at anytime about the study you are very welcome to contact me, by phone: 0116 2078757 (voicemail is available) or by email: **rdoughty@dmu.ac.uk**

I will contact you by email/telephone within the next two weeks to ascertain whether you wish to continue and if so arrange a mutually convenient meeting. Remember you are not under any obligation to participate and even if you do agree to participate you can withdraw that consent at any time.

University Logo

CONSENT FORM

Title of Project: **"An Interpretive Exploration of Obesity in Childbearing" - the professional perspective**

Name of Researcher: **Rowena Doughty**

Component	Please Initial
1. I confirm that I have read and understand the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.	
3. I understand that data collected during the study may be looked at by individuals from my supervisory team at De Montfort University, where it is relevant to my taking part in this research. I give permission for these individuals to have access to these records.	
4. I agree to the researcher digitally recording the interviews.	
5. I agree to the researcher being able to use quotes that will not personally identify me.	
6. I have also had explained the professional remit of the researcher working within the Nursing and Midwifery Council (NMC) Code of Professional Conduct: Standards for Conduct, Performance and Ethics (2008), including her professional responsibility to report any concerns to her Supervisor of Midwives.	
7. I agree to take part in the above study.	

Name of Participant:

Date: Signature:

Name of Person taking consent: Rowena Doughty

Date: Signature:

APPENDIX 2: Semi-Structured Interview Schedules

2.1 Longitudinal Study Design

This is a qualitative study and aims to explore the experiences of obese women during childbearing. The format is semi-structured allowing the participant the freedom to express their views and experiences. There are aims underpinning this study, which are provided as 'bullets' beneath each question.

It is recognised that the researcher wants to create a rich and comprehensive narrative during the interviews, so the questions are purposefully broad allowing the participant to discuss issues pertinent to their experiences and allow the researcher to discuss topics arising during the conversation.

Interview 1 (24-28 weeks): the focus of this interview is to learn about the participant and discuss their experiences of obesity to date.

Tell me about yourself? • Getting to know the participant as a person • Influence of societal beliefs about obesity
Can you tell me about how you found out you were pregnant? • Relationship between self and pregnancy • Relationships with significant others
Can you tell me about you and your weight? • Perception of own body image and weight • Perception of society norms • Experiences of stigma and discrimination • Effect of weight on physical and emotional health
What do you know about the BMI calculation? • Understanding of the BMI score • Relationship between BMI and self • Communications with HCP's about weight
Can you tell me about the care you have received during your pregnancy so far? • Communications with HCP's • Relationships with HCP's • Concerns about the pregnancy

Interview 2 (34-38 weeks): the focus of this interview is to discuss issues arising during the pregnancy and preparations for the birth.

Tell me about the care you have received during your pregnancy so far? • Physical symptoms, medical problems – arising from BMI • Emotional issues – stigma and discrimination • Body image as pregnancy progresses • Concerns about weight on outcome • Maternal satisfaction with maternity care
What are your plans for the birth? • Effect of BMI on plans for birth • Communications with HCP's • Relationships with HCP's
How is your weight influencing the care you are receiving during your pregnancy? • Communications with HCP's • Relationships with HCP's • Satisfaction with maternity care

Interview 3 (1-3 months postpartum): the focus of this interview is to discuss issues arising from the experiences of birth and her adaptation to motherhood.

Tell me about the care you have received during your birth experience? • Communications and relationships with HCP's • Stigma and discrimination experienced during birth • How the BMI influenced the birthing experience • Satisfaction with maternity care
Can you tell me about you and your body? • Perception of 'new' body image and changes following childbirth • Perception of society norms following birth • Effect of weight and body image on physical and emotional health

APPENDIX 2: Semi-Structured Interview Schedules

2.2 Retrospective Study Design

2.2.1 Mothers

This is a qualitative study and aims to explore the experiences of obese women during childbearing. The format is semi-structured allowing the participant the freedom to express their views and experiences. There are aims underpinning this study, which are provided as 'bullets' beneath each question.

It is recognised that the researcher wants to create a rich and comprehensive narrative during the interviews, so the questions are purposefully broad allowing the participant to discuss issues pertinent to their experiences and allow the researcher to discuss topics arising during the conversation.

Tell me about yourself?

- Getting to know the participant as a person

Can you tell me about your journey regarding your weight?

- Perception of own body image and weight
- Perception of society norms
- Influence of societal beliefs about obesity ***(How influenced are you by society and the media with regard to your weight/shape?)***
- Experiences of stigma and discrimination – work, relationships etc ***(Have you ever experienced any stigma or discrimination related to your weight?)***
- Effect of weight on physical and emotional health ***(How has your weight influenced your physical or emotional health?)***

What do you know about the BMI calculation?

- Understanding of the BMI score
- Relationship between BMI and self
- Communications with HCP's about weight ***(What communication have you had with healthcare professionals about your weight/BMI?)***

Can you tell me about the care you received during your pregnancy?

- Communications with HCP's ***(What did the midwife tell you about your BMI?)***
- Relationships with HCP's ***(Did your BMI influence your relationship with your midwife? If so, how?)***
- Concerns about the pregnancy

- Physical symptoms, medical problems – arising from BMI ***(How did your BMI influence your health or wellbeing during pregnancy?)***
- Emotional issues – stigma and discrimination
- Body image as pregnancy progresses ***(How did your body image change as your pregnancy/ies progressed?)***
- Maternal satisfaction with maternity care ***(How would you describe your overall satisfaction with your maternity care? What could be improved?)***

Can you tell me about how you felt your weight influenced the care you received?

- Concerns about weight on outcome ***(How do you think your BMI influence your pregnancy?)***
- Influence of weight and risk on relationships with healthcare providers and maternity services ***(How do you think your BMI influenced your relationship with the healthcare professionals during your pregnancy?)***
- Maternal satisfaction with maternity care

Tell me about the care you received during your birth experience?

- Communications and relationships with HCP's
- Stigma and discrimination experienced during birth
- How the BMI influenced the birthing experience ***(How do you think your BMI influenced your relationship with the healthcare professionals during your labour?)***
- Satisfaction with maternity care

Can you tell me about you and your body since you had your child/children?

- Perception of 'new' body image and changes following childbirth
- Perception of societal norms following birth
- Effect of weight and body image on physical and emotional health ***(How has/is your weight influencing your health or wellbeing since you have had your family/baby?)***
- Changing perceptions of weight and body image ***(How influenced are you by society and the media with regard to your weight/shape?)***
- Pressure from community and society to change body size/shape following childbirth ***(What/who is influencing your decision/progress since joining Slimming World?)***

APPENDIX 2: Semi-Structured Interview Schedules

2.2 Retrospective Study Design

2.2.2 Midwives

This is a qualitative study and aims to explore the perspectives of midwives who have experiences of caring for obese mothers during childbearing. The format is semi-structured allowing the participant the freedom to express their views and experiences. There are aims underpinning this study, which are provided as 'bullets' beneath each question.

It is recognised that the researcher wants to create a rich and comprehensive narrative during the interviews, so the questions are purposefully broad allowing the participant to discuss issues pertinent to their experiences and allow the researcher to discuss topics arising during the conversation.

Tell me about yourself?

- Getting to know the participant as a person
- Ascertain professional experience ***(How would you describe your career as a midwife?)***

What do you understand about the BMI calculation?

- Understanding of the BMI score (especially important for student participants)
- ***What are your perceptions of using the BMI score in your practice?***

What are your feelings about the 'obesity epidemic'?

- Perception of societal norms around weight and body size/shape
- Effect of weight and body image on physical and emotional health ***(How do you feel a woman's size and shape influences her physical and emotional health?)***
- Changing perceptions of weight and body image ***(How do you think women feel about their weight?)***
- Pressure from community and society to change body size/shape and conform to the accepted norm ***(How do you think women feel about their changing shape/size during pregnancy?***
- Influence of the medical model of maternity care and the assessment and management of 'risk' within the current maternity care system ***(How do you feel about categorising women with a BMI >30 as high risk?)***

Can you tell me about your experiences and views of caring for women who are obese during childbearing?   • Communications and relationships with women who are obese ***(What have been your experiences of talking to women about their weight/BMI? Can you remember any instances of good or poor communication between healthcare professionals and women in practice?)***   • Challenges and risks arising with providing care during pregnancy and labour ***(What challenges do you feel arise from caring for women with a raised BMI?)***   • Effects on professionals and the maternity services ***(How are these changing demographics influencing the role of the midwife and the provision of maternity services?)***   • Coping with medical problems / emergencies arising from raised BMI ***(Can you tell me what you've seen or been involved in through your practice as a midwife?)***   • Meeting women's needs as pregnancy progresses ***(How do you feel that midwives and the maternity services need to evolve to meet the demands of women with a raised BMI?)***
Can you tell me about your relationship with your weight/body image?   • Perception of own body image and weight   • Influence of own weight on perceptions of women in their care

APPENDIX 3: Data Analysis – Example from Transcript to Framework

3.1: Transcript: from Initial Coding to Sub-Themes and Themes - an example

Transcript	Initial Coding	Sub-Theme	Theme
Excerpts from Interview PP7 ***What are your perceptions of using the BMI score in your practice?*** Well, I know from the evidence I have read and used to support women's plans of care that BMI is a very unreliable as a measure of obesity. Because one of the women I remember significantly had been a body builder, so she had a huge muscle mass which is heavier than fat. So, she certainly didn't look to me like she was unfit or unable to birth well, she was probably much more fit than many of these skinny women that would be classed as normal. So, I know it's not that accurate a measure of obesity. I think it's useful to some people to know a women's weight, but I think the other side of that is that unless you present it well. So, I think it's not one of the best parts of the job. Having said that we are health care practitioners and we have to ask things like have you been abused;	*Role of BMI as a Screening Tool* *Weak Link Between BMI and Obesity* *Weak Link Between BMI and Health*	*Uses and Limitations of BMI* *Relationship between BMI and Health* *Sensitive Topic to Raise with Mothers* *Timings of the BMI Assessment*	*Perception and Uses of BMI as a Screening Tool* *Perception and Uses of BMI as a Screening Tool* *Communicating with Obese Mothers* *Communicating with Obese Mothers* *Maternity Care: Challenges and Experiences*

, but also where you are doing a part of practice which is not particularly evidence based then how do you present that to a women in a positive way. How do I say to a woman would you mind if I weighed you so I can calculate your BMI? And she will say why do you want to calculate my BMI. And I will say well I want to see what your BMI is and we can plot it and we can have a look And she will say ok why is that and I will say well that's because the Trust guideline stipulates that if you fall outside of this range then we would do this if you were underweight and do that if you were overweight. Ok well where is the evidence for that and that's where it falls down. ***What are your feelings about the 'obesity epidemic'?*** I think the problem for me, and that needs to be looked at. because of their BMI isn't right because it doesn't mean that they are obese. BMI is not an indicator of obesity. So, I think they are two separate issues rather than the same and the problem is	*BMI and Obesity: talking about weight*	*Impact on the Mother-Midwife Relationship* *Sensitive Topic to Raise with Mothers* *Impact on the Mother-Midwife Relationship* *Impact on the Mother-Midwife Relationship* *Risk Assessment and Impact on Choice* *Care and Management of the Obese Mother* *Impact on Midwifery Practice*	*Maternity Care: Challenges and Experiences* *Maternity Care: Challenges and Experiences* *Obesity Epidemic* *Maternity Care: Challenges and Experiences* *Maternity Care: Challenges and Experiences* *Communicating with Obese Mothers*

. Where high BMI equals obese women which of course it doesn't a lot of the time. So, But I don't think that's been tackled in the right way in maternity services. Or I don't think, ***What challenges do you feel arise from caring for women with a raised BMI?*** When I think back, I remember one women I looked after and the only reason I remember her was because she was on my case load and And I remember speaking to her and we maintained a good relationship, so I hopefully used the right words, but it was really difficult to know, because this woman was saying But what I did with her was say well look why don't you stay at home. So, in that sense communication was turned into a positive, it was its alright you can have it at home. And she has a BBA, because I didn't get there in time.	*BMI and Obesity* *BMI and Obesity*	*Understanding of the Obesity Epidemic* *Care Pathways for the Obese Mother* *Relationship Between BMI and Health* *Care Pathways for the Obese Mother* *Understanding of the Obesity Epidemic* *Care Pathways for the Obese Mother*	*Challenges and Experiences of Caring for Mothers with Obesity* *Midwifery Culture and Maternal Obesity* *Challenges and Experiences of Caring for Mothers with Obesity* *Communicating with Obese Mothers* *Communicating with Obese Mothers* *Challenges and Experiences of Caring for Mothers with Obesity* *Communicating with Obese Mothers*

[redacted] Because one of the things that women aren't mobile when they are obese, or they have got a high BMI. She went upstairs had a bath had the baby and then the ambulance came. So was obviously quite mobile. That was turned into a positive in a way that ok the birth centre is not going to have you, but there is this alternative, I think if you pitch and alternative at that point that's ok.	*Importance of the Mother-Midwife Relationship* [redacted] [redacted] *Positive Communication* *Midwives as Advocates for Women* [redacted] *Weak Link Between BMI and Health* *Positive Communication*	*Risk Assessment and Impact on Choice* *Impact on the Mother-Midwife Relationship* *Risk Assessment and Impact on Choice* *Changing the Narrative – negative to positive communication* *Care Pathways for the Obese Mother* *Relationship Between BMI and Health* *Impact on the Mother-Midwife Relationship*	*Challenges and Experiences of Caring for Mothers with Obesity* *Communicating with Obese Mothers* *Midwifery Culture and Maternal Obesity* *Challenges and Experiences of Caring for Mothers with Obesity*

3.2 Data Extracts: Examples from Coding to Sub-Themes and Themes to Chapters – an example

Data Extracts - examples	Sub-Themes	Themes	Chapters
"I think the BMI to me is like a guideline it gives an indicator. When I look at a person, I'm not automatically in my head working out her height opposed to her weight ratio"	1. Uses and Limitations of BMI	Perception and Uses of BMI as a Screening Tool	
"And if you weigh a woman when you first meet her as a midwife then that doesn't really build your relationship very favorably"	2. Timing of BMI Assessment		
"That person might be very healthy but have a high BMI and be classified as obese"	3. Relationship between BMI and Health		**The Reductionist Approach to Maternity Care**
"I think it's focused on a lot in the media, it's on the news all the time, not so much from a maternity perspective but generally from a medical point of view. It does have an impact on people's health"	1. Understanding of the Obesity Epidemic	Midwifery Culture and Maternal Obesity	**The Lost Opportunities for Health Promotion**
"I think within society the word obese and obesity has got bad commutations and almost people are. There's a stigma attached to being labelled obese"	2. Impact of Weight Stigma		
"I've seen my next door neighbour, who is actually quite slim, she's got big friends that come in and she's got smaller ones ... and it just doesn't seem to be an issue at all"	3. Normalisation of Obesity		**The Experiences and Everyday Theories of Obesity**
"I would say most obese women have quite a low self-esteem when it comes to their body image anyway"	4. Body Image		
"They celebrate this idea of being pregnant and becoming more voluptuous and actually feeling quite attractive when they're pregnant and becoming curvy and putting extra weight on, you know, enjoying the pregnancy and the body changes that take place"	5. Perceptions of GWG		

"We need to be very very careful about how we tackle the subject with them. We have to be perhaps more sensitive with obesity and weight and lifestyle in our discussions, because a lot of people might be obese or overweight or have really appalling lifestyles" "And if you weigh a woman when you first meet her as a midwife then that doesn't really build your relationship very favorably" "I think we've got a good chance of helping her see where she might be able to make some changes to her lifestyle because we have got that added lever of her having a baby. And she might not do it for herself, but she might do it for her baby"	1. Sensitive Topic to Raise with Mothers 2. Impact on the mother-midwife relationship 3. Impact and Influence of Beliefs about GWG	Communicating with Obese Mothers	
"I am not sure whether it should be tackled in the kind of way that is a guideline approach which is not about individuals it's about blanket policy" "If the BMI falls outside a normal range, whether its above or below what is considered to be normal, then it can affect a woman's care choices and limit them" "The way that women are marginalized out of midwifery led care, because of their BMI" "Maybe there needs to be kind of more education rather than guidance, so educating women about health rather than telling them that you need to lose a set amount of weight. Coming from that angle and helping them looking at lifestyle changes" "I feel very uncomfortable about categorising people in boxes. I feel like intelligent midwifery practice should be so much about assessing the whole person for who and what they are as opposed to making a judgment based upon a box ticking exercise perhaps"	1. Care Pathways for the Obese Mother 2. Risk Assessment and Impact on Choice 3. Care and Management of the Obese Mother 4. Health Promotion Role of the Midwife 5. Managing and Minimising Excessive GWG 6. Impact on Midwifery Practice	Challenges and Experiences of Caring for Mothers with Obesity	