Why women do not adopt upright positions during labour and birth: an exploratory study

Why women do not adopt upright positions during labour and birth: An exploratory study

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A thesis submitted in partial fulfilment of the requirements of Thames Valley University for the degree of Doctor of Philosophy

2009

Abstract

Factors influencing women's choice of birth position: an exploratory study

The position in which a woman births her baby is considered to be influenced by her social environment. The position adopted by a woman in labour has not only physiological stimuli but socio-cultural ones as well. Throughout the twentieth century women have been encouraged to remain in bed during labour and for the birth, which can be viewed as a position more convenient for the accoucheur, as this enabled easier access to undertake continuous fetal monitoring, intravenous therapy, vaginal examinations and to administer analgesia. A review of history however, suggests that today's birth postures were decreed and adopted on the basis of custom and convenience rather than physiological and anatomical indications and scientific data. There has been no study to examine the social context of women's choice of birth position or the influence of birth setting.

This study was undertaken to explore what concerns, principles and environmental factors guide women in their choices regarding birth positions. The study used qualitative methods of data collection and employed induction rather than deduction in the analysis. Clarification of these factors may influence the future provision of care by midwives, in addition to highlighting factors which may enhance maternal satisfaction. A grounded theory approach was utilised in this study by means of antenatal and postnatal interviews in two different hospital settings. Several factors that influenced women's choice of birth position were identified, some of which were interrelated. These included physical and social environment, disciplinary power present in the medical system and related technology. The midwife and her support are also important factors affecting women's choice of birth position. A decision making typology that can be utilised by midwives to enhance their practice and assist women in their choice of birth position has been developed from the study.

Acknowledgements

My grateful thanks go to the women who participated in the study who willingly shared their valued childbirth experience with me.

I would like to acknowledge my debt of gratitude to my supervisors; Professor Christine McCourt for her unending support and patience through the lengthy process of my part-time PhD and Professor Debra Bick for her continuing encouragement and guidance.

I am also grateful to Professor Lesley Page who provided help and inspiration at the start of this study.

Finally I would like to thank my husband and sons, Sohrab, Mohammed and Mahdi for their patience, understanding and compromising their share of my time during this study.

Dedication

To the memory of my beloved brother and his wife; Masoud and Banafsheh.

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Introduction to study

1.1. Introduction

As a midwife working in an integrated midwifery team, I have witnessed efforts that have been made to educate women during the antenatal period about birth positions and to encourage them to stay mobile and adopt an upright position during birth. I noticed that more attention was given to the education of midwives and women, with less attention paid to the provision of an environment that liberates women and offers them the freedom to choose the position in which they are comfortable and feel supported to cope with the pain of labour. My aim was to study this subject thoroughly and find out why, despite evidence of clear advantages, so few women choose upright positions, and what factors affect their choice of preferred birth position. Although numerous studies had been conducted on upright birth position and provided clinical evidence of its advantages and disadvantages, no research had directly looked into the issue of factors influencing the birth position chosen by women. There have been numerous studies on consumer choice in pregnancy and childbirth. However, these are more directed towards the place of birth or in general terms about who makes choices. Little evidence was available on women's decisions about their choice of birth position. In the absence of relevant research on the topic, I felt that my study would provide a foundation for future research and practice development.

This chapter briefly introduces the study subject and its aims and objectives, as well as presenting an overview of the thesis.

1.2. Introduction to the research topic

Traditionally women gave birth in upright positions while supported by a group of other women. The delivery bed was advocated in the 16th century by a French obstetrician called Paré (Towler and Bramall, 1986), introduction of forceps in the

16th century by the Chamberlen brothers, and later the use of anaesthetics to ease the pain of labour led to widespread use of delivery bed and obstetrics table (Banks, 1992; Cianfrani, 1960).

In the 17th century, with the advent of obstetric surgeons, the recumbent birth position became popular due to facilitation of vaginal examination and convenience of the practitioner (Roberts, 1980; Watson, 1994). When physicians became more involved with the monitoring of labour and conducting the delivery, obstetric intervention increased and the recumbent position become routine (Liu, 1979). In the 19th century the lithotomy position was encouraged by obstetricians (formerly used for surgery to remove gallstones), as it provided easier visualisation of the perineum by the birth attendant and enhanced control of the delivery (Gupta and Lilford, 1987). When hospital births became more common, towards the end of the 19th century, the folding bed was replaced by the delivery table (Atwood, 1976). The technological advances of the 1970s transformed obstetrics; the induction of labour became widespread, epidural analgesia was introduced and became commonplace, as did intravenous infusion and cardiotocography (continuous fetal monitoring). All these advances were believed to improve the safety of childbirth despite a dearth of evidence to support these views. Increased use of intervention subsequently further confined women to bed and restricted their mobility during labour and the birth.

In today's western society the semi-recumbent, lithotomy and dorsal position is routinely used (Thomson, 1998).

In recent decades studies have sought to establish a sound physiological basis to support the use of upright positions (these are discussed in Chapter Five). The disadvantages of adopting a supine position and its adverse effects on mother and baby have also been demonstrated widely (Gupta & Hofmeyr, 2003; De Jonge et al., 2004; De Jonge et al., 2007). On the basis of current evidence, women should be able to choose a birth position they feel comfortable with; making a decision about their birthing position can raise women's confidence and sense of being in control of their birth (De Jonge & Lagro-Janssen, 2004; Kelly et al., 1999), an element that plays an important part in a woman's positive birth experience and subsequent postnatal wellbeing (Waldenström et al., 2004; Green & Baston, 2003; Waldenström, 1999). In this thesis the term 'upright' refers to the following; sitting, kneeling, squatting, standing and all-fours positions. For the definitions of these terms see Chapter Four.

1.3. Aims and Objectives

The aim of this study was to examine women's knowledge and choice of birth position prior to the labour and how their existing knowledge and attitudes may affect their choices while they are in labour. It was also the aim to explore how practices and environments may influence women's choice of position, including the role of birth attendants and midwives, labour room layout and surroundings. In addition, the impact of technologies such as EFM (Electronic Fetal Monitoring) and epidural analgesia on mobility and birth position were examined. The main purpose was to develop knowledge of the likely factors or conditions that have positive or negative influence on women's choice of birth position in labour and birth.

1.4. Optimal birth position

Evidence shows that there are definite advantages to an upright position (see Chapter Five). Given the lack of evidence of effectiveness to support use of the supine position (these are discussed in Chapter Five), the question arises as to why so few women in the UK use 'upright' positions when giving birth. Before starting the research I reviewed an extensive body of literature relevant to this question, including historical and cross-cultural evidence on birth position, relevant theoretical and substantive literature on choice and birth environments, as well as the evidence to support informed choice. This gave me a better perspective on the topic. Before commencing the research I also kept a reflective diary to record my thoughts and feelings so that I could be more aware of my values and inputs and reduce any potential for bias in my research. Because of the lack of prior research, my study was exploratory. I chose the grounded theory approach to generate a theoretical framework. Methodology and the reason for the chosen method will be discussed comprehensively in Chapter Two.

The study was conducted in two different hospitals with different settings. One study site was an obstetric led care unit (labour ward) of a district general hospital and the other was a midwifery led care unit (birth centre) of a maternity hospital. In order to learn about women's knowledge and understanding of the birth position and also their wishes and preferences prior to birth, I conducted a number of antenatal interviews. Postnatal interviews were then conducted with the same women to learn

about influential factors from their point of view regarding their chosen birth position. This will be explained in Chapter Two and also in the Section Three of the thesis.

1.5. Overview of the thesis

The thesis includes three sections. Section One consists of two chapters; Introduction and Methodology. This chapter has introduced the research topics and the aim and objectives of the study. The theoretical basis of the study as well as the employed methodology, the justification for the chosen method and also data collection and data analysis will be discussed in Chapter Two. At the end of this chapter the trustworthiness of the data and its analysis will be explained.

Section Two provides more background to the study and consists of three chapters. Chapter Three presents Choice and Control in which the history of social control in childbirth and also the decision-making theory will be looked at. In Chapter Four the history of the development of birth positions will be reviewed. In Chapter Five physiological alterations associated with position and clinical evidence on upright birth positions and their advantages and disadvantages will be examined, critiqued and evaluated.

In the last section of the thesis, Section Three, the findings of study will be discussed in five chapters. Each chapter talks about the themes arising from data analysis. The issues of Environment, Power, Support and how women made decisions will be discussed in Chapters Six to Nine respectively. Finally Chapter Ten is devoted to the discussion of the findings.

Chapter Two

Methodology and Method

2.1. Introduction

In a research project the phenomenon under investigation mainly determines the chosen methodology and therefore the methods to be used. On the other hand the researcher's theoretical perspective is also an important influential factor in this regard.

The aim of this chapter is to explain the characteristics of qualitative research methodologies, focusing specifically on grounded theory, which is the chosen methodology for this study. Grounded theory is based on the model of theory generation where theory is discovered from, and therefore grounded within, data (Glaser, 1998). The theory derives from data, systematically gathered and analysed through the research process. In this methodology data collection, analysis and eventual theory stand in close relationship to one another.

The purpose of grounded theory is to explain phenomena experienced in the everyday social world and the social processes that bring about these phenomena by which reality is created and maintained (Artinian, 1986).

As described in Chapter One, the aim of this study is to develop grounded theory regarding factors influencing women's choice of birth position, although developing 'pure' grounded theory might not be possible, as the researcher inevitably has pre-conceived ideas about the research topic. No previous study has examined the social context of women's choice of birth position or the influence of birth setting. Stern (1980) recommends the use of grounded theory when investigating unresearched areas where there is little or no theory, which is the case in this study. The purpose of this chapter is to describe the grounded theory approach, to justify my choice of grounded theory and then to detail the methods of data collection and analysis used. Before describing grounded theory in detail other qualitative approaches that were

considered will be explained here and suitability of their application to my research will be looked at.

2.2. Qualitative research

Research is a way of gathering knowledge and this can be obtained in different ways. Research can be identified as a vehicle by which knowledge would develop (Silverman, 1993). A research design very much depends on the research question and what we want to know and what are our theoretical perspectives.

In qualitative study data is usually collected in the form of words and observation but not in a form calculated numerically and the researcher is searching for meaning in a certain situation. This is identified as an inductive approach to research. The inductive approach tries to generate ideas rather than testing existing ideas.

In qualitative study, sampling is approached quite differently than in quantitative research as the researcher looks for meaning in the data rather than to be able to generalise it in a wider population. Therefore the sample size in qualitative research is usually much smaller than that used in quantitative research and is more likely to be theoretically driven.

In qualitative methods the researcher is free to change his or her focus as the data collection progresses; this is considered an advantage for the qualitative research. Qualitative research seeks to study people in their natural social settings and collecting data that occurs naturally therefore is a naturalistic enquiry. The focus is on the meaning the study participants in a setting give to the social world. Where the research is in an area where little knowledge exists qualitative research has advantages over quantitative methods. In a sensitive and complex issue an exploration and inductive hypothesis generation is desired, which can be achieved by qualitative research. The qualitative investigator has the advantage of getting close to the research material, and can obtain a great deal of in-depth information that can be tested in subsequent quantitative studies if necessary and appropriate. Qualitative research can also enhance quantitative research by placing quantitative data into meaningful social contexts. (Bowling, 2002)

Five major methodologies for qualitative studies are biography; phenomenology; ethnography; grounded theory; and case study. Although all five methodologies are based on the experiences of individuals, they are different in forms and terms.

In general the focal point of a biographical study is on the life of an individual and his experiences; whereas a phenomenological study with reference to human phenomena is looking into the meaning of lived experiences for several individuals. On the other hand, a grounded theory approach aims to generate a theory that relates to a specific situation; while in an ethnographic study the researcher's focus is on describing and interpreting a cultural or social group by absorbing into their everyday lives. Finally, a case study has an insight of a single case or multiple cases in order to access in depth exploration (Cutcliffe, 2000).

Phenomenology was originated by Edmund Husserl (1900-1970) at the beginning of the twentieth century. Husserl started by looking at how objects and events come into the sight of consciousness as everything viewed or even spoken has to come through someone's consciousness. His aim was to construct a secure basis for knowledge. Husserl (1913- 1983) also outlined a method for doing this project. Psychology was developed about the same time as phenomenology, and as it was also studying consciousness the interaction between two disciplines was facilitated (Giorgi and Giorgi 2008).

Phenomenology is a simple concept. It is the study of phenomena that "present themselves" (Crotty, 1998). Phenomenology proposes that, if we leave aside as best we can the existing understandings of a phenomenon and flood back our immediate experience of them, possibilities for new meaning appear for us or we observe at least a verification and improvement of previous meaning. In order to have a fresh look into a phenomenon we have to question the current meaning assigned to it. The aim of phenomenology is to widen and deepen understanding of the variety of direct experience (Spiegelberg, 1981). By careful study of individuals, phenomenologists try to learn in depth meaning of the "lived" experience in connection with an individual relationship with time, space and personal history (Baker et al 1992).

There is a specific strategy for collection and analysing the data using phenomenology. In phenomenology intense reflection is an important part of the process but individual personal experience has the superiority. Analysis is conducted

by identifying meaning "units" in the text describing the vital aspects of individual experience. These can provide a general explanation of the whole (Goulding, 2002).

Due to characteristics of the phenomenology mentioned above, I found the approach very narrowly focused on lived experience, which had no capacity to answer my research questions, as the influences on women's mobility and position in labour and birth may involve a range of factors. Therefore, I decided it was not an appropriate approach for my research.

Ethnography as a methodology is an approach to understanding and explaining society and the human world. It is associated with theoretical perspectives such as social constructivism and symbolic interactionism which are shared by many ethnographic researchers. Ethnography's aim is to get inside a group of people to see the world from their perspective. In ethnographic research, a social setting, no matter how familiar it is to the researcher, will be studied as anthropologically strange. Culture, the perspective and the practice, of people in the setting is documented. The attempt is to take the place of those in the setting in order to get an insider perspective, but also to step back from it, to analyse what is observed. Their culture would be observed as closely as possible, and would not be criticised nor questioned. Instead the aim is to understand and explain the nature of that culture. Data analysis would be based on the interpretation and description of a culture in a non-judgemental way. Ethnography's method of preference is participant observation (Ellen, 1984). Ethnography is based on anthropology and tries to understand and interpret the culture of a group from a comprehensive view. My research was carried out in two different settings with various influential factors affecting women's mobility and labour position. Employing ethnography would have limited its dimension to only one aspect which is insiders' views.

2.2.1. Viewing the world

Different ways of researching the world are shaped by different ways of viewing the world. The way we view the world is shaped by our earlier theoretical experiences. For example a psychologist and a sociologist may have different focuses while observing the same reality; a psychologist's focus might be on the interpersonal differences while the sociologist concentrates on social structure. A reflection of this could be seen in the differences between methodologies. Therefore while designing

the research and analysing the data, a researcher should be aware of his or her theoretical perspective and assumptions about the research topic.

A theoretical perspective is a consistent set of propositions about how something can be explained. It therefore structures one's assumptions and ways of knowing something and is influenced by one's existing knowledge and assumptions. Epistemology is involved with the character of that knowledge. A variety of epistemologies exist. Epistemologies are connected to perspectives, methodologies and to methods. Research approaches are influenced by two contradictory ideologies (philosophies of thought). First, objectivism which is based on an ideal of objectivity and neutrality; then constructionism which is based on subjectivity and construction of knowledge socially. Objectivist approaches rest on the belief that there are objective truths to be discovered. Constructionism rejects the objectivist view and believes that truth or meaning comes into existence in our interaction and engagement with the realities in our world. There is no meaning outside of mind. Meaning is not discovered but constructed; therefore different people might construct different meanings from the same phenomenon (Crotty, 1998).

The approach chosen in a piece of research depends upon the investigator's assumptions about society. It might be deductive; the researcher may start with a general idea and generate a theory and hypothesis from it which is testable, to be tested by data gathering and analysis (deduction). Or it may be inductive; beginning by collecting data and building up observation and analysing data to develop hypotheses (inductive). The choice of the approach has a long history in the philosophy of science, and social science.

2.2.2. Paradigms or theoretical perspective

A theoretical perspective is the philosophical stance lying behind a methodology. The theoretical perspective provides a background for the methodology and is a foundation for its principle. The assumptions embedded in a methodology make up one's theoretical perspective and have direct connection with the world that methodology visualizes (Crotty, 1998).

A research question is based on a set of assumptions shaped by theoretical perspective. And in turn theoretical perspective is very important as it provides a

framework for interpreting the data and every scientific enquiry is based on a set of theoretical perspectives or paradigms (Bowling, 2002).

When beginning the research I believed that the majority of women do not adopt upright positions while facing delivery and birth. However, the evidence in favour of an upright position in delivery and birth was implicit in the review of relevant literatures. The focus of the literature on birth position was merely clinical and no investigation had been carried out to find out why this practice is not widespread. The focus of the maternity service was more on educating women in antenatal classes on adopting upright positions and mobilizing while in labour. No literature was available to see why women do not choose upright positions or what are the factors and barriers involved. The choice of the appropriate research paradigm was influenced by a combination of my personal epistemological stance, which was based on subjectivity and construction of knowledge socially, as well as what was found in the literature. I needed a process capable of fulfilling the purpose of my research and answering the questions. I chose grounded theory as a methodology appropriate to do this.

I began my study of pregnant women with an interest in exploring factors affecting women's choice of birth position. This interest guided me towards other related areas such as "women's knowledge of birth positions", "their chosen birth position" and "their expectation from health care providers regarding the birth positions". This was a starting point that I used to outline the interview questions which also had a part in my initial interaction with data. This however, was not an ending point and did not limit my perspective; rather it was a departure to developing ideas. I used my guided interest as a tentative tool for developing further ideas.

While I started studying the data to look for the women's knowledge of birth position and their choices and expectations, I also followed other topics that were defined by participants as being important. The importance of this emerged more strongly as the data began to demonstrate that lack of knowledge or information about upright birth may not be a key factor. This became a basis for my theoretical assumption, emerging directly from the data and not dominated by prior assumptions. This was a reassurance of the value of a grounded theory.

2.2.3. Rigour in qualitative research

Qualitative research needs to be conducted in a rigorous manner. The research should be conducted in a clear, unambiguous and systematic way regarding the design, data collection, analysis and explanation. To reduce researcher bias, the researcher should be open about his or her theoretical perspective or paradigm at the beginning of the enquiry. Data should be recorded carefully throughout the data collection in order to certify rigour in research (Bowling, 2002).

Repeat experiments, structured observation and deductive hypothesis testing are usually considered as scientific methods that shaped the assumptions reinforcing quantitative methods. Positivism, the leading paradigm of inquiry in natural science, has been supported by these assumptions (Charmaz 2006). Positivism believes that phenomena are assessable using deductive principles of the scientific method (Bowling, 2002).

The aim of a positivist social researcher is to predict and determine explanations about an external, knowable world. In their scientific, logic and unitary method quality of human experience will be reduced to quantifiable variables. As a passive and unbiased scientific observer, a positivist researcher is involved in collecting the facts but has no part in creating them. By separation of the fact from value and also keeping the external world separate from scientific observers and their method, a knowledge about the world will build up which is generalisable.

Qualitative research was considered as biased and unsystematic by quantitative researchers in the 1960s, and value was only given to replication and verification in the research; therefore human problems and the research questions that did not fit their quantitative paradigms were ignored.

While positivism gained power in the mid 20th century the separation between theory and research was developed at the same time. Quantitative research tested logically deducted hypotheses from an existing theory and rarely generated a new theory construction.

In the mid 20th century Glaser and Strauss introduced systematic qualitative analysis that had its own logic and could generate theory. Their aim was to evolve qualitative research from descriptive studies into the sphere of explanatory theoretical frameworks.

2.3. The development of grounded theory

Barney Glaser and Anselm Strauss were the two scientists who originally developed the methodology known as grounded theory (Glaser 1978, 1992, Glaser and Strauss, 1967).

Each man came from a different philosophical and research tradition; however their individual contributions to the development of the methodology were similar. The research based upon the structure of symbolic interactions became popular within the social sciences during the 1950s and 1960s. Although theoretical explanations of the phenomena studied were produced, little was written about analytical processes utilised to arrive at the theory, and this generated considerable criticism. Glaser and Strauss worked together to clarify these processes, and this resulted in the publication of their grounded theory method in 1967.

Strauss was educated at, and graduated from, the University of Chicago, which had a long history of qualitative research. Glaser came from a very different sociological tradition, but having some shared characteristics enabled the two men to work closely together. Glaser graduated from Colombia University in New York. His thoughts about the research method were inspired by Paul Lazarsfeld, one of the major figures in 20th century American sociology. After several years of collaboration, Glaser and Strauss parted. Strauss continued to develop grounded theory and in an effort to answer remaining criticisms of the approach, together with Corbin, constructed rules and guidelines for data analysis (Corbin and Stauss, 1990).

Glaser (1992) stated that the term 'grounded theory' should be used to refer to the Glaserian approach and the codified Straussian method should be called 'conceptual description'. The difference between the two approaches is that the Glaserian approach is more in agreement with the constructivists' paradigm than the Straussian. In this study broader interpretative approaches were favoured rather than rigid adherence to set protocols. Strategies for data collection and analysis suggested by Strauss and Corbin (1990, 1997, and 1998) were, however, used and adapted where necessary to guide analysis.

2.4. Grounded Theory

Charmaz (2000) defines grounded theory as a systematic plan for gathering, synthesising, analysing and conceptualizing qualitative data to build theory.

My chosen methodology was grounded theory as my study was in an unresearched area with no theory attached to it. This required a method emphasising building inductive theories through data analysis; a grounded theory approach could serve this purpose perfectly. I was also attracted by grounded theory's way of analysing the data, a comparative and interactive method that keeps you interacting with data and allows ideas to emerge.

Grounded theory method suggests a flexible set of inductive plans for collecting and analysing qualitative data. It is an interactive and comparative method which keeps you interacting with data and your related emerging ideas. The level of ideas and concepts will be built directly from the data and this will be refined by gathering more data (Charmaz, 2006). The theory developing process is varied and is based on the research subject and its context and also is related to the researcher's experience (Cutcliffe, 2000). A theory will develop by constant classification of relationship between concepts utilizing a comparison method.

Grounded theory is not generated first then tested. It is rather inductively driven and represented from the study of a phenomenon. Through systematic data collection and analysing the data relevant to the phenomenon, grounded theory is discovered, developed and established. So there would be equal correlation between data collection, analysis and theory. It does not begin with the theory then attempt to prove it. Rather, it begins with an area of study and what is relevant to that area is allowed to emerge (Strauss and Corbin, 1990).

Concepts, categories and propositions are three important elements of grounded theory. Concepts have been explained as the building blocks of theories (Moody, 1990) and are conceptual representations of reality. They may be connected together to form a theory that runs through and explains a situation. Concept development is viewed by Walker and Avant (1995) as a crucial approach to the development of theory. They emphasise that the basis of any theory depends on the recognition and clarification of the concepts to be considered in it. Concepts are important units of analysis prior to development of theory; they are derived from a conceptualisation of

data, not the actual data (Corbin and Strauss, 1990). The grounded approach eases the identification, development and clarification of the concepts used in a theoretical framework.

Categories are the second element of grounded theory. Categories have been defined by Corbin and Strauss (1990) as higher in level and more abstract than the concepts they represent. They are generated via the same analytic process of making comparisons to highlight similarities and differences that is used to produce lower level concepts. The third element of grounded theory is propositions which simplify the relationship between a category and its concepts. At first Glaser and Strauss (1967) called this third element a hypothesis.

The grounded theory approach offered me the structure that helped me to analyse the data based on the inbuilt meaning of it rather than relying on assumptions. I chose the grounded theory approach in order to achieve in-depth analysis of the data and to produce theoretical explanations grounded in the data, which were based on individual experiences. The grounded theory approach offered me the flexibility of working within data and moving to and from multiple angles and hypotheses which were not offered in the other approaches of data analysis. My study was exploratory, which set out to explore key factors in birth positioning choice. I anticipated the outcome of this study would be useful for those involved in provision of childbirth and healthcare systems to maintain optimum care for mother and baby. At the beginning of the study my belief was that women have adequate information about the upright position but cannot achieve this goal while they are in labour. This is in spite of the fact that steps are being taken in delivery suites, including introduction of adjustable beds, that can help women give birth upright while still on the bed. I found very little literature addressing this problem directly and literature that was available failed to identify key factors that work to restrict women's choice of birth position. Attention was mainly given to superficial changes in the labour room environment, such as the colour of the room, etc. This is discussed in more depth in Section Two. An exploratory research approach permitted me to look into women's experience in order to generate a theoretical base for the study.

My aim was to examine women's knowledge and views of birth position as well as the influence of the surroundings on their choice of birth position. In addition, I was going to look carefully at the process of decision-making in order to find out about

the influential factors. I needed to hear, in women's own words, their desires and expectations before the birth and also their interpretation and satisfaction regarding the event and experience after the delivery. Conducting interviews seemed to serve the purpose perfectly by understanding their experience through their own words. Interviewing is a philosophy of learning in which the interviewer tries to get people to explain their experiences in their own terms. The qualitative researcher's philosophy determines what is important, what is ethical, and the completeness and accuracy of the results (Rubin & Rubin, 1995). Interviewees are co-participants in the research process because the interviewer establishes a relationship with them in order to understand and interpret how they perceive and explain their own experience. Therefore, researchers are never entirely objective and must be conscious of preconceptions that they themselves bring to their interpretive work.

The aim of interviewing is to achieve an understanding of some-one else's experience through their own words. Interviewing provides a means by which the researcher can develop understanding of a social event and experience. What people are saying and how they say it can help us to understand the event and its social and cultural context. Although we can never have direct access to the experience of others, we are hoping to understand how the representation of their thoughts through the talking process and their interpretation shapes, constructs and constrains the event. It is a past event but connected with present concerns and values (Reissman, 1993).

To find out why someone acted in a certain way, upon asking him a question regarding his act, he must give an explanation that is consistent and believable. This can result in an explanation of the meaning of his action. The interviewer can follow up an interview with more questions for clarification or a better understanding.

The main purpose of my research was to find out about the factors influencing women's choice of birth position. To obtain this in great depth my initial plan was to conduct research in only one hospital by means of observation and interview. I wanted to conduct observation in the labour ward while the woman was in labour and conduct postnatal interviews afterwards with those I observed. The aim was to be present during their labour to gain a closer understanding of the culture of the delivery suite, the woman's decision- making processes and to observe whether and

how the surroundings, and the midwife, had an effect on the woman's choice of birth position. I approached and submitted the research proposal to two hospitals with maternity units. In the first hospital the proposal was rejected before going to the ethics committee, as they felt doing the observation in the delivery suite was inappropriate at the time, and they had several other projects being undertaken in the delivery suite. The second hospital invited me to a meeting of the nursing and midwifery forum, a sub-committee to their research ethics committee. My supervisor (Professor Christine McCourt) and I attended to introduce the project, but following that I received a letter of rejection. The reason given was that they found the scope of the study larger than a PhD research project, and that the researcher was too much of a novice to undertake such an 'ambitious' study. They also felt that practical issues relating to the study (co-ordinating observational periods around the spontaneous vaginal delivery, negotiating dual consent i.e. parents and midwife and other members of the healthcare team), appeared complex such that a high level of organisational support would be required, which they could not provide.

In discussion with my supervisor the methods of data collection were revised and a decision made to conduct antenatal interviews to identify women's views, knowledge and expectations regarding the birth position antenatally, with postnatal interviews afterwards to explore whether women were able to achieve their goals, and to hear their views and stories.

With this revised research proposal I approached another maternity unit of a general district hospital. Prior to submitting the research proposal to their research ethics committee, I had a meeting with one of the obstetric consultants who was identified as the 'gate keeper'. In that meeting, accompanied by my supervisor, the aim and objectives of the research as well as the data collection method were discussed, receiving a positive response. After obtaining the agreement of the head of midwifery and submitting an application form to the research committee I obtained the ethical approval to conduct the research. The first part of the study was carried out in this hospital's maternity unit with no existing birth centre. Following the conduct of the antenatal and postnatal interviews and the preliminary analysis of data, which will be explained in Section Three of the thesis, I felt the need to capture more dense data to assess the effect of setting on women's birth position, and to do the research in a second setting to see if there was variation in the effect on women's

birth position choices. For this, the birth centre of another maternity hospital (a non medical setting which varied from the medical setting of the labour ward at the first study site) was chosen to examine the impact of variations in practice settings more closely.

For the second part of my study two methods of data collection were suggested by my supervisors. One method had elements of quantitative research by going through the medical notes of women in the birth centre over a period of six months to find out what position they adopted during the labour and birth. The second method was to follow the approach of the first stage of study by means of antenatal and postnatal interviews. I decided to conduct the research in the second way as I felt that not only did I need to know what position they adopted but I also needed to explore their knowledge, their expectations and wishes, and their experiences in labour, t

by hearing their words and perspectives. Gaining access for the second stage to do antenatal and postnatal interviews presented no major difficulty.

2.4.1. Data collection, analysis and theory development

Strauss (1987) believed that there are three major elements of qualitative research. First there are data, which can be obtained by means of interview, observation, documents, records, and films. The second element is the methods that researchers utilise to interpret and analyse the data. These consist of conceptualising data, developing codes, concepts and categories in terms of their density and proportions and relations through a series of propositional statements (Charmaz, 1983, 1995, 2000). Memo writing and diagramming would be part of the analytical process. Disseminating the research by writing and verbal reports makes up the third element. These may be by publishing as articles in scientific journals, or in books, or presenting in seminars.

2.4.2. Initial sampling

In qualitative research the researcher is not trying to control the variables but to discover them (Strauss & Corbin 1990). Therefore, random sampling was not suitable for my qualitative research. The initial sampling method used in my study was the convenience model of sampling. Based on the defined criteria, all women who gave their consent to take part in the study were included until sufficient

numbers of interviews had been conducted, as described below. Using both the labour ward and the birth centre a reasonable cross section of women was included.

2.4.3. Theoretical sampling

The aim of theoretical sampling is to raise opportunities to examine events, incidents or happenings to determine how a category varies in terms of its properties and components. The researcher is sampling along the lines of properties and dimensions, varying the conditions. In order to identify the variety of categories in line with their density and dimensions, in the preliminary stage of the study, sampling needs to be as open as possible. In the initial sampling I was interested in generating as many categories as possible (Strauss, 1987) and therefore the data were gathered in a broad range of relevant areas. Once the categories emerged, more focused interviews were conducted. The interviews and questions were then directed towards developing and saturating those categories. It was unknown at the onset of the study exactly how many participants or events would need to be sampled; sampling continued until, in accordance with Stern (1985) I became satisfied that the conceptual frameworks were developed and integrated.

2.4.4. Recruitment strategies

All women who participated in the study were required to be literate and English-speaking. To meet requirements stipulated by the ethics committee, all participants were aged at least 18 years. The antenatal inclusion criteria were all English speaking women between 34 and 37 weeks gestation with a low risk pregnancy. Antenatal exclusion criteria were women booked for elective Caesarean section, and those women who delivered before thirty-six completed weeks' gestation. Women whose babies experienced a serious adverse outcome, i.e. stillbirths, fetal abnormality, or those who were sick and required admission to neonatal intensive care unit were excluded, so that additional demand would not be placed upon potentially distressed mothers. This information was checked with midwifery staff before women were approached for postnatal interview. Forty women were approached in the first part of the study with the primary intention to include data from around 20 women. Eight women declined to participate in the study with no reason given. Seven women had the study information sheet and said they would contact me if they wanted to be

included. I did not hear from them. Two women went into labour before the date of arranged antenatal interview; two were excluded as they were categorised as high risk. Finally one woman was excluded because of poor English. Consequently 20 antenatal interviews were conducted. After the 20th interview I stopped recruiting as I felt the data were saturated and no further recruitment was needed. Out of 20 women who were interviewed antenatally, two moved out of London after giving birth, five could not be contacted as either the contact numbers were wrong or they were not answering the phone; one was in holiday; one declined postnatal interview as she had guests and family from abroad; two declined as they were unable to arrange a convenient time for me to meet them and finally I did not interview one as she had a breech diagnosis and elective Caesarean. Therefore, eight postnatal interviews were conducted with women for whom antenatal data were collected. In the second part of the study 15 women were approached from the second study site and the study was explained to them. Two refused consent to participate in the study, and 13 antenatal interviews were conducted. Out of 13 women interviewed antenatally, three could not be contacted, one declined to participate, one moved abroad and two had difficulty in arranging a convenient time so I decided not to pressurise then and did not contact them further. Therefore six postnatal interviews were conducted in the second part of the study.

Characteristics of participating women are outlined in Section Three (Appendix II) of the thesis.

All participants were provided with an information sheet prior to giving their consent. The information leaflet and consent sheet are included in Appendix (I). Antenatal interviews were conducted after the women's follow-up antenatal appointment, so they had a chance to discuss their concerns and questions regarding their pregnancy with the midwife beforehand.

2.4.5. Initial data collection

Initial data were gathered from which codes, categories and tentative frameworks could be developed. Data were collected from antenatal and postnatal interviews. The interviews were as loosely structured as possible. The questions were "guided open ended question" as Charmaz (2006) believes it "provides a logical pacing of

topics and avoids loaded and leading questions and gives you direction as well as your interview participants" (page 26).

As Rubin and Rubin (1995) point out, interviewers in qualitative studies need to develop a balance of structure and flexibility. Flexibility was enabled by allowing the responses of the participants to guide the direction of the interviews. I tried to remain alert for clues (both verbal and non-verbal) that would initiate such probes and directions for interviewing.

The location of the interviews and the way in which the research is presented has some impact on the participants' responses. In my study, due to the nature of the subject, the potential impact of taking part in the study was minimal. The subject of birth position and women's knowledge and understanding of the subject was not an intimate part of their personal life; therefore if the interviews were conducted in a different setting it would have very little effect on their responses. Introducing myself as a midwife gave them more sense of security and trust. Antenatal interviews, as mentioned, were conducted in three different places; antenatal clinic, GP surgery and birth centre. The approach was intended to be conversational and non-hierarchical. However, there were possibilities of some influence upon what has been said and in some cases the women might try to fulfil my expectation of specific response through anticipating the 'correct' answer. I was aware of that and conscious of a need to minimise it, therefore I created a setting that would encourage women to express their honest opinions and thoughts. I maintained this by trying to be neutral as far as possible and not to offer my opinion if I were asked for it. In one case I had a young participant expressing her confusion over the subject of birth position as her knowledge was limited to information from friends, and she had missed her antenatal classes. I therefore resolved to respond to her questions accurately without revealing the specific nature of the research. I did not place too much emphasis on the issue of choice of birth position, in order to avoid influencing women's responses. Only on a couple of occasions was I placed in a position where I had to answer questions women forgot to ask their midwife in the antenatal clinic. Antenatal interviews were short and women did not appear to have any problem with the time required to complete interviews. However, at the beginning of each interview I made it clear that they could terminate the interview at any time for any reason.

I used semi-structured interviews as this approach provides the flexibility that one answer could influence the next question, which resulted in gaining deeper understanding of women's experience. In the interview questions (Appendix II) I avoided asking "why" since it might result in justification; instead I asked "how" in order to be told about the process of the events. For example: "How did you come to use the birth centre?", "Did you attend antenatal classes? How helpful did you find it?", "How did your labour start?", "Did you request any specific position during your labour?", or "Which position did you choose during the birth? How do you feel about it?"

I also avoided asking questions starting with "Don't you think ..." or "Don't you agree ..." trying not to lead to a particular answer. To get an explanation on a subject related to birth position I allowed women to talk and pause, and then continued with "You talked previously about ..., can you tell me more about that?" At the end of the interviews I asked if there was anything else they wanted to add that had been left out. For recording the interviews I used a high-quality tape recorder, which I borrowed from the university. During the interviews I wrote down new questions that popped into my mind. I tried to avoid jargon, used familiar language, and if women were rambling tried to bring them back to the subject.

The tapes were transcribed as soon as possible by me, using audio transcribers. From the transcript I identified and extracted passages of text related to the knowledge of birth positions. These were used in the follow-up (postnatal) interviews to initiate comments from participants. That also provided the structure for the subsequent interviews. For example, in the initial interviews, the importance of antenatal education was identified in the passage. In subsequent interviews I included questions about attendance at antenatal parentcraft classes to gain a better understanding of the basis of their knowledge regarding the birth position.

Postnatal interviews were conducted at venues preferred by the participant. It was mainly at their homes. On one occasion the woman's partner was present and although I preferred to obtain the woman's comments only, I invited him to participate, since any attempt to exclude him may have been seen as offensive, especially as the interview took place in their home. Furthermore, whilst not actively sought, the partner's comments were thought likely to add to the richness of data. Retrospectively I think including fathers in the postnatal interviews could have added

another dimension to the factors affecting women's choice of birth position from a support-giver's point of view. This could have provided me with more knowledge, especially as I was not present in the labour ward myself.

Postnatal interviews lasted from 30 to 70 minutes and were tape-recorded and transcribed.

A total of 47 transcripts were produced. In the early stage of the research the recruitment was slow and frustrating. This, however, gave me the opportunity to keep pace with the transcribing and analysing the initial interviews that subsequently helped me to identify areas that needed more explanation and generated more questions to be used in future interviews.

2.5. Ethical issues

The protocol was approved by the two local hospital ethics committees. The full purpose of the study was explained verbally and in writing to each potential participant, and her consent sought.

Participants were aged at least 18 years in order that consent could be given legally. Confidentiality between participants and myself was assured. There was no way by which an individual could be associated with any particular aspect or interactions; 'identifying features' were masked in the writing-up and pseudonyms used. Transcripts were identified by number and participating institutions will not be identified in the thesis or any future published report.

2.6. Data analysis

Although there is no single correct method to undertake qualitative data analysis, there is a general belief that analysis is an ongoing processes that starts from early stages of data collection and continues throughout the study (Bradley el al, 2007), which is how I approached data analysis for this study. In my study, data analysis began in the first stage and continued throughout the study. The very first step for me was reviewing the data and reading it for an overall understanding, which helped me to identify emergent themes and the connections between concepts and their context.

My approach to analysis of data was more through thematic analysis, mainly focusing on what was said in each section of an interview and rigorous analysis of data, which included reading and re-reading passages and constant comparison of gathered data.

As for any study, variations exist nearly all the time because the situations or events in two settings are never the same. Each event that is studied has the potential to present different features of a phenomenon or phenomena. In the beginning the more interviews that were conducted, the more conceptual variations emerged naturally. However this process slowed down as later interviews were carried out, until no new variation could be identified. At this stage the need for further interviewing was minimal.

In this section I will explain the approaches used to analyse the data. I explain the data analysis in three broad stages: concept formation (open coding), concept development (axial coding) and concept modification and integration. The approach to developing a set of codes in grounded theory is merely inductive. With this approach, the researcher would be limited to infusing perceived ideas in the data. Codes were given when a concept was apparent in detailed line by line data review. In further reviewing of data more concepts and codes emerge. The "constant comparative" method is used to determine whether a code is appropriately given to the segments. In this method the researcher compares text segments to those segments that share the same code in order to find out if the texts reflect the same concept (Glaser and Strauss, 1967).

Through this method, dimensions of codes will be defined and also new codes will be identified. Using this process the code structure develops inductively mirroring "the ground" of the research whatever it might be.

2.6.1. Concept formation: Open coding

The preliminary type of coding conducted during a research project is termed open coding. This is unrestricted coding of the data. Open coding is performed by close examination of the field notes and interviews, line by line or even word by word. The aim is to develop concepts that seem to fit the data. Although these concepts and their dimensions are entirely provisional they help to initiate series of questions and

answers that consequently would lead to further issues (Strauss, 1987). The aim of the coding is to unfold the inquiry. At this point every interpretation of data is tentative and uncertain. Strauss and Corbin (1997) presented several guidelines for open coding. Asking a set of questions from data is the first. These questions need to be kept in mind from the very beginning. The second guideline for open coding is to analyse the data carefully in great detail. This means frequent coding. The third significant guideline for open coding is frequently writing a theoretical memo. The fourth guideline is that any variable such as age, social class or race, should not be assumed to be analytically relevant by the researcher unless it appears to be relevant.

Based on the grounded theory approach, I commenced data analysis as soon as the first interviews were transcribed. By analysing the data line by line and word by word, tentative codes were given to the data. I gave particular attention to passages of text which appeared to be rich by analysing the segment word by word. Although word by word analysis is the most generative method for producing codes and categories, it was wearying and time-consuming. Based on Strauss and Corbin's recommendation (1990) I used this approach only for initial data. There was no need to apply the same minuteness of analysis to every segment of data. In order to develop the preliminary framework and skeleton from the data, the combination of a more holistic view of a larger part of the data, together with close analysis of selected passages of text, was needed. I was quite aware that by taking a holistic view of some of the data passages, important codes or ideas may be missed. To test my approach I selected some parts of the data randomly and analysed line by line. Since no new outlay emerged it gave me more confidence in the validity of my approach.

Based on Strauss and Corbin's recommendation (1997) I asked a set of questions from the data. The set of questions differed according to whether I was analysing the antenatal or postnatal interviews, but in general I was looking for events and happenings and kept asking what was going on there. In analysing the antenatal interviews I paid particular attention to women's knowledge of birth positions and their plans and expectations. The question in my mind was 'what is the main issue here?' These questions initiated frequent coding and emergence of preliminary categories.

Based on Strauss's third guideline for open coding, writing a theoretical memo, I made notes of my thoughts and ideas in the margin of the transcripts. This helped to

initiate more questions as well as identifying codes and categories. Strauss (1987) suggested re-reading fields of contrasting groups, which would provide a debate for identifying 'negative cases' when the events do not occur as expected.

Identification of substantive categories and concept development appeared as a result of frequent repetition of coding, frequent comparative analysis, memo writing and hypothesising.

2.6.2. Memo Writing

Memos, as Corbin and Strauss (1990) state, are the researcher's written records of the analytic process. Glaser (1978) defined a memo as the theorising write-up of ideas about codes and their relationships as they strike the analyst while coding. My written memos became more detailed as the study progressed and they helped me to develop categories and provide ideas for further investigation.

Strauss (1987) indicates different types of memo as:

- Initial, orienting memos
- Preliminary memos
- Memo sparks
- Memos that open attack on new phenomena
- Memos on new categories
- Initial recovery memos
- Memos distinguishing between two or more categories
- Initial discovery memos
- Memos extending the implication of a borrowed concept

The type and form of memo will suggest the stage of the study and individual approach of the researcher (Strauss 1987). I kept a notebook during the study in which I recorded my thoughts and feelings as well as memos regarding data collection and analysis.

2.6.3. Concept development: axial coding

Axial coding is a necessary part of open coding. It is based on intense analysis around one category at a time. In terms of developing a hypothesis and theory this results in enriching knowledge about connections between categories. Because the analysis revolves around the 'axis' of one category at a time it is called axial coding. It is more likely to take place in the later stage of analysing the data than in the early phase when the initial data are collected and analysed. However, during long periods of open coding, axial coding sometimes becomes prominent even before the researcher is committed to categories and to the selective coding (Strauss, 1987).

Axial coding has a part in reassembling the data that were fractured during open coding. In axial coding, in order to provide more detailed explanation about the phenomena, categories are linked to their sub-categories. The aim of axial coding is different from open coding as it is not happening or performed in particular analytical sequence. In axial coding the researcher needs to have some categories, but the perception of how categories are related to each other often emerges during open coding as mentioned by Strauss (1987):

'Among the most important choices to be made during even these early sessions is to code intensively and concertedly around a single category. By doing this, the analyst begins to build up a dense texture of relationships around the 'axis' of the category being focused upon. (p.64)'

I found re-examining the data, category by category, was particularly helpful. It allowed me to view together all the data that I thought were related to a particular category. This also helped me to see the data once again. While going through the process I noted that the data could be categorised more effectively. I also found that the process of linking coded data to form categories is not one-way; when categories were identified more codes become apparent and hypotheses also formulated within the data. For example, the codes "feeling inadequate" and "becoming passive" were joined into the category "power". The hypothesis that these codes belong together in a category was tested by intensifying the category by means of new data and adding new codes to the category. Re-examining the data in view of the codes and categories tended to generate new codes and could lead to the dismissal of others. This process was repeated many times until a steady framework appeared. In the early stage of analysis repeated extensive reviews were required; however, in the final stages

reviews became minor and occasional which sequentially developed to a final framework.

2.6.4. Theoretical sensitivity

Theoretical sensitivity is the foundation for concept development and fundamental to grounded theory. To have clear perception and to be able to give meaning to the events and data you have to have sensitivity. Sensitivity means the ability to see underneath the obvious to uncover the new. Reading a broad range of relevant literature was very useful and essential for my view and the perception of the social phenomena which helped me to become sensitised to theoretical issues. I felt that I systematically became sensitive to theoretical issues while analysing the data, asking questions, doing comparison when collecting more data. This happened more during the interaction with the data. Whether we admit it or not, we cannot completely separate ourselves from our background or our knowledge. As Sandelowski (1995) believes, the theory that researchers have in their minds enlightens the research in multiple ways, even if it has been used quite un-self-consciously (cited Strauss & Corbin 1990).

Another possible source of sensitivity is the professional experience of the researcher and its effect on the outcome of research. Regarding this matter, Strauss (1987) suggests two important points to remember. The first is to distinguish between what one sees and what one sees at the dimensional level. This can help analysts to use their experience without placing the experience itself into the data. Each category has a number of general or specific characteristics or attributes called properties of that category, while the location of a property along a continuum or range is specified by dimension. In other words dimensions are the range along which general properties of a category vary. For instance, a flower has a number of attributes such as colour, size, shape and duration. Flowers may be categorised according to each of these attributes broken down into various dimensions: colour (shade, intensity), size (large, medium, small), etc.

The second point is that the researcher's perspective does not matter; what matters is how the participants see the concepts and events.

Theoretical sensitivity is influenced by the researcher's professional and personal experiences. It will shape the researcher's perceptions of, and sensitivity to, the topic under study. My theoretical sensitivity developed over time. Being a practising midwife who believes in natural birth on one side and developing my knowledge by exploring a wide and diverse range of related literature on the other, gradually increased my theoretical sensitivity. My exploration of the theory began by exploring the clinical and historical literature related to different birth positions. I then moved on to literature on choice of birth position as well as choice and decision making, and from there to sociological literature related to the subject. These pieces of literature helped me to understand the emerging concepts in a holistic way. This in turn provided me with more confidence and competence in interpreting, explaining and analysing the data. As my theoretical sensitivity increased, so did the quality of the data, which helped me to uncover the hidden concepts in the data.

My own clinical background and experience played a big part as well. I qualified as a midwife in 1987 in my home country of Iran and emigrated to Britain a couple of years later. I undertook my training during 1983 to 1987, an era of routine episiotomy and bed deliveries in my country. The health system was heavily influenced by the West although substandard by comparison. During my training I had never witnessed an upright delivery but could see how women suffered and struggled being confined to the bed. This was despite the fact that before the introduction of hospital deliveries in Iran, women were apparently giving birth in squatting positions in their homes. In the UK, when I became a registered midwife and completed a master's degree in midwifery practice, my views towards childbirth were developed further. I became a strong believer in natural birth, arguing that birth should be kept humane and not sabotaged by emerging technology. However, while my views were very important in my research process, I was aware that my preconceptions should not lead to assumptions. I used semi-structured interviews and allowed women to talk freely about the topic and have control over what they said. It facilitated discussions that reflected the views of the women rather than being constrained by my own prior views and presumptions.

2.7. Literature in grounded theory studies

The researcher brings to inquiry a significant background in professional and disciplinary literature. This background may be acquired while studying for examinations or simply through effort to keep up with the field. My question is how these can be used to enhance, rather than limit, theory development. Strauss and Corbin (1998; 50) suggested using the literature in the following way:

1. Concepts extracted from the literature can supply a source for making comparisons with data at the dimensional level. This helps the researcher to differentiate and give specificity to emergent concepts.
2. The researcher's knowledge of relevant literature would increase sensitivity to slight differences in the meaning of the data, although at the same time it can obstruct vision.
3. Although relevant published literature can be utilised to enhance the researcher's sensitivity to what to look for in the data and generate questions to ask from the data, the researcher must be very vigilant in looking into the events and incidents of her own data to outline the forms of concepts in her study.
4. The researcher's knowledge of present theories can be useful under certain circumstances; it is also evident that the theoretical perspective of a researcher underlines the attitude of researcher toward the study.
5. The literature can be utilised as a second basis of data. Quotations from interviews and field work present in the published literature can be used as a secondary source of data for a researcher's own study.
6. As a starting point, prior to initial interviews and data collection, a researcher can use literature to generate questions.
7. Literature in addition can be utilised to generate questions throughout the analysis process.
8. By using literature, clear perception would be provided for the researcher in relation to where to look for sets of relevant concepts. Literature would also imply areas of theoretical sampling to use in early phases of the research.

9. In the final stage of the research when findings are gathered, a researcher can utilise literature to confirm findings. On the other hand, the findings can be used to evaluate the literature to see whether the literature is not defining a phenomenon in multiple dimensions or is excessively narrowly explained.

The literature review signifies a fundamental basis from which a research study can develop and it is central to any study. I was aware that while the literature is being used as an analytical tool it can help the researcher to develop conceptualisation. On the other hand it can block a researcher's vision as it can stand between the researcher and the data. However, it is essential to have knowledge of previous research, how it was done, and what the findings are, and if the findings are significant in relation to findings from previous work (Mason 1993). Benton and Cormark (1991) suggest that reviews should:

- have defined objectives
- contain all the available and relevant research
- be systematic and objective; methodological strengths and weaknesses should be taken into account
- have clear methodology

Mulrow (1987) believes that reviews should:

- respond to certain questions
- utilise standardised methods to evaluate research
- draw conclusions only after the collection, analysis and synthesis of information has been carried out systematically

Mulrow (1987) suggests researchers should be able to identify gaps in knowledge to create a structure for further research. As referred to earlier, there is a large amount of literature relating to women's positions during labour. Therefore, only articles in the English language sources of the 20th and current century were reviewed in this study (with some references to older texts). For me the reviewing process was not only about the critical appraisal of a series of articles but a direction towards further research.

I explored the literature in three stages of my study. The first was in the designing phase of the research, when looking at the relevant literature assisted me to define the research question and the theory behind it. The second time I had to go back to the literature was at the analysis stage in order to have better understanding of the emerging concepts and to extend my perspective. And the final time was in the last stage comparing emergent theory and findings with the existing literature.

2.8. Hypothesising and categorising

Tentative codes are provisionally gathered to generate categories. Hypotheses are generated based on distribution of pieces of data to certain categories; and these hypotheses are tested by collecting and analysing more data. In the process of collecting more data some developed categories may be accepted and strengthened or rejected, or even allocated to a different category. Strauss (1987) suggests that when concepts begin to appear, they should be grouped and classified under exact terms, which are then categorised. Constant comparative analysis would shape and re-shape categories. The preliminary analysis of the first few interviews were carried out line by line and open coding conducted. I came up with a large number of categories that were difficult to manage. However, later when I conducted axial coding to find the relation between the categories, the number of categories was reduced by assigning some of them as subcategories. During the analysis I was aware that my own assumptions, knowledge of the relevant literature and experience had an impact on the analysis and therefore on the initial coding system. The first categories that appeared in the early stage were related to the birth setting and environmental factors. This mainly covered the superficial aspects such as the room colour, light, size of the room, cleanliness, the equipment, etc. While these were reflecting some aspect of the problem, I gradually realised they were overly simplistic, lacking density and dimension. However, they were valuable since they helped me to move along the initial theoretical path.

The second group of categories was constructed around the first and was related to technology and power. This led me increasingly to include literature that explored wider sociological perspectives regarding the power relations in society, particularly the work of Foucault which proved very helpful in understanding the phenomena. My theoretical sensitivity was increased by my gradual engagement in a wide range

of sociological literature. For example, identifying terms that women used to describe the influence of the medical model of care on their birth experience emerged as highly relevant to the power of the medical model and its place in birth. However, initially this was understood by me as an addition to the main issue of control, a category that frequently emerged and regularly came into view in the transcripts. Going further and exploring the concepts in the literature it became apparent that the core concept was not the control but the power of a medical model that exudes control and paternalism.

Understanding the significance of this concept led me into exploration of the literature; in particular, French philosopher Michel Foucault provided insight into social symbolism of power and social contracture and its place in the health care system. In the process of teaching people to behave in the more socially accepted way, a social imperative for the female body has been created. I shifted from an analysis that was largely descriptive to a greater degree of conceptualisation which explored social construction and its impact on women's bodies and health. While analysing the data, the theoretical impressions that occurred at this stage created new perspectives. As a result, data were re-analysed retrospectively. During this process many of my earlier descriptive categories became replaced by conceptual categories, which reduced the number of codes. In addition, other codes were regrouped under core categories. These headings will be discussed in the Findings chapters (chapter 6, 7, 8 and 9).

2.8.1. Selective coding

Selective coding is the process of integrating and refining categories. In open coding, I was involved in generating the categories, looking at their intensity and their dimensions and their differences in that regard. In the axial coding categories were developed and their relations with the subcategories were defined. In my study, as was supposed, it happened in the later stage when the major categories were developed and the research finding took the form of a theory. For example, in the very late stages two categories "woman's body" and "body perception" were combined to form the "sense of freedom" category and then category "fear" was upgraded to "staying in control".

2.8.2. Concept Modification

Hypotheses are developed by a provisional link between categories, and can be tested by examining the data already collected or collecting new data by means of theoretical sampling. An identified core category explains the substantive categories and their relation together. It also signifies the underlying story line of the study. Strauss and Corbin (1998) write that a core category is a category that is central to the combination of the theory, appears frequently in the data, relates easily to other categories and has clear implications for a more general theory.

The theoretical framework forms by linking the core categories and the substantive categories to be tested and retested through the field notes and the data, until a vigorous theoretical framework is constructed.

In the rigorous analysis of data I have also looked for "deviant cases", dissonant data that differ from the emerging concept and themes. There was one case that I could identify as dissonant data. It was produced by a 19 year old primiparous lady of South Asian origin who was brought up in Canada and had just emigrated to the UK. In her antenatal interview she described the supine position and lying on the bed as the norm for the birth and wished to have all medical intervention for a safer birth. She had not attended any antenatal classes and her knowledge mainly came from a friend who had recently given birth in the supine position. Education was the main concern in this case, while her age as well as her cultural and social background could also play a part in her belief. She also feared that the upright position was not safe as the baby would fall to the ground.

2.9. Theoretical saturation

Theoretical saturation is very important. Strauss (1987) suggests that data should be gathered until all categories are saturated; otherwise the ill-developed theory would lack density and precision.

When building a theory, the general rule would be to gather data until it becomes saturated. Based on the definition of Glaser (1978) I continued to gather the data until:

a) No new or relevant data appeared to emerge related to a category.

b) The categories were fully developed in relation to their properties and extents proving variation.

c) The links between categories were well established and validated.

2.10. Closure

Premature closure when a theory is weak, thin and has gaps, is a threat to research (Glaser, 1978). Two forms of premature closure have been referred to by Ammon-Gaberson and Piantanida (1988): thin sampling, when inadequate data have been collected, or ending before an adequate theory has been formed. They believe that doctoral theses are more at risk of premature closure because of time restrictions.

2.11. Narratives

Reissman (1993) explained that in narrative analysis, the story will be taken as an object of investigation. The aim is to find out how the respondents perceive events happening in their lives. Polkinghorne (1995) also described how, in narrative analysis, stories are used in order to illustrate human engagement and experience.

Telling stories is believed to be a natural human desire and a basic way of making sense of an experience (Mishler 1986).

Denzin (1989) believes that narrative stories have the following elements:

- a beginning, middle and an end
- are past-orientated
- are linear and chronological
- have a plot
- seem sensible to the narrator.

One possible problem when classifying narratives in this manner is the loss of data obtained within the general discourse outside the narrative structures.

Narrative is not only the explanation of the event but acts as the interpretation. It provides a rich source one can use to try to understand the explanation and meaning

that people put on objects and events. Midwives can learn about the implications of their practice by listening to women's stories regarding their experiences of pregnancy, birth and the postnatal period. These stories may also open up new dimensions in the midwife-woman relationship. The way a woman tells the story, emphasises some events and draws conclusions, all indicate the meaning and significance connected to those events.

The postnatal interviews provided me with the women's birth stories. The stories generated personalised accounts of a significant event in their life, namely giving birth to a baby. Using narrative analysis, listening to individual stories was an important part of viewing the complete picture. I looked at women's knowledge, preference and expectations towards the birth position antenatally. I then looked at their acceptance or resistance while in labour and the changes that appeared in their attitude over the period of time between antenatal and postnatal interviews. I identified the plots in their stories, followed the changes and tried to find what was behind the change, how it was and why it occurred. For example, in the story of their confinements to the bed I looked at their rationales, reasons and the influential factors in their confinements. Reviewing the data several times with regard to what women said about their preferences, what happened during their birth and the way they interpreted the events, helped me to see beyond the events.

However, as the interpretation of the story remained with me, some caution needed to be taken.

2.12. Trustworthiness of data

One of the most important aspects of judging a study is the issue of validity and reliability. Validity means whether the tool used in a research study actually measures what it is designed to measure. Establishing validity is difficult as a research instrument is supposed to have both internal and external validity. Internal validity means that the instrument measures what it is supposed to measure and external validity is the extent to which our research tool would apply to other settings.

Reliability means that if the same test with the same condition is applied in different settings, the same result will be obtained.

The findings generated from a study are intensely influenced by the validity and reliability of the tool used in data collection (Lo Biondo-Woods and Haber, 1994). Lincoln and Guba (1985) suggest that the trustworthiness of the data and its analysis must be demonstrated, and they recommended four forms to demonstrate trustworthiness.

One is defined as credibility; when researchers can explain and clarify their experience. The second factor is defined as transferability, when readers feel that the study is transferable to another context and can follow the researcher's experiment and verdict throughout the study. The third factor is defined as dependability, when the researcher can present the study by explaining changes in the condition or higher understanding of the setting. The fourth factor is defined as confirmability, when the researcher is able to show how analysis and interpretation have been formed throughout the study. Findings of a study should be informed logically and show the experiences and background that affect what one understands and how one acts, including during the study. These factors add to the trustworthiness of the data (Guba and Lincoln, 1989).

2.12.1. Credibility (instead of internal validity)

The theory generated from a grounded theory method must be integrated, testable and true (Stern 1985). Validity indicates if an instrument measures what it is supposed to measure (Lo Biondo-Woods and Haber, 1994). Frequent comparative analysis is needed to cross-check the truth of the data, its interpretation and analysis (Brink, 1989:179). Furthermore, searches should be carried out for negative events or alternative theories.

Internal validity may be threatened by small sample size and inappropriate outcome measures. Therefore, an adequate size of sample was included in my study. I continued collecting the data until rich as well as dense and vigorous categories were obtained.

In the literature review for this study, all publications included were directly relevant to the study. Credibility in my study was checked by constant comparative analysis, cross- checking the categories and identification of negative cases. My claim to credibility in this study lies not only in the theory that is presented as the product of

the process, but in the fact that throughout the process all expressions were clear and stayed the same.

2.12.2. Transferability (instead of external validity)

This links to the issue of how generalised the findings would be, and whether the resulting theoretical frameworks are applicable to other contexts. Hutchinson (1986) believes that a substantive theory may be applicable merely to the population studied, but an excellent core theory will be applicable to a wider population. However, Lincoln and Guba (1985) pointed out that the liability for signifying this would lie with other researchers wishing to use or test the framework in other settings. External validity was considered to be threatened by methodological inadequacy as well as by the researcher's interest in a topic. The researcher is required to be as objective and as unbiased as possible.

2.12.3. Dependability instead of reliability

The researcher can describe dependability by explaining the changes in the condition or higher understanding of the setting. Repeated interviewing of the participants can be used to find out whether or not the data provided by them remains the same over a period of time (Brink, 1989).

One way to check for reliability and truth of information while interviewing a participant is to rephrase the same question and compare the reply (Brink 1989). This was applied in my research. While interviewing women postnatally I rephrased interview questions on issues regarding the midwife's presence and the support they received from their surroundings and from their midwife.

2.12.4. Confirmability (instead of objectivity)

The degree of consistency or accuracy of an instrument used for gathering data to measure an element is regarded as reliability (Cormack, 1991). This informs whether similar data would be generated if the method of data collection changed.

Subjectivity of the researcher might influence the conduct and findings of the study. To overcome this, Lincoln and Guba (1985) suggested the following approach:

- For confirmation and correction purposes, data and their analysis are returned to the respondents.
- Research methods and data analysis should be discussed with an experienced tutor or supervisor.
- Researcher's thoughts need to be recorded throughout the research process by means of a reflective diary.

Throughout the study I had regular and frequent meetings with my supervisors, and the research method and data analysis were carefully discussed in these meetings. I also presented my work at different stages of the study in two university-wide PhD student conferences and two faculty midwifery subject group internal research seminars in the presence of the university lecturers as well as external members of the audience.

2.13. The process of building a grounded theory

Development of a qualitative research project has been illustrated by Vivar et al. (2007; 65) as a 17-step process. These steps include:

"(1) selecting an interesting topic; (2) introducing the background to the problem; (3) presenting the significance of the study; (4) defining the concepts; (5) establishing the research aim(s); (6) deciding on the research paradigm; (7) finding a theoretical framework; (8) choosing the data collection method; (9) planning the data collection; (10) describing the procedure of data analysis; (11) enhancing the quality of the data; (12) reporting the ethical issues; (13) presenting the limitations of the study; (14) disseminating the findings; (15) planning the time frame; (16) concluding; (17) presenting the references" (Vivar et al., 2007, 65).

A more comprehensive process of building a theory was explained by Pandit (1996). This process is represented in the following table (Table 1).

All phases were applied to my research, although the order has not necessarily been followed. Data collection and data analysis phases were progressed in parallel rather than chronologically and they were the most time-consuming phases. In the later phases of the research I needed to go back to the literature several times to check the validity of the findings.

Table 1 - Process of building a theory, based on Pandit (1996)

Phase	**Activity**	**Rationale**
RESEARCH DESIGN PHASE		
Step 1: review of technical literature	Definition of question Definition of a priori constructs	Focus efforts Constrains irrelevant variation and sharpens external validity
Step 2: selecting cases	Theoretical, not random sampling	Focuses efforts on theoretically useful cases (e.g., those that test and/or extend theory)
DATA COLLECTION PHASE		
Step 3: develop rigorous data collection protocol	Create case study Employ multiple data collection methods Qualitative and quantitative data	Increases reliability, increases validity Strengthens grounding of theory by triangulation of evidence. Enhances internal validity Synergistic view of evidence
Step 4: entering the field	Overlap data collection and analysis Flexible and opportunistic data collection methods	Speeds analysis and reveals helpful adjustments to data collection Allows investigators to take advantage of emergent themes and unique case features

DATA ORDERING PHASE		
Step 5: data ordering	Arraying events chronologically	Facilitates easier data analysis. Allows examination of processes
DATA ANALYSIS PHASE		
Step 6: analysing data relating to the first case	Use open coding Use axial coding Use selective coding	Develop concepts, categories and properties Develop connections between a category and its sub-categories Integrate categories to build theoretical framework All forms of coding enhance internal validity
Step 7: theoretical sampling	Literal and theoretical replication across cases (go to step 2 until theoretical saturation)	Confirms, extends, and sharpens theoretical framework
Step 8: reaching closure	Theoretical saturation when possible	Ends process when marginal improvement becomes small

LITERATURE COMPARISON PHASE		
Step 9: compare emergent theory with extant literature	Comparisons with conflicting frameworks Comparisons with similar frameworks	Improves construct definitions, and therefore internal validity Also improves external validity by establishing the domain to which the study's findings can be generalised.

2.14. Conclusion

A huge body of methodological work conducted during the last decade has resulted in an impressive improvement and progress in qualitative research techniques. Qualitative research methodologies can produce rich information which can reveal significant insights to inform development, change, and dissemination of interventions to tackle health system weakness. The chosen research methodology in this study is grounded theory. To present the research process clearly in this chapter, I highlighted my approach to qualitative data analysis, which applied the principles of inductive reasoning and the constant comparison method while employing code types (concept formation: open coding, concept development: axial coding, selective coding) to analyze data. The process of building a grounded theory, trustworthiness of data and narrative were also discussed in this chapter.

I described the specific data collection process and analytical approaches used in all stages of the research and this will be discussed further in the section three.

Section Two

Chapter Three

Choice

Chapter Four

Review of the history of the development of birth positions

Chapter Five

Physiological alterations associated with birth positions

Chapter Three

Choice

3.1. Introduction

Although there has been considerable discussion of consumer choice during pregnancy and childbirth in the literature, there is a lack of research into maternal preferences on position during labour and birth, and on the role of environment and context in the process of maternal choice. One of the fundamental principles of the new vision for midwifery and the maternity services has been that a woman should be free to choose the care that is most suitable for her (DoH, 1993; DoH, 2004; DoH, 2007). However, the review of the midwifery literature and journals for this thesis reveals that currently, research on choice in childbirth is limited to the choice regarding the place of birth or method of infant feeding or more generally about who makes choices. Little evidence on woman's decisions on the birth position is available. The issue of choice is a major factor that has a direct effect on women's feelings of being in control and subsequently has a great effect on their birth satisfaction (Green et al., 1990b; Waldenström et al., 2004). I searched many databases via Ovid including all EBM reviews comprising CDSR (Cochrane Database of Systematic Reviews), DARE (Database of Abstracts of Reviews of Effect), HTA (Healthcare Technology Assessment database), MIDIRS, Medline, CINAHL. I also searched midwifery journals via Journal@Ovid and also hand-searched midwifery journals and undertook an electronic bibliographic search of literature using the RCM (Royal College of Midwives) library database. The terms used for the search included "Choice", "Childbirth", "Control", "Decision making", "Birth position". I also placed requests for information on any unpublished or ongoing studies on midwifery electronic research lists. In this chapter I will briefly address the issue of choice and control and its history in childbirth, and examine how medicalisation and technology in the history of childbirth has affected women's choices in childbirth. In order to have a better understanding of the phenomenon of

control in childbirth, a number of control theories previously utilised in healthcare will be examined and their application to choice in childbirth considered.

3.2. Choice

Moves to give pregnant women more autonomy and greater choice started in 1950 when the European Convention on Human Rights and Fundamental Freedoms set the basis in support of the rights of pregnant women. In 1974 with the establishment of Community Health Councils, more emphasis was given to bringing consumers' views into the planning and provision of health care. In the past professional conduct was based on the duties of the professional, not on the rights of the patient and decisions about childbirth were the responsibility of the medical professions (Bones 2006). With the advance of medical technology, including childbirth technology, new ethical dilemmas on women's choice and decision making have appeared.

Efforts were made to make women's voices heard in the care that they receive and to call for a shift from professional paternalism to patient individualism. However, this is not an easy task as choice and control are constantly subjected to limitations.

The *Changing Childbirth* report (DoH, 1993) aimed to provide 'choice, control and continuity' for pregnant women and this has been reinforced lately as the fundamental principles of the new vision for midwifery and the maternity services (DoH, 2004 and DoH, 2007).

Definition of choice and control varies based on the definition of their boundaries and limitations. These limitations on choice are often defined based on political and cultural definitions of human rights. Therefore the argument on choice and control is more on their boundaries and limitations and neoliberalism has a part in drawing these limitations as believed by Edwards (2008).

The advance of science and technology has increased the growth and extension of consumer capitalism around the world. The world is turning to a global market under control of a small number of dominant, rich nations, where every part of life can be bought and sold at a price and the gained wealth goes to less and less people (Edwards, 2008). This has been defined as neo-liberalism by Harvey (Harvey, 2005).

"Neoliberalism is in the first instance a theory of political economic practices that human well being can best be advanced by liberating individual entrepreneurial freedoms and skills

within an institutional framework characterised by strong private property rights, free markets and free trade. The role of the state is to create and preserve an institutional framework appropriate to such practice" (Harvey, 2005, p2).

Increasing wealth is a fundamental principle of neoliberalism. It is achieved by bringing all human actions into the sphere of the market place through developing the access and regularity of marketplace business (Harvey, 2005). This wealth would not be distributed within people; it only goes to a few and broadens the gap between rich and poor. This has a direct effect on other social matters including health care (Edwards 2008). Its impact on childbirth as Edwards argues would be that firstly pregnant women would be portrayed as consumers and that having a baby would be treated like a trip to the supermarket in that one can choose between the available choices in the market and of course one should be able to meet the expense of it. Generating wellbeing from women's points of view would be ignored. Edwards argues that it also has an incredibly harmful impact on the quality of health services. In a neoliberal market it would be difficult to support the hidden quality of care provided by midwives as midwifery is labour, skill and time exhaustive and much of what it carries out remains unseen, hence ineffective in terms of financial profit. In the event of conflict, a neoliberal state would likely support integrity of the financial system and solvency of financial institutions as opposed to cooperative rights of employment or wellbeing of people.

There are concerns where a consumer model of choice is applied to childbirth and where a paternalistic system develops to make use of all modern technology on the basis of offering choice. In the case of labour pain, for example, in order to give women informed choice they have been given a hierarchical list of pain relief to choose from. Irrespective of the sort of delivery she is going to have a woman would be exposed to at least one sort of pain relief to choose. This 'menu approach' (as called by Leap, 2000) creates a culture where it would be seen as a necessary part of the process of giving birth (Leap, 2000).

This model of choice could be even more an illusion and give a false impression of choice. Where the choices are subjected to selection and limitation and women are not being told about alternative choices, the consumerist model of choice can be employed as a justification for the rise of the caesarean rate (McCourt et al, 2007).

3.3. Control

The definition of control in childbirth studies is often narrow. Cultural and social factors have a significant influence on the decisions related to childbirth. Control can be defined in a study as an external control in terms of what has been done to you and how much control you had on decisions made about you (Van deVusse 1999, Tiedje 2008). In this sense control will be defined and measured as something that was applied and permitted by the surroundings and the environment. The application of external control by a practitioner is more through procedure and technology. A second concept is that of internal control: that is the women's control over their behaviour. Although it is said that there is a wide division between "internal control" and "external control" (Weaver, 1998) and having external control is not always parallel to having internal control and vice versa, the influence of these two upon each other is undeniable. In some cases application of control by the practitioner might give the woman a powerful and secure feeling that everything is under control so that a happy ending will be guaranteed. Conversely, in other cases women might be left very unhappy and feel out of control when a practitioner's control is applied. These differentiations might rely on multiple issues from professional manners to the issue of safety for women and babies. Control is a cultural, social and political issue; a complex issue that has various meanings within childbirth and healthcare providers (Tiedje, 2008).

Control in childbirth has not been well understood although it was acknowledged as a significant topic in human life for a long time (Weaver, 1998). Definition of control has changed throughout history as the concept of human rights developed.

3.3.1. Control theories

A number of theories have been developed by psychologists in relation to control. The most popular ones which have been used in childbirth studies are; Locus of Control (Rotter, 1966), Self Efficacy Theory (Bandura, 1977) and Health Belief Model (HBM).

The concept of Locus of Control was developed by Rotter (1954). The word "Locus" means "place". It measures general expectancies for internal against external control of reinforcement. People with an internal locus of control believe that their own

actions cause their achievement, while those with an external locus of control believe that their own behaviour and action does not determine their achievements and their lives are generally not controlled by themselves. In other words in the locus of control theory your behaviour is determined not just by the existence or size of reinforcements, but by the beliefs about what the results of your behaviour are likely to be. Weaver (1998) criticised the outlook of control in the theory and classified it as a narrow term definition where little consideration is given to "beliefs" in what an individual should or wishes to do. Rotter (1966) published his well known I-E scale to assess a person's degree of internal or external locus of control. This scale has been widely used in the psychology of personality but was inadequate as it measures only two dimensions. It has been subjected to a great deal of criticism for being too narrow and linear and not being able to capture the density of people's response totally.

The scale is a 13 item questionnaire and the score ranges from 0 to 13. The scale measures an individual's generalised expectancies for internal versus external control. A low score signifies an internal locus of control while a high score signifies external locus of control. Duttweiler (1984) criticised the scale's forced choice format and its susceptibility to social desirability.

Childbirth satisfaction was measured in a study (Willmuth et al, 2006) using Rotter's I-E scale and a postnatal questionnaire. Findings of the scale and the questionnaires were compared in order to find out the relation between locus of control and satisfaction. The result confirmed that internal locus of control was related to child birth satisfaction but this finding should be interpreted with caution due to the contracted character of the locus of control concept and its IE scale. Nevertheless using the scale established credibility in terms of being relevant for childbirth.

In Self Efficacy theory the concept of self-efficacy is defined as people's beliefs about their abilities to create a level of performance that has influence over events in their lives. Self-efficacy beliefs tend to influence how people feel, think, motivate themselves and perform.

Applying the theory to childbirth, the "Childbirth Self-Efficacy Inventory" (CBSEI) was developed by Lowe (1993). The tool was utilised to measure women's confidence in their ability to cope with labour. It has been identified as a valid and reliable tool for American culture. A replication study of use of the CBSEI in

Northern Ireland (Sinclair, 1999) has also recommended the use of the CBSEI in midwifery practice as a tool for identification of women in need of additional support in pregnancy and childbirth. Other versions of childbirth self efficacy have been studied in several other countries (Drummond, 1997 in Australia; Wy et al., 2005 in China; Khorsandi et al., 2008 in Iran). Self efficacy theory is limited as the outcome expectancy (the belief that a specific behaviour results in a specific outcome) is not considered in the theory (Weaver 1998).

The Health Belief Model (HBM) was developed in 1950 by three psychologists working for the U.S. Public Health Services. The model was developed in order to explain and predict health behaviours by focusing on the attitudes and beliefs of individuals. The model has been used in some childbirth studies (Withers, 2005; Tiedje, 1992). The Health Belief Model largely relies on factors influencing a person's health behaviour; however factors that reinforce and enable a behaviour have not been considered in the model. These factors are very important when a complex issue needs to be explained. A systematic review of 46 studies that applied HBM revealed that it lacked consistent analytical power for many behaviours (Janz and Becker, 1984).

3.4. Choice and Control

There is a connection between choice, control and decision making. However they do not have a direct effect on each other all the time (Weaver, 1998). Giving multiple choices does not always induce higher levels of control while having control does not always mean having choices. In some women variety of choices might increase the level of anxiety (responsibility for making choices, fear of making the wrong choice); as result decreasing their sense of control (Green and Baston, 2003). However I believe a variety of choices itself often does not induce the anxiety; the lack of knowledge and understanding of the alternatives does.

It is important that we understand what choice means with respect to pregnancy and birth. It would not be a real choice while we face two negative options. The psychologist Mander (1993) is concerned with the question 'Who chooses the choices?' She asks who selects the choices a woman is allowed to make. In her comment Mander identified information and research as the two fundamental bases

for real choice to take place. In other words, women would not be in a position to make real choices if there is no information on available alternatives.

Childbirth satisfaction is a compound phenomenon which is influenced by several factors. While control is one of the important factors it should not be perceived as a direct indicator of childbirth satisfaction. Sense of satisfaction is linked with different aspects of control during labour. Being in control; self-control (internal control) and control of what was done to you (external control) have been positively linked with childbirth satisfaction (Hodnett, 1989). Including external and internal control Green (2003) also measured a third element "feeling in control during contractions", in her study of "Feeling in Control during Labour". Data were obtained from 1146 women who completed antennal and postnatal questionnaires. Findings of the study emphasise the importance of all three types of control and their contribution to psychological outcomes. Caregivers were identified as key elements that can make a significant difference to women's childbirth experience and to their feeling of being in control. Being in control in all three types contributes to women's satisfaction and psychological wellbeing.

A positive or negative birth experience influences a woman's perception of control (Halldorsdottir and Karlsdottir, 1996b). Women have reported a positive birth experience when they felt in control (Brown et al, 1994; Hodnett, 1989), when there was effective communication (Waldenström el al. 1996), when there was shared decision making (Fowles, 1998; Berg and Dahlberg, 1998) and when they felt supported, valued, and respectfully treated by health professionals (Green and Kafetsios, 1997; Bluff and Holloway, 1994; Walker et al, 1995). Women have reported a negative birth experience when their wishes were not supported and a lack of control led them to feel anxiety and depression (Halldorsdottir and Karlsdottir, 1996a; Mander, 1992). These studies will be discussed further in this chapter. In a descriptive study by Fowles (1998) to identify the main concerns of new mothers regarding their delivery and birth, women were asked: "Is anything about your labour and delivery still bothering you?" Lack of control over body movements and decisions about intervention in labour were both marked strongly in their responses.

There is a ground for arguing that a woman's decision-making process raises ethical dilemmas in connection with her care during labour and birth. The decision a woman

makes has a direct effect on her birth experience and whether she perceives this positively or negatively.

Findings of these studies can help us to gain a better understanding of psychological outcomes of childbirth. However, the definition of control needs to be examined in these studies. It is important to identify whether the researcher is talking about the external control (control over what is done to you, which is often associated with involvement in decision-making) or internal control (control of your body and behaviour) (Gibbens and Thomson, 2001; Morgan, 1997).

A number of studies has tried to find out what "control" means to women in labour. As the issue of being in control is subjective, instead of making a wrong assumption it is important to discover what women perceive it to be.

The theory of external control as involvement in decision-making sometimes means accepting without challenging. The importance of caregivers is implicit in conceptualisations of external control. The question is whether such involvement inevitably leads to control or whether some women, in fact, achieve a greater sense of control by handing over decision-making to caregivers (Green, 1990). The hypothesis is clearly concerned with the relationship between internal and external control. This is an under-researched area, with only a few small qualitative studies published, which have tried to clarify the matter (Berg and Dahlberg, 1998, Walker et al., 1995). In a study of women's experiences of complicated childbirth, for example, Berg and Dahlberg (1998) described how a reluctant loss of control could cause a feeling of guilt. Women's sense of control appeared to arise from sensing that they were informed and could challenge decisions if they needed to, even though in practice they did not (Berg and Dahlberg, 1998). In a qualitative study by Walker et al. (1995) on experience of labour among those receiving care in a midwife-led unit, 32 women and six partners were interviewed. The interviews were conducted prior to women being discharged from the unit or between three and five months following the birth. The main conceptual category emerging from the study was the balance between perceived personal control and perceived support. Having support led to women's sense of control (i.e., the midwife's presence), and being able to transfer control or let the midwife take control when appropriate. Therefore, comments made by women such as "it was great, she took control" suggested that control being taken by the midwife at an appropriate time was viewed by women as very supportive.

Being in control during the labour and birth is also closely linked to empowering women (Walker et al., 1995).

Jordan (1997) observed and documented the exercise of power and control in birth by practitioners in a study of the dynamics of care during the second stage of labour. The study was carried out in the maternity unit of a western city in the USA between 1986 and 1989 where women's labour was videotaped. Jordan tried to picture the consequences of technology-dependent knowledge becoming hierarchically distributed. Her study suggested a horizontally-controlled distribution of power in which the input of the women's bodily knowledge would also be valued and actively included in decision making. McCourt (2006) in her observational study of communication and interaction between midwives and women found that in a less hierarchical model of care (e.g. case load midwifery) greater information, more choices and more control was offered to women by midwives throughout the women's pregnancy. She concluded that a better awareness on the issues of power and hierarchy and the subsequent structure change is needed in order to achieve real health service reform. In order to have a better understanding of the concept of power as applied to childbirth it is important to trace the history of social control of childbirth in western society.

3.5. History of Social control in child birth

The early beginning of the medical market in Europe took place during the 17th and 18th centuries (Stacey, 1988). It was the ability of the physicians, surgeons and apothecaries to classify themselves as members of the occupational group 'doctors' (Blane, 1997) preserved by the 1858 Medical Registration Act in England, which presented a significant achievement. However in 1896, the General Medical Council still had members who were opposed to the registration of midwives:

"this movement for midwives registration is under the auspices of people in high social and political position, and has caused great alarm amongst these doctors who make their living from the working class ...what the agitators in profession mainly desire is the council will absolutely oppose any attempt whatever to bring about the registration of midwives, or as they say, the creation of new and inferior order of medical practitioners." (Glasgow Herald, 1896, Nov.25)

As Nettleton (1995) points out, it was the structure of the orthodox medical groups, in terms of class, gender and race most closely in line with those in power at state level that certainly helped them in the professionalisation process. In the 17th and 18th centuries, medical groups were increasingly conscious of lower cost competition from unlicensed medical practitioners, and were unsuccessful in representing their superiority campaign for many years. They openly believed themselves to be superior and in fact referred to themselves as professionals (Stacey 1988). However, as a matter of fact there was perhaps very little to choose between the licensed and unlicensed groups of medical practitioners, regarding reliability or curative efficiency at the time, although there continued to be differences in how expensive their services were. Blane (1997) notes that by increases in both status and income for its members, medicine completed the professionalisation process around the 17th century but still did not possess any practical important values to change the flow of common diseases to any major extent. However, as Ehrenreich and English (1974) argue, professionalism should never be mixed up and mistaken with expertise. While 'expertise' is achieved by efforts and is meant to be shared, professionalism by its definition is a status exclusive to a certain gender, race, and class.

Increasing knowledge of human anatomy and physiology, which developed over the last three centuries, has resulted in assumptions that biomedical science has been responsible for the most significant improvements in the health of the world's population. The fact that biomedicine has indeed played a part in saving many lives is undeniable. However, technological and pharmacological advancements in the management of acute and chronic disease are becoming more and more complex and assumptions about the biomedical role in improving health have been questioned, with claims that its role has been exaggerated with respect to maternal and infant mortality (Tew, 1998).

Considerable reductions in UK infant and maternal mortality rates were achieved from the mid-20th century onwards. The decline in mortality rates could be viewed as a consequence of advances in scientific knowledge and improved medical care. However, an important conclusion of Winter's study (1982, cited Hart, 1985) was that biomedicine had little impact in that regard. Maternal and infant mortality rates reduced largely in the UK during the Second World War, when there was a shortage of medical staff. Ironically the living standard of the poorer sections of society

increased considerably during the war years with the impact of food rationing. Pregnant women were able to gain better nutrition and diet with direct effect on well-being of mother and child and consequently mortality rates reduced (Tew, 1998). The relationship between fewer doctors and fewer infant and maternal deaths could partially be explained by the fact that fewer doctors could mean reductions in surgical intervention and the use of forceps during delivery. Forceps deliveries were linked with increased morbidity among women and their babies (Hart, 1985). Public health improvements, availability of vaccination, effective treatment and better diet and housing conditions all contributed to reduction in mortality rates associated with infectious disease (Hart 1985).

The growth of general practice at the beginning of the 19th century further undermined the traditional system (care by midwives for birth). GPs were undertaking a comprehensive role that included midwifery. Also, the response to the needs of large rural populations was provided by these GPs (Witz, 1992; Lupton, 1994; Nettleton, 1995), and according to Witz, this were the main group responsible for leading the movement for medical reform. But the time frame within which medicine accomplished its curative monopoly remains a critical factor. Although Foucault's (1973) stance is that this was primarily concerned with European social structure, his argument that biomedicine could only have been born from a sex-and class-divided society in which both women and the poor provided appropriate research and teaching material remains an important one. His primary concern was the social structure.

However, the medical profession created a culture that clearly assumed and easily accepted a far greater contribution (Hart 1985). Historical analysis reveals that the power invested in modern biomedicine was rooted in its success in achieving control over its own work (Hart 1985, Morgan et al. 1985) and attaining statutory legitimisation as the official body to deal with matters of health and illness (Morgan et al. 1985). Class and gender had a significant role to play in helping medicine to develop healing practices in the public domain.

3.5.1. Pathological nature of childbirth

The change in the interpretation of birth from a 'normal' and 'attended' life event to an 'abnormal' and 'managed' crisis were the main steps that led towards the

increased medicalisation of pregnancy. What the historian Donnison (1977) sees as the deliberate attempts of the medical men to exaggerate the risks associated with childbirth and to scare women into believing that male attendance was necessary seems to be still the case in maternity care. According to Arney (1982), in order to bring about cultural reform in childbirth practices, technology on its own was not enough; medicine had to change the meaning of pregnancy and practices associated with it. The technology had to be introduced into what Arney (1982) called an 'ideologically fertile social field' which in the 18th century was the expanding middle class.

Davis-Floyd (1987) criticised use of interventions that she viewed as examples of current western 'birth culture'. Pregnancy can be described as an important transition in a woman's social status, from woman to mother, which is associated with significant psychological changes. However, these changes are being undervalued by focusing on physiological aspects without regard for the psychological and social aspects of pregnancy. The widespread experience of postnatal mood disturbances was shown in Oakley's (1980) study of the outcome of the transition to motherhood. The definition of the outcome was based on two interviews with fifty-five women carried out at five weeks and five months after the birth of their baby. Only two women out of fifty-five experienced no negative experience of postnatal mood disturbance and had high satisfaction with the motherhood. Six groups of factors appeared as significant for the mother's mental outcome: factors associated with birth, antecedent socialization, baby condition, work situation, marriage, and general background. Factors related to birth were very much associated with the regular use of interventions such as epidural anaesthesia, Caesarean section and forceps. Oakley (1980) challenged the theories that attribute all postnatal mood disturbances to a purely hormonal basis or even to a representation of a rejection of feminine role. Based on her work she believed that many postnatal mood disturbances are iatrogenic and suggested unnecessary interventions in childbirth should not be used. However in a meta-analysis of 59 studies, O'Hara and Swain (1996) measured the sizes of the effects of a number of assumed risk factors, determined during pregnancy, for postpartum depression. The result indicated that postpartum depressions are best predicted by past history of psychopathology and psychological

disturbance during pregnancy, poor marital relationship, low social support, and stressful life events.

More recent research including the systematic research review undertaken for the NICE guidelines on antenatal and postnatal mental health (2007) suggests that social elements (social aspect of maternity service and supportive care, and social factors outside maternity care) have significant importance in both aetiology and maintenance of maternal disorders.

3.5.2. Medical and social model of care

For medical practice, the 17th century represented a major turning point. Acceptance of Cartesian philosophy (mind/body dualism) drew an important division between the material and spiritual. In the philosophy of mind, dualism is a set of beliefs about the connection between mind and matter, which embark on the claim that mental phenomena are non-physical in some senses (Lycan, 1996). It is most likely that from the point when man questioned the existence of spirit and spirituality, the first sign of dualism appeared. Parallel ideas initially spread in western philosophy with the writings of Plato and Aristotle, who claimed that man's mind and spirit could not be known with, or described in terms of, his physical body.

The most famous type of dualism derives from René Descartes in 1641, which suggests that the mind is non-physical. Descartes was the first to openly identify the mind with self awareness and perception. He distinguished this from the brain, which was the base of intelligence. His philosophy in basic terms revolutionised medicine. Carrying Descartes' perspective of mind and body dualism, medicine denied viewing the self as an embodied biological entity rather seeing the body operating by passive mechanisms.

However, different types of dualism have been actively attacked from different angles, mainly from the 20th century onwards. The main argument was how something utterly immaterial can affect something entirely material. This argument has been expressed by Paul Churchland (1998), although it might have been raised long before him. He pointed to the fact that when the brain experiences trauma from an accident or a pathological reason, the mental substance and matter of the person are exactly exposed to the danger. If the mind were completely separated from the

brain, how could this be possible? Whenever the brain is injured, the mind is injured as well. In fact, when certain areas of the brain are damaged, there is an expectation that the individual will experience mental or psychological deterioration. The challenging question for mind-body dualism would be: how all this can be explained if the mind is separate and of immaterial substance from the brain (Churchland, 1998).

Two basically different approaches within medicine have existed from the time of the early Greek physicians (Dubos, 1960). One is called the additive approach and places emphasis on natural law, where it is considered to influence and help perseverance of physical and mental health. Informally labelled the social model of health, it is mainly concerned with the environment as a whole and with populations at large. The second approach is called curative. This approach is looking for recognition of specific disease processes and their management; this is the biomedical model where practitioners are mainly concerned with individuals. Current medical practice, even with changes in attitude, practice and the increased interest in public health, is still largely based on the curative approach (Tew, 1998).

Van Teijlingen (2005) proposed three levels of understanding in a medical or social model of childbirth: the practical level (working practice), the ideological level and the analytical level. He stated that it was important to separate these three different levels. All working practices are somewhere in between two extreme ends of a continuum. Working practices are normally neither rigid nor still. Working practice can be changed over time by the individual practitioner or maternity unit (see Figure 1).

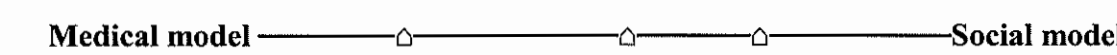


Figure 1: Relationships between working practices and childbirth models. (⌂: working practice)

Supporting or generating a certain practice and dishonouring others is maintained at the ideological level. Ideology always has an effect on individuals' 'outlooks'. The way one approaches and describes a particular birth and the way one experiences and values it are all coloured by one's ideology. Ideology is like the glasses through which one sees the world. Van Teijlingen described two ways of thinking with

respect to birth; one way highlights possible medical risks, and the other draws attention to the fact that pregnancy is a normal life event. In the ideology that supports a medical model of care, because risk selection and prediction are not entirely possible, safety will be guaranteed through monitoring, which will allow intervention at the earliest sign of deviation from normal. The medical model has been based on the idea that normal childbirth requires medical control. On the other hand, ideology that supports a social model is based on the idea that pregnancy and birth are normal life events, and that 'normal' childbirth is 'natural' childbirth. Normality of childbirth is emphasised and in the woman-centred ideology every woman is regarded as an individual within the social context.

Many medical professionals believe that it is only in retrospect that a pregnancy can be defined as high risk or low risk (Lumey 1993 cited in Van Teijlingen). In order to justify active intervention and management, medicine must emphasise the risk of pregnancy and its disease-like nature.

Changes in ideological views and shifts from one ideology to another occur. However, the important factor here is modifications in practitioners' views rather than minimal changes in practice settings.

Totally opposing views of pregnancy and childbirth are present at the analytical level in each model of care. The medical model at its analytical level stresses the risk factor; therefore biomechanical ideology intensifies the claim that obstetrical practice can enhance the chances of a positive outcome. By contrast, the social model emphasises at its analytical level the active role of the woman in birth; therefore woman-centred ideology intensifies the claim that midwifery practice can best promote the active involvement of the woman (Van Teijlingen, 2005).

Van Teijlingen (2005) believed that neither an obstetric- nor a midwifery-based approach to childbirth practice is static. To a great extent both play a part in the frequent redefinition of situations in ideological terms. Since analytical models are based on more fundamental underlying assumptions, they are slower to change than either working practice or their related ideologies. One example that Van Teijlingen (2005) provides is the definition of the nature of pregnancy. Whether some clinicians change their minds about the definition of pregnancy, and will accordingly change their working practice, at the analytical level the underlying presuppositions remain

to a large extent unaffected. Changes in working practices will not change the analytical model. In that case changing the environment would not automatically help women's movements and their choice of birth position. Unless there are strong ideological changes towards believing in natural birth, changing the environment with no ideological change might produce more harm than benefit. In this way the main issue (natural physiological process of birth) would be overshadowed and the problem remains that we are delaying progress towards better conditions of birth for women.

3.5.3. Health care technology

Technology has become an inseparable part of the modern hospital. It is therefore very difficult to evaluate the effectiveness of the application of technology as the majority of births happen in hospital (Hart 1985).

Wagner (1994) believes that the obstetric system drove childbirth into hospital in order to pursue what he calls the 'birth machine'. According to Wagner (1994), medical control over childbirth was established within hospital units dominated by senior doctors, who could effectively eliminate any competition from midwives and create a system of teaching that inculcated a medicalised birth culture in young medical practitioners.

Looking at the hierarchical organisation of hospitals, Raphael-Leff (1991), a psychologist, concludes that the fragmented care constructed in maternity hospitals is part of a common defence system to assist individual professionals. The fragmented care in hospital is intended to defend professionals from experiencing anxiety, guilt, doubt and uncertainty. Leff does not believe that this defence mechanism is an effective one. In a system where people behave and are treated in an unfriendly and impersonal way, prior to giving and receiving emotional support, both caring and appreciation are diminished. In addition, any activities that threaten the current state of affairs are confronted (Raphael-Leff, 1991).

3.5.4. Medical influence

Medicalisation is defined as the extension of medical authority into areas that in the past were considered as non-medical problems (Gabe & Calnan, 1989). With its mounting concentration on disease indicators instead of an individual's experience of

health and illness, medicalisation mainly serves the interests of medicine. (Helman, 1994) has no doubt that advances in medical technology, which have assisted the medicalisation process, have also served to make people depend more on the medical profession to solve their problems. Medicine has become a faith, empowered by the belief that its powers are based on myths about the past and faith in the present (Hart, 1985). One target of this process has been women's reproductive system, which is usually healthy and cyclically governed which has been reinterpreted as potentially dangerous. It was successfully imposed on women that a safe outcome of pregnancy as well as safe prevention of pregnancy required complete dependence upon the medical profession (Cahill, 1999).

In the modern history of childbirth, the term *medicalisation* implies that the childbirth experience is at risk from a technology-dominated healthcare system (Garcia et al, 1998). This is a considerable issue: medicalisation of pregnancy was gradually achieved mainly through ideological claims of superiority by medical expertise, rather than any clear advantage to women (Oakley, 1980).

The medicalisation of pregnancy and childbirth has its roots in a patriarchal model; the model that throughout history perceived women as fundamentally physiologically abnormal, as victims of their hormones and reproductive systems (Hart, 1985). Pregnancy has also been defined as basically pathological, in urgent need of active intervention. Men in law and medicine equally have used their power to label reproduction as a biological defect (Hart, 1985). Paternalism in the medical profession involves making decisions that are believed to be in the best interests of patients regardless of patients' wishes. This stance has its roots in the history of medical ethics where principles of non-malfeasance and beneficence are applied (Bones, 2006).

3.5.5. Decline of midwifery

Until the 17th century in the UK, childbirth was exclusively female dominated and firmly located within the domestic field. Birth took place at a woman's home attended by a midwife (Arney, 1982). The midwife was a close and trusted part of the community with a status that most women were denied at the time. She was respected for her knowledge and experience and had autonomy in her practice in an all-female sphere, where men represented no threat to her authority. She earned a

living and was an active participant in important church ceremonies (Donnison, 1977).

The involvement of medical men in childbirth was very complex. Before the development of the obstetric forceps by the Chamberlen brothers (Wilson, 1995), men had only been involved in obstructed deliveries where the use of their instruments was mainly to extract the body of a dead baby. However, a small number of male midwives who were in possession of Chamberlen forceps and now allowed to use them to deliver live babies, started to challenge traditional midwifery roles, although because of modesty and cost, women continued to be attended by female midwives. With scientific advances in knowledge of anatomy and human biology during the 18th century, medical practitioners began systematically to debate and devalue midwives' knowledge (Thomson, 1998). The opposition to abortion was one of the ways in which medical practitioners were assisted in questioning midwives' practice, as it was suspected that midwives also performed abortions. (Thomson, 1998) stated that by arguing against abortion, medical practitioners not only differentiated themselves from the unorthodox, but also with their superior knowledge and training declared their intellectual and moral superiority over midwives and pregnant women. Significantly, this approach pushed midwives more into the corner and increased the power of men in childbirth practice. These events emphasised academia's assumption about its superiority over experience and it also implied that scientific and true knowledge were the inheritance of males. Based on this assumption, medical men demanded superiority and authority over 'female' intuitiveness, empathy and understanding (Cahill, 1999).

Medicine's interest in a monopoly in health care could have been a part of a broader strategy to exclude woman from practice in the public domain as well as to control and suppress women (Stacey, 1988).

The decline of midwifery and its dominance by medicine was probably an effect of professionalisation rather than coincidental. As a result of medical control the art of healing actively moved from the domestic arena to the public arena; from the women's hands to the control of men (Nettleton, 1995).

Evidence presented by Oakley (1980) and Loudon (1994) based on epidemiological history indicates that the male involvement in childbirth caused additional risks to

women and their babies, including increased transmission of puerperal fever and injuries resulting from inappropriate use of technology. Even today some critics of medicalised childbirth believe that modern engineering obstetrics places women's health and wellbeing in danger and threatens female autonomy and rights to self-determination (Cahill, 1999).

The extent of effectiveness of medical knowledge and expertise is being increasingly questioned (Freidson, 1970). However, it remains difficult to challenge empirically. For instance, the definition of a 'high risk' pregnancy enforced by the medical arguments and the policy-making power of the obstetricians has resulted in limited choice with respect to place of birth.

Doyal (1979) argues that this is a hidden system of gaining social control, which is usually put forward in the shape of kind help. According to Zola (1977), modern medicine is:

"...becoming a major institution of social control incorporating the more traditional institutions of religion and law. It is becoming the new repository for truth, the place where absolute and often final judgements are made by supposedly morally neutral and objective experts ... an insidious and often un-dramatic phenomenon, accomplished by 'medicalising' much of daily living, by making medicine and the labels 'healthy' and 'ill' relevant to an ever increasing part of human existence". (Zola, 1977, pp 41-42).

English midwives were trained, professionalised and medically dominated in less than a century (Kirkham, 1996). Masculine values were reflected in the midwives' organisation (Davis-Floyd, 1994) and the domestic, caring, female values became gradually more concealed and invisible, even though these remained as essential components, as a basis for the support of individual childbearing women. In order to adapt to very intense changes, midwives often displayed the common responses of an oppressed group (Roberts, 1983). In some cases it could result in adopting the powerful values of medicine consciously or unconsciously and exercising force and aggression towards colleagues (Leap, 1997). By concentration of birth into hierarchically-structured large hospitals, the midwifery profession, despite some exceptions, more and more accepted the reactions and values of those organizations. These responses, rather than provide protection for midwifery, strengthened the values of obstetrics.

In the past decade, the dominant and progressive philosophy of care in the UK has been value-free choice, rather than a philosophy that views birth as primarily a

physiological process (Pollard, 2005). In recent years efforts have been made in the UK to reduce pregnant women's routine visits to obstetricians in hospitals and even to GPs. However, technological developments, increasing numbers of tests and risk-focused care have limited the impact of this policy.

Obstetrics is designed to help women with serious problems; it can be argued that it does not serve the needs of the majority of childbearing women. However, the obstetric system is required to define birth as a medical event. These assumptions lead women to believe that childbirth is unsafe, requiring technological and pharmacological interventions. The media, on the other hand, encourage this dependency and worship of technology, convincing women that technology and drugs eliminate risks and provide real choice and control (Revill, 2006).

3.6. Decision making

Research findings indicate that a woman's participation in her child's birth is linked to her positive memory and self-image and her ability to mother efficiently (Simkin, 1996). The core concept is that a woman should feel positive about her birth, and as a consequence can believe that she is strong and competent (Simkin, 1996; Rothman, 1996).

McKay and Smith's (1993) study of videotapes of women during the second stage of labour showed that not only did women appreciate the information shared with them, but they also assessed the quality of the interactions with their caregivers. Women highly appreciated their active participation in communication and decision making and negatively viewed one-sided communication and decision making by their caregivers. Likewise, from comments by new mothers, DiMatteo et al. (1995) identified positive effects of practitioners who were responsive to women by listening to them and respecting their needs. Brown (1996) analysed 'informational politics' among 16 women and their caregivers, and found that women favoured an open flow of communication, but caregivers could facilitate or hinder this based on how they related to the women.

In order to understand better the decision-making process, a number of theories of decision making will be examined here and their efficacy in helping women to make decisions about the birth position will be explored.

3.6.1. Decision making theories

There are two major factors that influence the elements of the decision-making processes in a model or theory. One is the outlook of the theorist or the investigator and the second is the kind of decision under consideration. Applying this to childbirth and placing labouring women in the position of a theorist or investigator, it may well be true that a woman's outlook and ideology affect her decision-making. However it cannot be a determining factor because for a woman to make an effective decision, her outlook has to be in line with the environment and the health care system within which she is being cared for, otherwise she will confront difficulties.

3.6.2. Decision Making Aids

Decision making aids were developed as a consumer-centred strategy to assist individuals to develop informed preferences about available options in their care. Its aim was to facilitate women's decision making and to reduce decisional conflict by providing evidence based information for women.

In two childbirth studies the decision making aids that were utilised by women who had experienced previous caesarean birth assisted them to make decisions about birth options during a subsequent pregnancy (Shorten, 2004; Heaman, 2006). A decision-aid booklet was also developed, which highlighted evidence-based information on risks and benefits of trial of labour as opposed to elective repeat caesarean section (Shorten, 2004; Heaman, 2006). Decision aids in these studies were seen as a valuable tool in assisting and improving knowledge and reducing decisional conflict for women to make informed choices. However, this would not be likely to be effective when there is no clear scheme and plan for institution and practitioners to develop the capacity to accept and truly support decisions made by women in cases when the women's decisions do not line up with the values or policies of the organisation. The potential of decision aids are greatly reduced in a hierarchial power structured institute when the norms of clinical practice are defined medically. Where the technological interventions are seen positively in relation to the incidence of litigation, the fear of litigation reinforces the notion of "right" and "wrong" choices instead of "informed choices" (Stapelton and Kirkham, 2002).

Carroll and Johnson (1990) presented a thorough discussion of research methods in decision making. They postulated that there are seven chronological stages of decision making that might not necessarily follow in their given order but may repeat and backtrack. These stages are: Recognition, Formulation, Alternative generation, Information search, Judgement or choice, Action and Feedback.

Problem recognition and formulation can be explained as pre-decisional action and engagement in examination and classification of the condition by the decision maker.

Simon (1986) believes that the behavioural model of decision making implies that human rationality is very much influenced by the situation and by human rational and intellectual powers. He adds that there is vast pragmatic evidence supporting this kind of theory as a valid explanation of how human beings make decisions. However, the behavioural model of decision making failed to recognise the nature of the decision maker and also the contextual and cultural issues and the influence of such factors on him or her within the decision-making process. Therefore it may not be an appropriate model for the decision-making process in childbirth.

Decision making in health care systems has been studied using several methods and from different perspectives. The majority of the research in nursing science is based on analytical decision-making theory or information processing theory (Lauri & Salantera, 1998). Referenced to analytical decision-making theory, human decision making is based on a defined systematic process and decisions are reached through analysis of the situation (Hammond, 1996). The information-processing theory was developed from studies of human problem solving. This is more to do with caregiver decision making. In healthcare this theory is classified as a hypothetical-deductive process of finding out the patient's problems via diagnostic reasoning (Elstein, 2002). Diagnostic reasoning studies may be valuable in understanding and improving diagnostic reasoning in medicine, but may not be applicable to childbirth which is a natural and not a pathological process. Also, the emphasis in diagnostic reasoning is on practitioners' decision making and patients or women do not have any role in it.

3.7. Conclusion

Beliefs, attitudes, institutional policies, educational models and style of the practice all influence decision-making and the decision–makers. The history of birth in

modern times shows that professionalism of medicine gave a scientific definition to male medical knowledge which was assumed to be superior to female experience and intuitiveness. It also cast doubt on the general assumptions in the medical practice about women which may compromise or disempower women during labour. These assumptions seem to be leading to a point where the mother's right to self determination, her choices and her plans may become undermined by the value of fetal life. The pathological definition of pregnancy by medicine seems so established that the increasing separation of lay and professional birth culture looks unavoidable.

Major issues related to control are information, communication, available choices, social structure and a facilitating environment. Communication between caregivers and women and involving them in decision making could be a good base to provide control.

Establishing just a set of formulae, where it is not going to be applied by the practitioners, would not give women control and choice (Weaver, 1998). Where the available choices are limited the area of women's control will also be limited.

Women's control and desire to make decisions might change during the process of labour and also in different situations (VandeVusse, 1999; Tiedje, 2008; Weaver, 1998) therefore it is important to look at the issue of control in a wider perspective.

From the review of the literature it is evident that choice in childbirth is limited. The issue of choice and control is a complex issue rooted in the history of midwifery. Social structure, the dominant culture of medicine, power and hierarchical structures in health care systems act as a barrier against offering choice and control to women. Decision-making theories utilised or introduced in the health care system are not efficient enough to be applied to childbirth because the ideological basis of these theories is medically defined, which is far from the natural physiological process of childbirth. Structural changes are needed in order to achieve real reform in the issue of choice, control and decision making in childbirth. In the next chapter, the historical development of birth position from ancient societies up to the present will be examined

Chapter Four

Review of the history of the development of birth positions

4.1. Introduction

Positions for giving birth can be reduced to two overall categories: vertical and horizontal. The horizontal position for giving birth became more frequently adopted alongside growing medical domination over childbirth. The vertical position includes squatting, kneeling, sitting and standing. A review of historical literature as it relates to the conduct of birth in ancient societies indicates that the majority of societies have used the upright (vertical) position for labour and delivery (Atwood, 1976; Brown, 1976; Gupta and Lilford, 1987; Dunn, 1991; Shannahan and Cottrell , 1985; Haukeland, 1981; Haddad, 1985; Lieberman, 1976; Naroll et al., 1961; Newton and Mead, 1967, Newton and Newton, 1972; Beard, 1974; Clark, 1891; Engelmann, 1882; Howard et al, 1953; Jarcho, 1934; Russell, 1982). In this chapter different birth positions will be reviewed from a historical point of view. To obtain the literature and old texts on the history of midwifery and birth position, hand searching was carried out on all midwifery journals and old text books in the Royal College of Midwives (RCM) library (1930-2007). No data was found on the history of childbirth using electronic medical and midwifery databases. I also visited the British Library in London to search old texts, and a request for information on birth position history was sent to the Midwives Information and Resource Service (MIDIRS). The documentation of different positions in the old texts was somewhat scant. However the descriptions and information of the birth positions were adequate and often accompanied by drawings and pictures of women giving birth in various positions. In my visit to the British Library I had access to a few old books through their microfilms. My searches were limited to English language books.

4.2. Squatting position

Squatting has been illustrated in ancient art and pottery as a widespread position for birthing dating back several millennia BC (Russell, 1982) and has been used as the position for birth in many cultures throughout history (Engelmann, 1882; Jarcho, 1934; Naroll et al, 1961; Jordan, 1983; Ploss et al, 1935; Paciornik and Paciornik, 1983). Study of tribal societies tends to prove the idea that the squatting position is certainly the most instinctive one in the West (Gelis, 1991; Goldsmith, 1990). In recent decades it is the least popular of the three common positions (Gardosi, 1989; Goldsmith, 1990), maybe because it is hard to maintain. To adopt a squatting position demands very good strength in the legs, and it is harder to relax into a resting position from a squat than from a sitting or kneeling position. Perhaps women in earlier times were more used to maintaining the squatting position in their daily tasks and could remain in a squatting position for longer. The mother who squats throughout delivery is nearly always supported by a helper, with a rope overhanging from the ceiling, a house post or a horizontal bar attached to two posts on top of the woman's head. She can not only hold this to stop falling over but she can also push upwards on it, increasing her effective weight and the forces on the abduct femora. Another practice to increase her effective weight is for an assistant to stand on the shoulders of the woman to enhance the moulding forces (Gelis, 1991).

Another difficulty with the squatting position is that the perineum is close to the ground and to leave room for the baby to be born a low hole must be tunnelled or the feet raised from the ground. The squatting position is definitely well known from very old times and in very diverse cultures such as French rural society. The custom of laying the child on the ground and its symbolic 'taking up' has been considered very important, representing the acceptance of the children by the father and family (Gelis, 1991).

4.3. Kneeling

The most frequently used position among Native American women was kneeling (Goldsmith, 1990). Kneeling and hanging on to a support have been regular positions for the past 2,000 years in Japan (Pearse, 1993). A rope over the farmhouse roofs was often utilised or grasping a wooden beam. It is said (Goldsmith, 1990) that in the

kneeling position the mother was supported at the back, or she might hold onto a rope or a sash with a knot tied at the lower end and hanging from the ceiling, or stake set in the ground, or one of the house poles. Kneeling was chosen by women who gave birth alone, maybe because of the ease with which a woman could adopt this position with no support. The kneeling position is both steady and at ease and exposure of the perineum is also good. However, the position may be considered a little undignified and the mother often has to turn round to meet her baby (Haddad, 1985). The hands and knees position can also be used at any time during labour and delivery. To be used particularly for delivery the labouring woman should be helped to her knees by the time the vertex is visible and is maintaining its position. Having the knees and legs to some extent more than shoulder-width apart increases pelvic expansion and relaxation of the inner thighs. In comparison (or contrast) to a squatting position the knees and lower legs lie on the bed maintaining support for the upper body (Gannon, 1992).

4.4. Sitting position

Perhaps the most common position in Asia and Africa is that of sitting upright, knees bent, leaning back on someone or something. A particularly popular variation of this is to pull the knees up near the chest. In fact it may be one of woman's earliest birth postures (Goldsmith, 1990; Gardosi, 1989). Vases from the ancient Inca Empire have been found that illustrate women giving birth in a sitting position (Haukeland, 1981).

The sitting position has definitely been the most common in Western Europe during the last three or four centuries (Gelis, 1991). In seventeenth and eighteenth century France, the woman usually sat on the lap of another woman who held her arms or the upper part of her body. In isolated places and farms, the husband was the one who held his wife still. To overcome certain disadvantages of the sitting position (like fatigue of both the woman and the person holding her up) and also to improve visualisation for the midwife, at the beginning of the 16th century the birthing stool and later chair were introduced (Gelis, 1991).

Slight variations exist in different societies particularly in the means of support. The birthing mother often grasps a rope hanging from the roof beam. Sometimes a person who sits behind and supports the mother is seated on a raised surface; in this way the

helper's legs provide as extra support. The support may be individually arranged so that the woman semi-reclines. On the other hand she may support herself by pressing her hands on the earth behind her. The sitting position (including the flexed-knee posture) is also widespread in Africa with many of the same differences.

4.5. Standing position

There were some places in the world where women adopted a standing position while birthing. The standing position was common in ancient Japan as well as India and some parts of Africa (Goldsmith, 1990; Kitzinger, 1996). In Kenya women stood semi-erect, sometimes taking hold of two of the roof supports, while several assistants held their legs and shoulders.

4.6. Hanging leg position

In this position the spine is fixed by lying on a horizontal surface and the weight of the legs pulls the pelvic belt from the sacrum therefore increasing the anteroposterior diameter (Russell, 1982). Avicenna (980–1037) of Persia used this position to deliver obese patients. He would support a woman's back with pillows so that her head tilted in one direction and her pelvis tilted in the other. Her thighs would then be separated for the delivery (Cianfrani, 1960). In the 16th century Celus recommended this position for the purpose of extracting a dead fetus (Rowland, 1981). In 1889 Walcher explained this position as something new and subsequently the hanging leg position was renamed the "Walcher position" (Cianfrani, 1960).

4.7. Birthing stool and delivery chair

There is proof that birthing stools were used as early as 2,500 BC. They are referred to in Exodus 1:16 and were used by Hebrew midwives since 700 BC (Nelki, 1995; Rosser, 1983). The birthing stool – later chair – was introduced at the beginning of the 16th century to overcome certain disadvantages of the sitting position i.e. sitting on the lap of a helper (Gelis, 1991). Soranus in his book *Soranus Gynaecology* recommended a birthing stool (Temkin, 1991; Haukeland, 1981). In classical Greece, Hippocrates (40 BC) recommended the use of the stool in labour (Cianfrani, 1960). A birthing stool was extensively used in Europe in the 16th century (Atwood, 1976) and

in France in the 14th century (Gillett and Nelki, 1981). In 1513 Encharius Rosslin, a physician in Germany, published a midwifery textbook called *Rose Garden of Pregnant Woman*. It was translated into English and published in 1540. In this book using a birthing stool was insisted upon, with the midwife sitting in front of the labouring woman. During this time, childbirth was the responsibility of midwives. Many early midwives were using birthing stools for delivery, which were chairs with a reclining back and a big hole cut out of the seat. The woman sat on the horseshoe-shaped seat with her perineum over the hole. The midwife squatted or sat on the floor in front of her to take the baby and place it in her lap. In Europe birthing stools were used by midwives until the mid-17th century. The birthing stool resolved the problem of support in the squatting position and the sufficient exposure of the perineum allowed the midwife to conduct the delivery. Furthermore, the infant could be delivered directly into the mother's arms. However, the birthing stool prohibited the woman from rocking or rotating her pelvis during the second stage and the attendants found it inconvenient to sit or kneel for delivery (Gelis, 1991). The birthing stool also had the disadvantage of requiring assistants to both stop the baby from falling on to the ground and to support the woman so that she did not fall over (Russell, 1982). An appealing development in the use of the birthing stool was observed in many civilisations. An assistant, usually a male, sat upright with his thighs abducted. The pregnant woman sat in his lap with her thighs along his. History records such living birthing stools, which were locally well-known as providing an easy delivery (Russell, 1982). Between the 14th and 15th centuries the stools of the earlier time were developed with back and sides as a form of delivery chair.

The delivery chair (with two significant improvements compared with the stool, having an inclined back and arms to which women could hold during a contraction) probably came via Egypt to Greece and Rome and hence to the rest of Europe (Haukeland, 1981). After the invention of printing it became widespread to translate textbooks from Greek and Latin to the different European languages and therefore the delivery chair became more commonly known. A variety of delivery chairs appeared, some very basic, others complex and weighty (Gelis, 1991). A common characteristic of all these chairs was absence of adjustment facilities, which are today considered essential for satisfactory supervision of a delivery. Materials availability was limited and structure was simple. Delivery chairs have been used for childbirth

since 1450 BC (Dening, 1982). Chairs were supposed to reduce the fatigue both of the woman and the person holding and supporting her. In reality, however, it was realised that they had disadvantages of their own. They were weighty and hard to move. The introduction of the birthing chair tended increasingly to remove the father from the labour room since his physical strength was no longer needed (Gelis, 1991). In Europe and North America the use of the birthing chair was common practice until a century ago (Housholder, 1974).

A contemporary version of the birthing chair is a shaped plastic chair with footrests. It is mechanised and can be elevated, lowered and tilted (Shannahan and Cottrell, 1985). It offers flexibility for the position of the woman during delivery and also supports the perineum during the second stage of labour (Stewart and Spiby, 1989). The electronically controlled birthing chair was launched into the UK in 1981 (Shannahan and Cottrell, 1985). Although the principles associated with the upright position seem to be valid in birth chair deliveries, changes in model have been introduced for the convenience of the birth chair attendant. These alterations, such as angle of the birth chair, may make delivery quite different from that experienced using ancient birthing chairs or natural squatting.

4.8. Birth cushion

The birth cushion was designed to assist the adoption of the squatting position. It is made of soft foam with a firm base and has fixed side handles for the mother to pull on while bearing down (Gardosi, 1989). As a recent obstetric aid the birth cushion allowed women to fall into a supported squatting posture for the second stage of labour. The advantage of the cushion was that a great deal of the descending pressure was supported by the thighs and not just by the buttocks and perineum. The birth cushion will be discussed further in Chapter Five.

4.9. Recumbent position

Lying supine with the knees bent was almost unknown among traditional people. There were only a few societies in which women lay flat on their back but even in some of these cultures a cushion was placed under the neck of the woman giving birth and another under her back hence raising her from an entirely flat posture

(Goldsmith, 1990). Soranus, a Greek physician (AD 98-138) who wrote important works on midwifery and women's diseases, recommended a bed when the dead fetus could not be delivered by manual traction and had to be extracted by hook (Temkin, 1991). In 1861 the Hungarian obstetrician Semmelweis verified the relationship between poor hygiene and childbirth fever (puerperal pyrexia) and the wooden delivery stool was discarded as being unhygienic (Rosser, 1983; Haukeland, 1981). In Europe the introduction of forceps in the 16th century by the Chamberlen brothers and much later the use of anaesthetics for delivery led to the decline of the use of stools. The birthing stools were substituted by bed and obstetric table in the early 17th century (Banks, 1992; Cianfrani, 1960). It is said (Gupta and Lilford, 1987; Rosser, 1983) that Louis XIV of France, who observed his mistress giving birth from behind the curtain, encouraged the dorsal position. This method was soon adapted by other royal families and court circles. It took a couple of centuries for this practice to pass through the sections of society but what has become identified as the 'stranded turtle' or 'stranded beetle' position has been the usual position for giving birth in western European countries for about two hundred years. In the late 16th century the French obstetrician Paré advocated the delivery bed (Towler and Bramall, 1986). Recumbency in labour became more common in the 17th century with the arrival of obstetric surgeons. Francois Mauriceau, the so-called father of obstetrics, was one of the first to advocate a bed for delivery (Lieberman, 1976; Bancroft, 1956; Housholder, 1974). He used a low, folding bed that was nicknamed the 'Lit de Misère' (bed of misery) (Haddad, 1985). Mauriceau adopted his delivery position straight from Aristotle who is said to be the first who applied this position for giving birth, while John Leak (1729–92) introduced the delivery bed to England (Dunn, 1991).

The recumbent position became fashionable due to the facilitation of vaginal examination and cleaning of the perineum and the ease of the practitioner (Blankfield, 1965; Hugo, 1977; Roberts, 1980; Liu, 1974; Howard, 1958; Watson, 1994). The semi-recumbent delivery position became known as the 'French' position and its use gradually spread throughout Europe and North America. In the 19th century the lithotomy position, which was employed for operations on gallstones, was encouraged by obstetricians because it afforded easier visualisation of the perineum and better conduct of delivery (Gupta and Lilford, 1987). The recumbent

position was introduced in America in the mid-1800s and confinement to bed for labour and delivery became standard (Rossi, 1986). William Pott Dewes first used the recumbent position in 1824 in the United States. At that time, however, birth stools were still used in France and Ireland (Hurd-Mead, 1938).

The new obstetric position was criticised as early as the late 1800s. The first argument, that giving birth on a bed was unnatural, was supported by Professor George Engelmann, who showed in his book, *Labour among Primitive People* published in 1882, that mothers of all races in different stages of delivery used every possible position: squatting, kneeling, clinging from a pole tied or overhanging from trees for delivery of their baby. Engelmann's work has often been referred to as proof (Haddad, 1985) that it is unnatural to look after the labouring woman in bed and that doing so may be dangerous. Towards the end of the 20th century, when hospital delivery became more common, the folding bed was substituted by the delivery table (Atwood, 1976; Haddad, 1985). Twentieth-century women have continued to be encouraged to remain in bed during early labour, hence making easier continuous fetal heart monitoring, intravenous therapy, vaginal examinations and use of analgesia.

4.10. Left lateral position

Birth in the left lateral position is an alternative to the dorsal lithotomy position. The practice of the left lateral position in England goes back to the 18th century. John Burton, an eighteenth-century English obstetrician, recommended the left lateral position because "the operator, by bending the elbow, can not only assist the patient more easily, but can also exert more strength, if required" (Graham, 1951). In the 19th century, Francis Ramsbotham (1851), another English obstetrician, suggested the left lateral position because it is the most convenient and easy posture for the patient to adopt.

Afterwards in the 19th century, Samuel Busey (1888) described the left lateral position as the "most desirable and convenient". In the 20th century, the left lateral position was believed to have real value when the obstetrician had little or no assistance from another person (Moir, 1964). The position is maintained by flexing the woman's hips and bending the knees to the degree that is most comfortable for

her. The woman may take hold of her right knee or leg for pushing or she may be held by her partner. Her buttocks should be located at the edge of the bed or table.

4.11. Conclusion

The study of birth positions throughout history in different societies faces difficulties for lack of historical and original documentation. Descriptions are often isolated and localised. However, some sources of information are available and these make it possible to identify regional characteristics and to follow long-term developments which may have taken place. A review of these historical writings reveals that upright positions were the common position in ancient societies; and that horizontal postures were decreed and adopted on the basis of custom and convenience of attendants rather than physiological and anatomical indications and scientific data.

No single-factor theory can explain changes from upright position to horizontal birth position throughout history. A number of major influences on these changes can be distinguished, of which adaptation to medicalised childbirth is one.

Chapter Five

Physiological alteration associated with position

5.1. Introduction

As discussed in Chapter Four, the semi-recumbent position is a relatively modern position adopted for human birth. Historically, other maternal positions including sitting, kneeling and squatting, were used during birth.

As the technological advances of the 1970s revolutionised obstetrics, the induction of labour became widespread. The more powerful contractions induced by oxytocic drugs required more sedation and analgesia, and epidural anaesthesia became commonplace, as did intravenous infusion and cardiotocography – continuous fetal monitoring. These advances were purported to improve the safety of labour and birth, but in fact further confined the woman to bed. In the 1980s improvements were made to delivery beds and also birthing chairs began to be manufactured. Their advent heralded the end of the dorsal and lithotomy position, just as the use of forceps saw the end of birthing stools (Dening, 1982).

In 1982 Odent's promotion of natural birth at the Pithiviers centre in France was widely publicised and a growing number of women demanded upright positions in labour. Odent's methods were designed to rehabilitate the primitive instinctual brain and encourage the woman to overcome cultural and socially imparted inhibitions (Fost, 1982). The increasing interest in alternative delivery positions has not been ignored by producers of medical equipment. In the past it was maintained that one of the advantages of a woman lying in bed during her labour was that it facilitated continuous fetal monitoring. The manufacturers of electronic monitoring equipment quickly overcame this potential problem by developing radiotelemetry systems enabling fetal monitoring to be performed while the woman was fully ambulant. In the last two decades, various studies have sought to establish a sound physiological

basis for alternative positions in labour (De Jong, 1997; Gupta el al., 2004; Stremler et al. 2005). These studies and their findings will be discussed in this chapter. Ideally the position chosen for birth should be comfortable for the labouring woman and safe for the fetus, and should provide some degree of accessibility for the birth attendant. In addition, the position should minimise any trauma to the perineal floor.

In this chapter, midwifery-related literature on alternative birth positions and their advantages and disadvantages will be examined, critiqued and evaluated. This chapter gives many indications that women should be able to choose their posture and position. It also provides good reasons for professionals to encourage mobility and upright postures.

First, the research evidence will be critically discussed in this chapter; then the clinical evidence in relation to different positions will be examined.

5.2. Research evidence

Reviewing the research evidence is an important foundation on which my research was formed. It is clearly outlining the advantages as well as disadvantages of upright positions. Based on the evidence it can be concluded whether women should be encouraged to have a choice of birth positions.

I searched databases via Ovid including all EMB reviews which comprises CDSR (Cochrane Database of Systematic Reviews), DARE (Database of Abstracts of Reviews of Effect), HTA (Healthcare Technology Assessment database), MIDIRS, Medline and CINAHL. I also placed requests for information on any unpublished or ongoing studies on midwifery electronic research lists.

Hand searches of selected journals were also carried out. English language publications from as early as 1933 to July 2008 were searched using the keywords: 'maternal labour position', 'birth positions', 'alternative positions', 'upright positions', 'recumbent position'. The decision to include literature from 1939-2008 period was based on the relocation of childbirth from home to hospital, medicalisation of childbirth in this period and consequently confining women more to bed and the supine position. Data handling was facilitated by the use of a bibliographic software package (Reference Manager and Endnote) which enabled references to be entered directly into computer software.

Stewart (1991) believed that the advantages or disadvantages of different birth positions can only be verified by carefully controlled clinical trials. Study design is always a problem as it is impossible to blind the subject or the investigators to the allocations of the women, which would be the 'gold standard' design for a RCT. This could result in a two-fold bias. Women who agreed to enter a clinical trial of this nature would almost inevitably have a preference as to which management they received. If they were allocated to their preferred group, their attitude to labour may well be different and could perhaps influence such supposedly objective outcomes as analgesic requirements. Similarly, an investigator who is interested in any new management may subconsciously approach one group of patients with a different degree of enthusiasm from the other. In contrast to Stewart's belief, it has been suggested by McNabb (1989) that there are too many and varied emotional variables associated with labour to make the result of a randomised study in this field of obstetrics meaningful.

Cochrane's systematic review of studies undertaken in the last 30 years found definite physiological advantage for mother and baby of an upright position for labour and birth. The outcome of labour is improved in all upright positions including standing, squatting, sitting and lateral positions, compared to supine positions (Gupta el al, 2004).

To assess the benefits and risks associated with the use of different positions during the second stage of labour Gupta et al. (2004) conducted a systematic review of the Cochrane Pregnancy and Childbirth Group Trials Register. Twenty randomised or quasi-randomised trials (6,135 participants) were reviewed and various positions assumed by pregnant women during the second stage of labour were compared.

The findings of this review suggest several possible benefits for upright posture, with the possibility of increased risk of blood loss greater than 500 ml. Use of any upright or lateral position, compared with supine or lithotomy positions, was associated with: reduced duration of second stage of labour, a small reduction in assisted deliveries and a reduction in episiotomies. Results should be interpreted with caution as the methodological quality of some included trials was poor. These studies will be reviewed and critically evaluated in detail in this section. Starting with papers on upright versus supine position, the birth aids will be looked at later and finally the clinical evidence on the upright positions will be discussed.

5.2.1. Upright positions

De Jong (1997) conducted a randomised controlled trial to assess the effect of upright position compared with recumbent position on the outcome of labour. The study was performed in a maternity unit staffed by trainee midwives in South Africa. Women were eligible to deliver at that institution if they were considered to be low risk, with no obstetric or neonatal complication present or expected. Women were counselled for inclusion in the study at an antenatal clinic visit in the third trimester and written consent was obtained. Five hundred and seventeen women were included, all having a singleton pregnancy with cephalic presentation. Late in the first stage of labour women were randomised using sealed opaque consecutively numbered envelopes. Participants were allocated either to the squatting in the second stage group or the routine management group. The two groups were similar in all obstetric parameters (maternal age, parity, gestation and infant birth weight).

Participants allocated to deliver in the recumbent position gave birth on a delivery bed. The upright second stage management took place in a separate delivery room containing only a two-step stool placed against the wall and a foam mattress on the floor. At the beginning of the second stage the woman was supported in a squatting position on the bottom step during contractions and encouraged to sit back and rest on the second step between them. The midwife knelt on the mattress in front of her, supporting her perineum if necessary and performing an episiotomy if required. Two hundred and fifty-seven women were allocated to the recumbent group and 260 women to the upright group. All the women allocated to the recumbent group delivered in their allocated position; 249/257 (97%) of those allocated to the upright position maintained this position in the second stage and 229/257 (89%) were upright for delivery. The use of analgesia (pethidine) during the first stage of labour was similar in each group (30–34%). The findings confirmed that there was no statistically significant difference in the number of women in each group with a Hb below 11 g/dl in 2-4 days postpartum (87 in the upright group; 94 in the recumbent group). There were significantly fewer episiotomies performed in the upright group (perhaps because of the difficulty of performing an episiotomy under these circumstances) and fewer second and third degree tears; 43/257 (17%) in the upright group, 66/260 (25%) in the recumbent group. There were no significant differences in the duration of labour, blood loss, postpartum haemorrhage, blood transfusion,

vulval haematoma or need for obstetric intervention. Women in the upright group position experienced significantly less pain (as determined by pain scores elicited by an independent midwife the day after delivery), although there was no difference in the degree of maternal satisfaction expressed 24 hours after delivery. The results of this study confirmed that there was no increase in adverse maternal or neonatal outcomes in the study population, and in fact there appear to be several advantages.

This study is important not only because of its methodological rigour but also because of a very high compliance rate within the allocated groups, in marked contrast to all other randomised controlled trials to date. Not only were 89% of those allocated to the upright group upright for the whole of the second stage, but the majority were able to squat during a contraction when supported by assistants on either side. This was a randomised controlled trial in which the upright position was maintained without the rigid chair or stool, and which in common with other studies found no increase in estimated blood loss, PPH and more importantly no difference in postnatal Hb (2/4 days postpartum). This provides further support for the suggestion that increased blood loss found in some studies may have been due to increased venous congestion of the vulva which occurs when bearing down takes place against a rigid surface and not to upright posture itself.

To help women maintain upright positions including sitting position, birthing chairs were being used from as early as the 16th century. The effectiveness of these devices has been the subject of many research studies. Relevant studies will be critically assessed in the following section.

5.2.2. Birth Aids

In order to assess the benefits to birth outcome of delivering in a birthing chair, a study was carried out in Glasgow Royal Maternity Hospital (Stewart et al, 1983). The chair helped the woman to be in a semi-squatting position and at the same time provided sufficient support and allowed the midwife access to the perineum to monitor the delivery (Stewart et al., 1983). One hundred and eighty-nine women of different parities were studied, all of whom had singleton pregnancies and cephalic presentation at 37–42 weeks gestation. Women admitted both in spontaneous labour and for induction were included in the trial. Towards the end of the first stage of labour women were randomly allocated into two groups by drawing a sealed

envelope. Women in group I were to be delivered in the chair and those in group II on a bed, adopting the usual recumbent position. During the birth, the chair was maintained with the back of the chair 15–20 degrees from the vertical. Women in group II were in a dorsal recumbent position but could be propped up to a maximum of 20 degrees from the horizontal. Full details of the labour and delivery were recorded and the condition of the babies at birth was assessed using the one and five minute Apgar score. Women giving birth in the birthing chair had a shorter mean length of active pushing; the difference being statistically significant. Primigravidae who gave birth in the chair required fewer forceps deliveries; this was especially marked in those primigravidae with epidural analgesia; the difference was also statistically significant. The percentage requiring forceps delivery for delay in the second stage of labour was 22% in the chair group and 46% in the bed group. This was statistically significant and implies that the chair may help to overcome the problem of delivering spontaneously while under epidural block. All women delivering in the chair had significant reduction in perineal damage and this remained statistically significant even when forceps deliveries were excluded. The only obvious disadvantage of delivery in the chair which came into view was higher mean blood loss at delivery. This was especially noticeable among multigravidae delivered in the chair. The reason for this is difficult to explain; it could be associated with haemorrhage from an atonic uterus. Roberts' work (1983) on the effect of different positions on the uterine contractility, suggesting that the uterus works less efficiently in the sitting positions compared with standing and side-lying, might be a pointer. The alternative explanations would be either that the minor degree of perineal trauma bleeds more profusely because of tissue engorgement or that there is observer bias in measurement. Similar rapid deliveries in the recumbent position did not appear to have such an association. Furthermore, deliveries in the chair were conducted with a minimum number of sterile drapes and all blood and liquor drained into a receptacle below the chair. By contrast, when deliveries took place on a bed some of the blood seeped into the sheets and sterile towels so that the blood loss may have been underestimated. In the Stewart et al. study (1983) women with regional analgesia were not excluded which may have influenced the results of their study.

Turner et al. (1986) and Hemminki et al. (1986) studied delivery on the birth chair and produced results contradicting those of Stewart. Both studies were unable to

demonstrate any reduction in the duration of the second stage of labour as a result of using the birth chair. Neither study confirmed Stewart's suggestion that the more upright posture could reduce the need for forceps delivery. The use of the chair failed to alter the duration of the second stage of labour or the duration of active pushing. There was no difference in the incidence of forceps deliveries. These studies also failed to show any consistent reduction in perineal damage. However, they confirmed the results of earlier trials (Stewart et al., 1983) in relation to blood loss. Delivery in a chair resulted in a mean increase in blood loss of 71 ml. To clarify some of these contradictions associated with birth chair delivery, Stewart (1991) conducted a further trial using a different design of birth chair. A moveable headrest and side and hand supports provided comfort for the labouring woman. The chair provided good support to the perineum throughout the second stage of labour. This was aimed at reducing perineal engorgement as there would otherwise be a tendency for the perineum to 'herniate' through the hole in the seat (a feature very apparent when observing deliveries in their previous study). The study was carefully controlled and included only women who were in spontaneous labour and who did not have an epidural. The results of this study were not markedly different from those of their previous study in 1983. The failure of any other studies to demonstrate the benefit of such a delivery position for the women in normal labour is also worthy of note. Bias, which may have been introduced either by the woman herself or by the carer would be assumed to benefit the experimental (i.e. chair) group rather than the controls. It is possible that the postures adopted in the propped position in bed are too similar to show any major differences.

Gardosi et al. (1989a) examined squatting for delivery. In his trial women adopted a supported squatting position using a new birth-aid cushion. The trial was conducted in Milton Keynes with 427 primiparae to evaluate the outcome of labour in this supported squatting position, comparing it with the conventional semi-recumbent position. Both groups were similar in maternal characteristics and had no prior preferences regarding birth positions. The 21 midwives who worked on the labour ward at the time of the study agreed to conduct second stage and delivery according to the random allocation (upright or recumbent) that the woman received on admission. Most women in the upright study group were able to maintain the squatting position on the birth cushion without effort and usually even stayed in this

position until after the third stage was complete. Squatting was associated with a shorter pushing phase in the second stage (median length of 31 minutes, compared to 45 minutes $p<0.001$). There was a significantly lower forceps rate in the squatting group (9%) than in the semi-recumbent group (16%). More women in the squatting group had an intact perineum (46% vs 32% of spontaneous deliveries); however, this group also had a higher rate of labial lacerations (41% vs. 29% of spontaneous deliveries). There were occasional instances of temporary vulval oedema after prolonged squatting, but a reduced overall incidence of oedema 1–3 days postpartum, due to the fewer forceps deliveries in the squatting group. There were no differences between the groups in maternal blood loss or neonatal well-being.

A postpartum survey of this study showed a high degree of maternal satisfaction with this delivery position. Mothers often commented that once positioned on the birth cushion, they found pushing much easier and they felt more actively involved in the overall birth process. Of the women who used the cushion, 95% wanted to use it again in their next labour. This trial is valuable as it demonstrated that squatting can be considered by western women (who do not generally use this position in everyday life) because the support of the birth-aid cushion facilitates maintenance of the posture for longer periods. It is the lack of practice and therefore inability to sustain a squatting position that is considered to be one of the disadvantages of the posture. Further concern is often expressed that the position may make it difficult for the midwife to monitor the fetus and control the delivery of the baby. Hillan (1985) suggested that this should not be a problem with telemetry or the intermittent use of a sonicaid.

Gardosi et al. (1989b) carried out another controlled trial using alternative positions for delivery without the use of a specific birth aid. One hundred and fifty-one primigravidae and 18 midwives were involved in this study. Women who had no specific antenatal preparation and preferences regarding labour position were managed either conventionally (semi-recumbent or lateral) or encouraged to adopt upright positions (squatting, kneeling, sitting or standing) according to individual preference. Primigravidae in spontaneous or induced labour were eligible for inclusion in the trial. Criteria for entry were that the women should have a singleton pregnancy, cephalic presentation, between 37 and 42 weeks gestation, with no known high-risk factor. During the 3-month trial period 274 women met the criteria

for entry and were randomly allocated to either group A (active upright) or Group B (bed recumbent). A total of 151 women were actually entered into the trial. Of the 151 women, 73 were randomised into the upright group and 78 into the recumbent group. The attending midwife discussed postural options with these women and during the second stage the women were helped to adopt any upright position they chose to try. The trial protocol did allow the women to opt out during the course of the second stage if so desired and adopt a conventional recumbent position.

No differences were found between the two groups in the proportion of labours induced or augmented, the type of analgesia administered or duration of first stage of labour. The average proportion of time spent in bed during the first stage of labour was lower for women in the upright group than for those in the recumbent group (33% vs. 51%). In the upright group 54 (74%) women completed the second stage as intended and spent on average 83% of the bearing-down phase in an upright position. The most favoured upright position was kneeling but the majority of women tried more than one position. In the recumbent group 63 (81%) women completed the second stage as intended and the remaining 15 women chose to adopt upright positions. No significant differences were found between the groups in the duration of the bearing-down phase of the second stage, the mode of delivery, blood loss sustained or the condition of the neonate at delivery. Women in the upright group were more likely to have an intact perineum or first degree tear (37% vs. 26%) and this was most marked in the group of women who chose a kneeling posture (57%). The incidence of labial lacerations was higher, however, in the upright group (28% vs. 19%). In this study Gardosi et al. deliberately avoided standardising posture in the second stage in the women allocated to upright position in order to overcome the fixed sitting position imposed by birth chairs. As they included women adopting several different postures, their findings are a little difficult to interpret. The upright group as a whole did better than the recumbent group but the design of the study does not allow differentiation between the postures that were most beneficial and those that may possibly have been detrimental. Midwife and patient bias is also apparent, a problem that has been encountered by other workers in the past. It is interesting that the actual delivery position, which was determined by the midwife, presumably in consultation with the women, was similar in both upright and

recumbent groups. Midwifery practice and women's expectations provide powerful resistance to change.

Crowley et al. (1991) conducted a randomised controlled trial at Coombe Hospital in Dublin. The objective of the study was to determine whether nulliparae who gave birth on a birthing chair had a lower incidence of instrumental delivery than those using a delivery bed. Nulliparae with a singleton live fetus with a cephalic presentation were eligible for entry to the trial. Women with epidural anaesthesia or who were less than 34 weeks pregnant were excluded. Official trial entry was postponed until full dilatation of the cervix was confirmed. A numbered, sealed envelope was then opened by the attending midwife, revealing random allocation to delivery bed or birthing chair for the second and third stages of labour. Women were informed about the trial during pregnancy. A total of 1,250 women participated in the trial, 30 were excluded and from the remaining 1,220 women, 634 were allocated to the birthing chair and 596 to the conventional delivery bed. Maternal characteristics were similar in a number of important respects (age, parity, social-economic class, marital status, obstetric history). Of the women randomised to the chair group just over two thirds (413 women) gave birth as allocated, with the majority (97%) of women (576) randomised to the bed group giving birth on the bed. The 65% compliance rate in the chair group was relatively low which would make it difficult to analyse the significant difference. In both groups the main reason for discrepancies was refusal by the women after the randomisation was applied. This was explained by the researcher as the trial protocol might have been violated by some midwives, e.g. in circumstances in which chair was not available. Some obstetricians also expressed their lack of approval of the use of the birth chair. The effect of these violations is difficult to calculate but needs to be borne in mind when interpreting the data. The results of this study showed that the primary hypothesis that women allocated to the chair would be less likely to have an instrumental vaginal delivery was not sustained, although this could have been due to lack of compliance with the protocol. There was little difference in the overall rate of perineal trauma between the groups. In the birthing chair group a lower episiotomy rate (n=329 or 51.9% against n= 350 or 58.7%) was offset by a higher incidence of perineal tears (n=122 or 19.3% against n= 82 or 13.8%). Use of the birthing chair had no effect on the lengths of the second or third stage of labour. Manual removal of placenta, postpartum

haemorrhage, low maternal haemoglobin (3/4 days after the delivery) and postpartum blood transfusion were all more common in the birthing chair group, but none of these differences was statistically significant at the 5% level.

De Jonge (2007) conducted a study in primary care midwifery practices in the Netherlands to assess whether the risk of severe blood loss (over 500 ml) is increased in semi-sitting and sitting positions, and if so, the extent to which blood loss from perineal damage is responsible for this finding. A number of 1,646 low-risk women who had a spontaneous vaginal delivery were included. Weighing scales and measuring jugs were used to measure blood loss. The analysis of data from the study was conducted using logistic regression analysis to examine the net effects of birthing position and perineal damage on blood loss greater than 500 ml. The findings of this study indicate that mean total blood loss and the frequency of blood loss of more than 500 ml were increased in semi-sitting and sitting positions. In logistic regression analysis, the relation between birthing position and perineal damage was associated with an increased risk of blood loss greater than 500 ml, although this was not a statistically significant difference. Semi-sitting and sitting positions were the only significant risk factors for perineal damage (OR 1.30, 95% CI 1.00-1.69 and OR 2.25, 95% CI 1.37-3.71, respectively).

An analysis of eight randomised trials (including Crowley's study, 1991) of upright versus recumbent position in the second stage of labour showed no effect on the rate of instrumental delivery but increased the risk of postpartum haemorrhage (Spiby, 1990). However, in Crowley's study (1991) although operative delivery was not reduced, delivery in the chair was associated with a reduced rate of vaginal operative delivery for fetal heart rate abnormalities (odds ratio 0.49, 95% CI 0.28 – 0.84). The fewer operative deliveries prompted by fetal heart rate abnormalities may be due to chance. Alternatively, it may reflect a beneficial effect of upright posture on fetal acid-base balance or a greater ease in auscultating the fetal heart in supine women. In Crowley's study 221 (35%) women allocated to the birthing chair group did not deliver using their allocated position. This, along with the fact, as admitted by the author, that some of the midwives had probably violated the trial protocol due to a lack of enthusiasm and biased attitude could have affected the outcome of the trial.

In order to examine the effect of maternal position on the rate of instrumental birth in nulliparous women who used epidural analgesia in the passive second stage of

labour, Downe et al (2004) carried out a pragmatic prospective randomised trial study. The study employed 107 nulliparous women and was conducted in a consultant maternity unit. All participants were using epidural analgesia in the second stage of labour. Downe compared the lateral position with the supported sitting position by looking at a number of factors including mode of birth, incidence of episiotomy and perineal suturing. The results showed that lateral position is in general associated with higher rate of spontaneous birth. The rate of instrumental birth was lower in the lateral position (lateral group 33%; sitting group 52%), as was the rate of episiotomy (45% vs. 64%) as well as the rate of perineal suturing (78% vs. 86%). A limitation of the study was that it only recruited women using epidural analgesia.

Overall evidence from the literature is in favour of the upright position. Using a chair to maintain a sitting position will result in decreased duration of the second stage of labour, fewer forceps deliveries and reduction in perineal damage (Stewart et al., 1983 and 1991; Gardosi et al., 1989a). Similar findings in the study of supported squatting position with the aid of a birth cushion were also found (Gardosi et al., 1989a). However this has not been supported in two other studies of birth chairs (Turner et al., 1986; Hemminki et al., 1986). In another controlled trial by Gardosi et al., (1989b) using alternative positions for delivery without the use of a specific birth aid, no significant difference on the above variables were found. Their study design can be criticised as women were adopting several different postures; the design of the study did not allow differentiation between the postures. Midwife and patient bias were also apparent in the study.

Excessive blood loss in all five above studies of birth chair was statically significant. In De Jonge's study (2007) the relation between birthing position and perineal damage was found to be associated with an increased risk of blood loss greater than 500 ml, although this was not a statistically significant difference. This could have been explained either by saying that the minor degree of perineal trauma bleeds more profusely because of tissue engorgement or that there was observer bias in measurement.

Crowley et al. (1991) did not find a lower incidence of instrumental delivery for those who gave birth on a birthing chair than for those using a delivery bed. The study's finding should be interpreted with caution as there was a low compliance rate

in the chair group. Violations of the protocol by midwives were also evident in the research.

In the study by Downe et al. (2004) the rate of instrumental birth was lower in the lateral position in nulliparous women who used epidural analgesia in the passive second stage of labour. However, since the study was not blinded the potential effect of practitioner and women in favour of the study intervention should be borne in mind.

5.3. Clinical Evidence

Clinically, it can be hypothesised that alternative positions during labour may improve the outcome of spontaneous vaginal birth by decreasing soft tissue resistance, increasing pelvic moulding, increasing uterine activity and also allowing gravity to assist the descent of the presenting part. The theoretical and clinical aspects outlined in the present section suggest that a more upright posture or change of posture should benefit outcome. The clinical outcome in relation to different positions, including pelvic moulding, uterine activity, maternal hypotension, cord compression, need for analgesia, maternal pain and fear, perineal trauma, and fetal status will be discussed.

5.3.1. Pelvic moulding

Gold (1950) believed that when the woman was lying flat her pelvis was tilted anteriorly and the fetus was directed towards the coccyx rather than towards the pelvic outlet. Pelvic drive angle (the angle between the fetal spine and the maternal spine) can be changed in sitting and squatting. Upright posture, including sitting or squatting, lines up the length of the fetus with the pelvic inlet. Borrell and Fernstorm (1957) also claimed that squatting in the second stage of labour distended the pelvic dimension, based on theoretical grounds. Borrell and Fernstorm (1957), using x-rays, studied the movement of the sacroiliac joints in four groups of women: nulliparae, women one year or more after delivery, women four days after delivery and women during labour. They were x-rayed in the (a) hanging leg (Walcher) (b) lithotomy (c) dorsal recumbent with the hips and knees flexed and d) standing positions. It was found that there was better movement of the sacroiliac joints in pregnant and

puerperal women than in nulliparae and women checked one year after delivery. It was also found that both rotating and gliding movements occurred at the sacroiliac joints and created in pregnant women an uneven increase in the sagittal diameter of the outlet and the conjugate, depending to some degree on the position of the subject. An additional finding was that in normal labours this joint movement could take place irrespective of the position of the woman, so that the true conjugate increased as the head entered the inlet and the sagittal diameter of the outlet increased as the head came out from the pelvis.

It was shown radiologically by Russell (1969) in a study of moulding of the pelvic outlet that movement of the sacroiliac joint increased the antro-posterior and lateral diameters of the pelvic outlet. The surface area of the pelvic outlet could increase by 20–30% when a woman changed from the supine to the sitting position and it was claimed that the increase may be even greater when a squatting position is adopted (Russell, 1969).

Lilford et al. (1989) compared X-ray pelvimetry performed in the upright and squatting position in women within one week of delivery. Forty-three women involved in the study had all been delivered by Caesarean section. The pelvic inlet was calculated from the sacral promontory to the top of the symphysis pubis. Dimensions were measured against a radio-opaque ruler which was inserted between the patient's buttocks before radiography. Each patient standing and squatting acted as her own control. The result recommended that there might be only a small (1%) increase in the transverse and anteroposterior pelvic dimensions. This is significantly less than the 28% increase claimed by the other study. The researchers admitted that the measurements were not 'blinded' because squatting could be inferred by the position of the femur and this or any small systematic effect could explain the small difference that they identified. It is also possible that the women in Lilford's (1989) study were not a representative sample. They were having pelvimetry most probably because of previous failed or difficult vaginal deliveries and as such may have had abnormal pelvises, which did not mould. The question of pelvic moulding is yet to be determined perhaps by the use of techniques other than radiography but, as Lilford et al. (1989) observed, any increase in pelvic dimensions is likely to be small.

Lilford et al. (1989) explained that there were four mechanisms for change in pelvic dimension: splaying or separation of all three joints, rotation at the sacroiliac joints

around horizontal and corneal axes, vertical or horizontal axes and sagittal axes. These mechanisms are not equally exclusive. Lilford et al. (1989) suggested that the act of squatting concerned the last two mechanisms but believed that only limited movement was possible.

A number of authors have commented on the physics of the delivery position. Newton (1957) explaining the effects of position on the course of the second stage of labour in an article, commented that expulsive efforts were primarily a result of abdominal wall muscle contraction during pushing and were more efficiently achieved in a semi-sitting position than in a supine position. Irwin (1978) suggested lying on the left lateral side 'Sim' position at delivery. His impression was that the elevated extended leg puts the symphysis lower and the coccyx higher in relation to the birth axis, thus widening the pelvis. He found little incidence of shoulder dystocia and noted that the posterior shoulder often delivered first. More importantly, Irwin (1978) hypothesised that elevation of the extended leg released the perineal musculature so that the likelihood of needing an episiotomy would be decreased.

Russell (1982) has shown that if the thighs are flexed and abducted the weight of the body causes some division of the lower end of the symphysis pubis with an outward movement of the innominate bones and a backward rotation of the sacrum. These changes have been monitored radiologically in pregnant women. The result was a 28% increase in the area of the pelvic outlet compared to the supine position. This can be a mostly valuable advantage in cases where the pelvis is on the narrow side and the presentation a 'snug' fit. These changes would explain the relationship of the squatting position with a shorter duration of second stage of labour and a decrease in forceps delivery (Diaz et al., 1976). Mckay (1984) stated that with the use of the squatting posture the upper part of the symphysis pubis is compressed while the lower part separates to some extent. This results in an increase of 1 cm in the transverse diameter, and an increase of 2 cm in the antro-posterior diameter of the pelvis is common. The usual area of the pelvic outlet is 28% larger when a woman is in a squatting position compared with the supine position. This together with an increase in intra-abdominal pressure results in increased expulsive effort. An extra benefit of the upright positions is that the angles between the mother's spinal column are minimised, which makes it easier for the fetus to settle. Equally, the fetal head's direct application to the mother's cervix is helped by an upright labour position as

the inlet of the pelvis faces forwards and the outlet downwards, which makes an angle favouring descent. At each uterine contraction the fetus will descend directly towards the mother's cervix. In the supine position the more sharp angle created between the uterus and vagina makes it more difficult for the fetus to get through, as the cross-sectioned pelvic outlet is reduced. The upright position allows the area of the pelvic outlet to increase by 30% more than when the woman is in the more usual delivery position (Milner, 1986). The woman (even on a delivery couch) has her sacral area fixed to the bed by her body weight and as a result the baby has to pass through two fixed points on the way out. While a woman is upright the base of the spine flexes and opens up the pelvic outlet (Stanway and Stanway, 1984). Although the full advantage of increase in the area of pelvic outlet may be achieved by adoption of the left lateral position, the woman is still not using gravity to its full advantage. However, if the labour progresses rapidly the left lateral position enables the head to be delivered slowly and care to be taken of the perineum (Bourne, 1984). Having the woman lie in the left-lateral posture may assist in rotating the fetus from the posterior position to the anterior position, where dystocia is less expected (Biancuzzo, 1993). However there is no data to confirm that this posture is best for achieving rotation.

The hands and knees posture assists rotation through the physical forces of gravity. When the mother adopts the hands and knees posture the occiput is no longer packing the coccyx and sacrum. In its place the coccyx can then be freely mobile which increases the diameter of the pelvis. This may also explain why women experience less discomfort when they are on their hands and knees during the labour and birth (Biancuzzo, 1991). When the woman is sitting at an angle larger than 30 degrees, pushing is more likely to result in fetal descent. Squatting or sitting positions stretch the adductor magnus muscles that attach to the ischial tuberosities and make them separate. This finally increases the pelvic diameter and assists rotation and descent (Joseph, 1988).

The analysis of the movement involved is demonstrated by Kapandji (1982) and Roberts (1982) who suggest that the lower part of the hip bones (the ischial tuberosities) move outwards and the lower part of the symphysis pubis separates, in the squatting position. This is achievable in pregnant women because of the softening of the ligaments. The upper part of the hip bones (the iliac crests) move inwards and

create a rotary movement at the second sacral segment with the result that the upper part of the sacrum (the promontory) moves downwards and forwards and the lower part of the coccyx upwards and backwards. The outward movement of the ischial tuberosities and the rotation of the sacrum result in an increase in both transverse and anteroposterior diameters of the outlet. Expansion at the hips, as in Walcher's hanging leg position, creates the opposite effect. The hip bones move downwards and backwards on the sacrum so that the true conjugate is increased. This position will help the entry of the fetal head into the pelvis (Joseph, 1988). In addition, the Walcher's position is very uncomfortable to maintain.

In an attempt to determine whether birthing position does influence the dimensions of the pelvic outlet, Michel et al. (2002) conducted a study using a low-field 0.5-T magnetic resonance (MR) imaging system and body flex surface coil. Thirty five non-pregnant women aged 22 to 43 were included in the study. Twenty-five participants were nulliparous while 10 had given birth before. Diagnostic-quality images were recorded with women in the supine, hands and knees, and squatting positions. In the squatting and hands and knees positions, the sagittal outlet (a pelvic outlet measurement, from the lower border of the pubic symphysis to the lowest point of the sacrum) and interspinous diameter (a measure of the mid-pelvis, from one ischial spine to the other) were significantly larger than when women were in the supine position. Besides, squatting increased the intertuberous diameter (a pelvic outlet measurement from one ischial tuberosity to the other) and decreased the obstetric conjugate diameter (a pelvic inlet measurement from the top of the pubic symphysis to the sacral promontory). Findings of this study indicate that postural differences can significantly increase pelvic dimensions in women and support the statement that changing birthing position facilitates vaginal birth.

5.3.2. Uterine activity

Progress in the first stage of labour is believed to be improved in the upright position because of increased uterine activity and the effect of gravity. In the 1950s obstetricians recognised that maternal position could have an effect on the strength of uterine contractions and in 1960 a study of 84 women (Caldeyro-Barcia et al, 1960) showed that in the supine position uterine activity, as measured by Montevideo unit, reduced in intensity but not frequency. It was not until 1975 that uterine contractions

were shown to be stronger (though less frequent) in a standing position than in a supine position. Mengert and Murphy (1933) measured intra-vaginal pressures when bearing down. The measured pressures were: lateral 118 mm Hg, supine 127 mm Hg, knee-elbow 134 mm Hg, semi-recumbent 135 mm Hg, squatting 143 mm Hg, standing 145 mm Hg, and sitting 154 mm Hg. This was based on data from a small sample of non-pregnant women. Therefore, they cautioned that their findings should not be applied unreservedly to straining ability in the second stage of labour until further research has been undertaken (Mengert and Murphy, 1933).

If gravity is to play a definite part in the outcome of labour it is reasonable to suppose that positions which allow the long axis of the fetus to be perpendicular to the pelvic brim would be most helpful. In such a position the presenting part would apply most force to the uterine lower segment and internal cervical os. Mendez-Bauer et al. (1976a) suggested that the effect of gravity might be as much as 30 mm Hg. Stewart (1991) in his study tried to concentrate on this hypothesis. He measured the pressure between the fetal head and the lower segment of the uterus. A catheter tip pressure transducer was introduced through the uterine cervix and positioned in the extra-amniotic space 4 cm from the internal os. A baseline recumbent pressure was obtained by taking the mean pressure recorded in the supine and left and right lateral position. The mean pressures were higher in the standing and sitting position when compared with the recumbent position and in the majority of patients there was a significant increase in pressure on adopting the more upright position. The results support the view that gravity may increase the pressure between the presenting part and the lower segment in labour.

Mendez-Bauer (1975) measured the intrauterine pressure with an extra-amniotic catheter among women who were alternately standing, sitting and lying supine. The women thus served as their own control group. The contractions were found to be most intense and efficient in dilating the cervix in the standing position, next in the sitting position and least efficient in the supine position.

The upright position allows gravity to exert its maximum effect. The fetus moves in the direction of least resistance – towards the dilated cervix and through the pelvis – and is aided by uterine contraction. Howard (1958) studied 219 women who had given birth in the modified sitting position. All found it a satisfactory experience and none had difficulties adopting the position, which suggested it was practical and may

reduce the incidence of intracranial damage. It is also claimed (Dunn, 1976) that in the upright position the force of gravity can act to assist rather than deter the process. In the upright position the effect of gravity on the fetus is synergistic with the effects of uterine contractions and bearing-down efforts. In fact, gravity adds 35 mm Hg to the pressure exerted by the fetal head on the cervix in the first stage or on the birth canal in the second stage of labour, as documented by Mendez-Bauer et al. (1976). He placed a balloon between the fetal head or amniotic sac and the cervix and recorded the pressure on the balloon when the woman was supine and when she was standing. Pressure in the balloon increased by 35 mmHg when the woman changed from supine to standing position (Mendez-Bauer et al., 1976a). This increase in pressure may explain the increased efficiency of uterine contraction while standing. Even though, as Mendez-Bauer et al. (1976a) reported, the vertical position of the mother caused an increase in pressure on the fetal head, the vertical position caused no increase in the incidence of caput succedaneum (swelling of the tissue over the fetal head caused by pressure during labour when the membranes are intact). Besides, this may be only a transient phenomenon seen on altering position but quickly lost thereafter (Stewart et al, 1983). While the design of the Mendez-Bauer et al. (1976a) study has been criticised (McManus, 1978), its conclusions were supported in later studies by Caldeyro-Barcia (1979), Dunn (1976) and Flynn et al. (1978).

Roberts (1980) at the University of Illinois conducted a study using the same methodology as Mendez-Bauer et al. (1976a), using an extra-amniotic catheter. A catheter was inserted between the amniotic sac and the uterus so that the amniotic membranes did not rupture. Results showed that the lateral recumbent or side-lying position led to better uterine efficiency than did the sitting position. Based on these studies conducted over an extensive period of time it appears that in terms of uterine efficiency and length of labour, the ambulant or standing position is most favourable, the lateral recumbent is the second best, the sitting position the next best and the supine position or dorsal recumbent (propped) the least effective in labour. Roberts et al. (1983) in later studies again used women as their own controls in that they were alternated between positions. This enabled them to study the effect of a particular position on uterine activity and uterine efficiency (change of cervical dilatation divided by the total intensities of contractions during a 30-minute period) without

initiating differences between labouring women. They confirmed their earlier work and further suggested that standing and sitting were more efficient than the supine position. When they introduced these other positions, however, they were unable to demonstrate that one position was consistently more efficient than others; even the supine position appeared to be more efficient than side-lying in one subgroup, directly contradicting the findings of Caldeyro-Barcia et al. (1960). The efficiency of each position appeared to be influenced by the position with which it was alternated. They concluded from these results that the position change itself may be the most important factor and suggested that the psychological effect including general comfort and relaxation in a particular position may be more important for individual women (Roberts et al., 1983).

In a randomised controlled study by Flynn et al. (1978) 68 women in spontaneous labour were randomly assigned to either an ambulant or a recumbent group. The ambulant group were monitored using radiotelemetry and were found to have enhanced uterine activity compared to the recumbent group, as reflected in a shorter duration of labour and stronger, less frequent contractions. The ambulant women also required less oxytocin augmentation of their labours.

Chen et al. (1987) evaluated effects on uterine activity of three positions during labour. The positions were: sitting in the first stage of labour and sitting in the second stage; supine for the first stage but sitting for the second stage; and supine for both stages of labour. Artificial rupture of membranes was performed when the woman's cervix was 3–4 cm dilated, a scalp clip was placed on the baby's scalp and an intra-uterine pressure transducer inserted. Those to be delivered sitting were moved into an E–Z chair, which was leaning at 65° from the horizontal. How allocation to one of the three groups was reached was not clear in the paper; however, there was no difference between the groups in uterine contractibility during labour. The bearing-down pressure in the sitting position for nulliparae during the second stage and for multiparae from 8 to 10 cm dilation was significantly higher than that in the supine position. The sitting position also resulted in a significantly shorter duration of the second stage in nulliparae and the 5–10 cm dilation period in multiparae. These findings suggest that maternal position does not affect uterine contractibility. The researchers also point out that the increasing downward delivery force, followed by increased bearing-down pressure in the sitting position could help to shorten

significantly the duration of labour. In their study, multiparae in the supine position in the second stage had a significantly higher incidence of forceps delivery.

With the weight of the fetus directed forward and down, one could hypothesise that gravity would direct pressure away from the perineum and at the same time promote fetal descent. Varney (1987) discussed the degree of perineal elasticity likely in the knee–chest position, a variation of the hands and knees position, which presented other advantages. When a fetus is experiencing distress the labouring woman can be advised to adopt a hands and knees position to relieve the pressure of the fetus on the vena cava in an effort to improve placental and umbilical blood flow. This position may also assist delivery of the shoulder proximal to the perineum because of the lack of obstruction from the pubic bone. In this position the placenta usually delivers without delay, maybe due to the more upright position that allows for more effective uterine contractions after delivery (Varney, 1987).

The hands and knees position is frequently used to aid rotation of a fetus in a posterior position. However, a RCT by Stremler et al. (2005) could not determine if hands-and-knees positioning promoted fetal head rotation to the occipitoanterior position. Stremler et al. (2005) conducted a multi centre RCT in six countries, to evaluate the effect of maternal hands-and-knees positioning on fetal head rotation from occipitoposterior to occipitoanterior position, persistent back pain, and other perinatal outcomes. Thirteen maternity units participated. Study participants were 147 labouring women with a fetus at ≥37 weeks' gestation, confirmed by ultrasound to be in an occipitoposterior position. Seventy women were randomised to the intervention group (hands-and-knees positioning for at least 30 minutes over a 1-hour period during labour) and 77 to the control group (no hands-and-knees positioning). The findings identified that women randomised to the intervention group had significant reductions in persistent back pain. Eleven women (16%) allocated to use hands-and-knees positioning had fetal heads in occipitoanterior position following the 1-hour study period compared with 5 (7%) in the control group (relative risk 2.4; 95% CI 0.88-6.62; number needed to treat 11). The benefits for the intervention group were seen for several other outcomes, including operative delivery, fetal head position at delivery, 1-minute Apgar scores, and time to delivery. They concluded that maternal hands-and-knees positioning during labour with a fetus in occipitoposterior position reduces persistent back pain in labouring women. The

researchers stated that their study demonstrates a tendency towards improved birth outcomes; further trials are needed to determine if hands-and-knees positioning promotes fetal head rotation to occipitoanterior and decreases operative delivery. Stremler's study (2005) was conducted in six different countries with different management systems for care in labour. Consequently, the possible effect of different care systems on the outcome of research is conceivable. The wide interval (95% CI 0.88-6.62) reveals that sample size was also small for the evaluation of some of these outcomes. In a larger study significant differences might have been found.

In a Latin American study (Caldeyro-Barcia, 1979) on maternal position during labour, a homogeneous sample was selected and women randomly assigned to an upright position during labour, walking, standing and sitting with the opportunity to lie down or to a recumbent position in bed. There were 225 women in the horizontal group and 145 in the vertical group. The management of the labour was conservative. The membranes were not ruptured artificially. No medication was given routinely, no oxytocin, sedative, analgesia, or anaesthesia being given except local anaesthesia for episiotomy. Contractions were stronger but less frequent when the woman was on her side than when on her back. A similar change was found when the woman went from a supine position to a standing position except that there was no difference in the frequency of contraction. Therefore, the efficiency in dilating the cervix was much greater when standing than when supine or in the side-lying position. The mean uterine activity in 20 women in normal full term labour spent in the horizontal position was 129 Montevideo units; that of 20 in normal full term labour spent in the vertical position was 160 Montevideo units. Contractions were more efficient in the vertical and sitting positions when compared to the horizontal position. This means that the work of the uterus results in more dilatation when the woman is vertical or sitting than when she is horizontal by 1.7 to 1.9 times. In order to determine the influence of maternal position on the duration of the first stage, the length of time was measured, beginning when the mother was at 4–5 cm of cervical dilatation and ending when she was at 10 cm. Figures indicate that primigravidae who spent the first stage of labour in the vertical position had a shorter first stage by a median length of 78 minutes (or 36% shorter).

5.3.3. Maternal hypotension and cord compression

The blood supply to the fetus may be improved when the woman in labour is upright rather than supine. The extent and severity of circulatory impairment to the fetus was illustrated in a unique experiment by Huch and Huch (1979) who developed an experimental scalp oxygen electrode which continuously records fetal oxygenation during labour. Graphing fetal oxygenation, Huch had the mother roll over from lateral to recumbent position, which caused the oxygen level to drop considerably within two minutes. When fetal anoxia was noticed at this point, the mother was rolled on to her side and given oxygen to breathe. This quickly raised her oxygen level to 172 mm Hg.

There is widespread agreement that the dorsal recumbent position is to be condemned because of the danger of supine hypotension and resulting fetal hypoxia (Scott and Kerr, 1963; Humphery et al., 1973). Maternal hypotension can also develop with other dorsal positions including the propped position at 30° and when propped during expulsive efforts in the second stage of labour. Another effect of the dorsal recumbent position (even if the mother is propped up to 30°) is that of direct pressure of the uterus on the abdominal aorta, which descends to serve the uterine artery. Caldeyro-Barcia et al. (1966) used radio-opaque ink injection into the abdominal aorta and took an X-ray to show the dimension of uterine artery circulation with dorsal positions of the mother in labour. Ueland and Hansen (1969) used volumetric studies and confirmed these results.

Compression of the inferior vena cava may be a contributing factor to maternal hypertension and haemorrhage as it inhibits the flow of venous blood. A better oxygen supply to the fetus is maintained in upright positions where the circulation to the placenta and uterus is not impaired and the uterus does not compress the inferior vena cava or the descending aorta. Because of the better oxygen supply to the fetus, an additional advantage of upright positions is that the neonate usually has an better Apgar score at birth (Scott and Kerr, 1963).

Flynn et al. (1978) noted the virtual absence of fetal heart deceleration in ambulant women who were monitored continuously and suggested the vertical position might prevent cord compression between the fetal skeleton and maternal pelvis and spine. Occlusion of the inferior vena cava by gravid uterus is known to induce fetal hypoxia

(Haddad, 1985) and aortic compression above the bifurcation may also occur in the iliac arteries, resulting in fetal hypoxia and acidosis. In a small study by Abitol (1985) women were used as their own controls by being asked to alternate between the lateral recumbent and supine positions. The supine position was found to be associated with a significant reduction in femoral arterial pressure and also pulse pressure in the big toe. This correlated well with an increase in abnormal fetal heart rate patterns suggestive of possible fetal hypoxia.

5.3.4. Need for analgesia

Mothers are shown to require less analgesia if they remain upright and ambulant; the body's production of natural endorphins is increased and being ambulant could distract their minds from the stimulus of pain (Milner, 1986). The need for less analgesia may be due to a reduction in backache, which seems to be exacerbated by the semi-recumbent position and is particularly associated with a posterior position of the fetus. Rocking or rotating the pelvis or kneeling on all fours with one leg extended appears to facilitate the rotation of the fetus to an anterior position. Odent (1984) found delivery particularly efficient in a supported crouch, which maximises the outlet and is associated with best relaxation of the perineal body and decreases the number of tears.

Haddad (1985) discussed movement as an essential part of labour, rhythmic rocking of the pelvic girdle encouraging descent of the fetal head. Movement is often employed by women as a form of natural analgesia, a distraction from the pain of labour. It is severely hampered by the semi-recumbent position. Three studies have claimed that women find labour more tolerable in the upright position (Mitre, 1974; Flynn et al., 1978; Mendez-Bauer, 1975). In one of these studies the women requested less analgesia compared to those who were supine (Flynn et al., 1978). The psychological advantages of mobilisation and upright position are many. When a woman labours lying in bed she may perceive herself to be sick and the birth process as an illness, whereas in an upright position she is more comfortable and feels more involved and in control. The experience of birth becomes more normal.

5.3.5. Maternal pain and fear

Jones (1977) explained the relevance of Wilhelm Reich's 1960s theories on armouring (the blocking of awareness of pain) and subsequent bio-energetic theories on grounding (a natural condition in which the energy-charge and the emotional stance are in harmony) to the modern midwife. Standing up with good contact with the ground and remaining grounded confer an inner feeling of strength and self-assurance. Getting women to lie down to give birth deprives them of contact with their inner strength, even if they are capable of feeling it. In a vertical position a pregnant woman's lungs work much more efficiently than they do when she is in a recumbent position. A woman in an upright, grounded posture as she gives birth is a powerful, to some even frightening, human being (Jones, 1977). Getting women to lie back and let the doctor deliver the baby is a very powerful unconscious motivation and it has had an equally powerful effect on how women themselves feel in labour and how they view it even in anticipation. A woman spontaneously capable of feeling grounded would find it offensive to be told to lie down or sit back to give birth. According to Reich's theory (Jones, 1977) armouring is chronic muscular tension, involuntarily adopted in infancy to protect against emotional distress or to control forbidden emotional expression or movement. Reich discovered that armouring reduces the ability to surrender to woman's spontaneous movement in labour, particularly in the second stage. Observation of a very uninhibited mobile labour with no stasis in the second stage suggests that the fetus ejection reflex (reflex muscular contraction which initiates oxytocin release) is the undisturbed physiological way in which a woman expels her baby (Odent, 1992). Attendance inhibits these movements with invasive coaching or persistence in a position that interferes with these spontaneous movements, as does armouring within the mother. The mixture of these three factors means that the ejection reflex is rarely seen in hospital birth. Also, armouring almost always decreases a person's ability to breathe fully and this will have an effect on oxygen supply to the fetus. Position can also help balance these effects. Odent (1992) believed that it is not the position itself, which seems to be important during the final contractions but the need to be upright, which goes with a certain hormonal balance. When a woman gives birth in an atmosphere of privacy the 'fetus ejection reflex' is typified by a impulsive urge to adopt a vertical position. The oxytocin effect of adrenaline has been known for a long time

now; it can even be explained. With high concentrations of adrenaline, effects on the excitatory α-receptors predominate. A rush of adrenaline has also been found to trigger a transitory, non-selective release of free fatty acids, the dominant and most abundant of which is arachidonic acid, the metabolites of which are stimulants of uterine contractions.

Dick-Read (1959) believed that by using posture as a therapeutic intervention, the cause and effect of anxiety can be prohibited or corrected. Adopting a comfortable position may facilitate reduction of anxiety and put an end to the phase of tension, fear and pain. In an upright position the woman may feel less anxious because she is aware that she has more control over the situation, which in turn may reduce her anxiety about being immobilized. An upright posture also encourages contacts with her partner and others, which can help reduce her fear and tension.

Anxiety can have powerful physiological effects. When the woman is anxious the level of cortisol and catecholamines increases and this can have an impact on uterine contractility and contribute to dystocia. Cortisol organises the glucose needed for muscle contractility. Catecholamines, mainly epinephrine, also influence uterine contractions. The uterus has several beta-receptor sites and epinephrine, a beta-sympathomimetic agent, will bind to the uterus beta-receptors. The increased level of epinephrine will decrease myometrial contractility (Lederman et al, 1978). In a study of 32 primigravidae, Lederman et al. (1978) found a significant correlation between self-reported anxiety and endogenous plasma epinephrine. Levinson and Shnider (1979) found that anxious mothers had weaker contractions, longer labours and higher circulating catecholamine levels than normal.

5.3.6. Fetal status

The brain mass appears to be better protected when the mother is in the vertical position of labour (Liu, 1979). Under the influence of gravity the brain mass sinks to the most dependent position. When the fetus lies in the left or right occipito-anterior position in the pelvis, the brain is well protected. If the mother is in the lithotomy position the brain mass is directed towards the frontal lobe and when the fetus is lying with occiput posterior, the stress is placed on the brain stem at the foramen. Liu (1979) and Scott and Kerr (1963) believed that because of the improved oxygen supply to the fetus, another advantage of upright positions is that the neonate

generally has an improved Apgar score at birth. This has been supported in subsequent trials, discussed below.

Fetal hypoxia resulting from vena caval occlusion in the supine position is well documented (Kerr, 1965). Despite a collateral circulation through the vertebral and azygos veins, vena caval occlusion results in reduced cardiac output. However, an increase in the peripheral vascular resistance usually maintains arterial pressure (Kerr, 1965). Aortic compression by the gravid uterus also occurs in the supine position. This compression is increased when the uterus contracts and as compensation for this obstruction there is a collateral circulation through the ovarian and placental vessels (Bieniarz et al., 1969). In some cases, however, fetal hypoxia may be produced by aortocaval compression. Changes in the maternal position, which relieve this aortocaval obstruction, result in an increased cardiac output and improved fetal oxygenation (Mitre, 1974). Humphery et al. (1973) compared the dorsal and 15° lateral tilt position in 40 women during the second stage. No significant differences in umbilical artery pH were found in that study. However, a reanalysis of data (Humphery et al., 1973) showed the regression line of fall in pH with duration of second stage to be statistically significant in women in the dorsal stage who were delivered within 36 minutes, but not in the tilted group. It is difficult to reconcile the clear effect in those delivered within 36 minutes with the absence of effect in births that took twice as long. Stewart et al. (1983) did not support this finding. In Stewart et al.'s study, 189 deliveries were conducted with women either in a birth chair or in the dorsal position. Even though a high proportion of women in both groups had epidural analgesia, the conditions of the babies at birth were said to be similar; thus there are sound theoretical reasons why the flat dorsal position may be undesirable. The study was explained earlier under the 'Birthing stool and delivery chair' heading. Mendez-Bauer et al. (1976a, 1976b) reported on the fetal heart rate (FHR) of women in the standing and supine position as measured by direct recording of the FHR. Fetal heart traces were analysed for the incidence of type I dips (early decelerations), type II dips (late decelerations) and type I + II dips (variable decelerations). There was no difference in the incidence of these decelerations in these two positions even though there is greater pressure exerted between the fetal head and the cervix in the standing position compared with the

supine in comparing the fetal heart rates in the lateral recumbent and sitting positions.

Aldrich et al. (1995) conducted a study to measure the effect of changes in maternal posture on fetal cerebral oxygenation during normal labour, using the technique of fetal near infrared spectroscopy (NIRS). Fourteen women with uncomplicated labour at term were studied. A specially designed fetal optical probe was inserted through the dilated cervix and applied against the fetal head. The probe was kept in position by maternal tissue pressure. The changes in the cerebral concentrations of oxyhaemoglobin (HbO_2) and deoxyhaemoglobin (Hb) were recorded using a previously established algorithm. Changes in maternal lower limb mean digital artery pressure was observed non-invasively and continuously using a finapres instrument with the cuff placed on the mother's first toe. The mothers were helped into the left lateral position and base line measurements were obtained during a 10-minute period. The mother then adopted the supine position and a further 10 minutes of continuous data were recorded. At delivery arterial blood was obtained from the umbilical cord for estimation of blood pH and haemoglobin concentration. When compared with the left lateral position the supine position was associated with a clinically significant decrease in the mean concentration of fetal cerebral oxyhaemoglobin of 1.12 (SD 1.0, 95% CI 0.49 to 1.75) μmol., 100 g-1 ($p<0.01$) without any significant change in the mean concentration of deoxyhaemoglobin and cerebral blood volume. These changes were associated with a significant decrease in the mean cerebral oxygen saturation of 8.3 (SD 8.8, 95% CI 1.5 to 15.1) % ($p<0.05$, $n=9$). In conclusion, changes in maternal posture from left lateral to supine during labour in women with effective epidural analgesia were associated with a significant decrease in fetal cerebral oxygenation.

It has been recognised for some time that a maternal supine position adversely affects the fetus and predisposes to fetal heart rate deceleration in labour. Johnston et al. (1987) undertook a randomised controlled trial to assess the effect of tilting the woman 15° from the horizontal during the second stage and compared the outcome with those of women nursed flat. Fifty-eight primiparous and multiparous women were recruited and the two groups were well matched except for gestation at delivery. There were no differences in clinical outcome between the two groups but overall the dorsal group had lower cord artery pH values ($p<0.05$) higher PCO_2

($p<0.01$) and greater base deficit, but these results were not clinically significant. PH and base deficit were similar in both groups where the second stage did not last greater than 15 minutes. Thereafter, there was a trend to decrease the length of the second stage in the dorsal group but not in the tilted group, though this did not reach statistical significance. Low Apgar scores, complicated pregnancy and first pregnancy were each associated with significantly lower pH levels. The researchers concluded that prolonged placement of the woman in the flat dorsal position should be avoided in the second stage, although a suitable alternative under the conditions described has not been defined. This has also been supported by other studies (Humphery et al., 1973, Aldrich et al., 1995). Changes in maternal posture from left lateral to supine during labour in women with epidural analgesia were associated with a significant decrease in fetal cerebral oxygenation (Aldrich et al., 1995). However no significant difference in FHR between woman in standing and supine positions was reported (Mendez-Bauer et al., 1976a, 1976b).

5.3.7. Perineal trauma

Undoubtedly, a wide range of potentially interacting variables determines the degree of immediate injury to the perineum, as well as the long term effect on the pelvic floor. One factor that may affect the extent of trauma to the perineum (in the absence of performance of routine episiotomy) is the position chosen by the birth attendant or labouring woman for delivery.

To examine the association between maternal position at birth and perineal outcome in women who had a midwife-attended birth, Soong and Barnes (2005) conducted a study in a large maternity hospital in Australia. Data from 3,756 births were analysed. The factors studied in the research included maternal age, first delivery, induction of labour, use of anaesthesia, deflexed head and newborn birth weight. The need for perineal suturing was studied in relation to these variables. To compare categorical variables, the chi-square test was used. A subgroup analysis determined whether birth positions had a significant effect in each of the major factors studied.

Findings indicated that the majority of women (65.9%) gave birth in the semi-recumbent position. Of all women studied 1,679 (44.5%) required perineal suturing. An association was also found between semi-recumbent position and the need for perineal repair, whereas an all-fours position was associated with a decrease in the

need for perineal repair. The study concluded that there were four major factors significantly related to perineal trauma: a first vaginal birth, the use of epidural anaesthesia, deflexed head and a newborn birth weight above 3,500 g. They also emphasised that women should be given the choice of giving birth in whatever position they find comfortable. Midwives' responsibility to inform women of the likelihood of perineal trauma in the preferred birth position was also discussed.

A number of other investigations have examined the relationship between birth position and perineal outcome. Using a retrospective design, Roberts and Kritz (1984) examined the effect of six different delivery positions on perineal outcome. The majority of women gave birth in a semi-sitting position, with a reported low episiotomy rate of 7% and a laceration rate of 55% Other positions evaluated included recumbent, dorsal, lithotomy, squatting, hands and knees, lateral Sim's and standing. The small number of women in groups other than semi-sitting may explain the lack of a statistically significant relationship between birth position and perineal outcome. However, the authors noted that, although there were no statistically significant differences, the lower incidence of episiotomy in hands and knees, Sim's, squatting or standing positions may reflect the difficulty of performing an incision if the perineum cannot be directly observed (Roberts and Kitz, 1984). Nodine and Roberts (1987) found a significant relationship between maternal position for giving birth and perineal outcomes. Their retrospective study examined five positions: Sim's, dorsal, lithotomy, semi-Fowler and squatting. The highest incidence of intact perineum was found among women who gave birth in semi-Fowler's position (31.6%), followed by Sim's (17.5%) dorsal (15%) and lithotomy (12.8%) positions. The number of women who squatted for delivery was too small for them to be included in data analysis. Nodine and Roberts (1987) found that when the variable of parity was controlled, the significant difference between birth position in perineal outcome was lost. Like that of Roberts and Kitz (1984), however, the study found interrelatedness between perineal outcome and maternal position (Nodine and Roberts, 1987). Nodine and Roberts (1987) concluded that maternal position may be an important factor associated with perineal outcome during birth, if the birth attendant is less experienced. That is, a skilled attendant may compensate for any disadvantage of a particular maternal position. Meenan et al. (1991) looked specifically at the hands and knees position as a means of managing shoulder

dystocia. In their sample of 35 subjects who used the all-fours position for delivery, 23 (66%) delivered over an intact perineum.

Overall, the review of literature on perineal trauma indicates that an interrelation exists between perineal outcome and maternal position (Nodine and Roberts, 1984, 1987; Barnes, 2005). Less perineal trauma and need for repair is reported in upright positions. However, when some variables including parity, use of epidural and baby's birth weight were controlled, the significance of the relationship between birth position and perineal outcome was decreased.

5.4. Conclusion

Based on available evidence, there are definite advantages for mother and baby from upright labour and birth positions. It appears that the supine position adopted by women in the second stage of labour was not research-based but based on the custom and convenience of the practitioner. There is historical and anthropological evidence that women do not instinctively lie down to deliver a baby, and a number of studies have tried to assess the value of adopting alternative positions. Although robust evidence in favour of upright positions is available, some studies produce conflicting results in adopting different positions. Several reasons may contribute to these contradictory results. Ethical concerns about restricting maternal movement at the highly sensitive time of labour make the management of carefully controlled trials of maternal posture in labour very difficult. Some studies have not produced conclusive results regarding certain outcomes. This may be due to the variation in midwifery and obstetric practice between units rather than bear a direct relation to the posture adopted.

The general consensus is that there are advantages in upright positions for mothers and babies and that women should be able to adopt the most comfortable position when giving birth. They should also be aware of birth position options and their advantages and disadvantages. There is a lack of understanding of the influence of practitioner-woman dynamic on the choice of position during the second stage of labour (Coppen, 2005a), therefore in order to help women to maintain their choices of birth position it is important to identify the restraining factors that inhibit women's

choice of birth position. Then, based on that knowledge, a policy could be developed to help a woman to maintain the most effective and comfortable position.

Section Three

Introduction

Chapter Six: Environment

Chapter Seven: Power

Chapter Eight: Support

Chapter Nine: Decision making

Chapter Ten: Discussion

Introduction

The current section includes five chapters and will present and discuss the findings and analysis of 47 antenatal and postnatal interviews. Chapters Six, Seven, Eight and Nine are devoted to the presentation of the findings and are arranged on a thematic basis. The analysis resulted in a number of emerging key themes. Each chapter will discuss one of these key themes. Finally Chapter Ten will discuss the overview of the findings and their implications for midwifery practice.

In the findings chapters of this section, categories and themes arising from the interviews are described. In addition, relevant literature is utilised to inform discussion on the subject. In Chapter Six, findings of my study regarding the effect of environment on women's choice of birth position will be discussed. In Chapter Seven, the issue of "power" and its effect on women's choice of birth position will be examined. In Chapter Eight I will look at "support" in two different settings and explain how it affected women's choice in my study. Chapter Nine is devoted to the discussion of different patterns of decision making derived from the gathered data in my study.

The section starts, however, with the study process, a brief description of the research settings which follows the comprehensive discussion of the methods in Chapter Two. It describes how those methods were applied in practice during the study.

Study process

The study as previously explained in Chapter Two was conducted in two different hospitals. The first part was conducted in a district general hospital maternity unit with no existing birth centre, where all births took place on the labour ward (obstetric led care). Twenty antenatal and eight postnatal interviews were conducted in this part. The second part of the study was carried out on women who gave birth in a birth centre of another maternity hospital, where 13 antenatal and 6 postnatal interviews were conducted.

First part of the study

The first stage of the study was carried out in a district general hospital with no existing birth centre. The maternity services structure included team midwifery and core hospital staff. In the team midwifery, a small team consisting of six midwives provided continuity of care to a geographically defined case load of low risk women. The care they provided for the women throughout their pregnancy included first bookings and antenatal follow-ups which mainly took place in GPs' surgeries. The care continued throughout the pregnancy and postnatal period. The core staff who worked within the hospital also provided services for women out of the area who were not covered by the team midwives or when the team midwives were not available. Recruitment to the study was mainly from a group of women assigned to midwifery teams, as they had a low risk pregnancy and high possibility of normal labour and birth.

Following meetings with the Head of Midwifery at the unit, the decision was made to recruit women in the antenatal clinic. At that stage of the study in the district general hospital I was unknown to the midwives. This was a negative point for recruiting women. As an outsider I received the least co-operation from midwives during the recruiting phase of the study.

I explained the study to the staff working in the antenatal clinics of the units, personally at face to face meetings where possible or by providing written information.

Prior to the recruitment phase I arranged the dates and times of my attendances at antenatal clinics in the hospital with the midwives in charge. On my first visit to the antenatal clinic I approached midwives involved in the clinic to remind them about the study and to ask for their co-operation to introduce the expecting mothers in the 34^{th}-37^{th} weeks of their pregnancy to me. After a couple of hours waiting, no women had been introduced to me. At the entrance to the antenatal clinic there was a reception desk, where women had to report on arrival. Women had to get their maternity files from the reception desk and take them to midwifery desk (about 10 metres away from the reception desk) in order to submit their files to the senior midwife. From there the files were put in designated places based on whom each woman was supposed to see - a doctor or a midwife. Therefore the only way that I

could find out about women's gestation and whether they met the inclusion criteria was to have access to those files, but unfortunately files were regularly taken away by the doctors or the midwives in the clinic. The clinic was running every day and one afternoon was designated for women who had diabetes. After travelling a long distance to hospital every day for a week, I was only able to obtain 3 recruits. Midwives were not co-operative and I had to rely on them to introduce women to me after their follow- up appointment. That was clearly too much to expect from a busy antenatal clinic, so I decided to enter into the matter more dynamically. I decided to check the files directly by going to the reception desk prior to the start of the clinic, identify women at their arrival and approach them while they were waiting to be called. I then approached the women and gave a verbal and written explanation of the study and invited them to participate. Those who were willing to participate were given a written information sheet and a consent form (appendix I). In this way I was able to recruit more women than before.

After four visits to the hospital's antenatal clinic and recruiting some women there was no vacant room available in the antenatal clinic to conduct the antenatal interviews. The only room which was offered to me was the staff sitting room which was constantly in use. Following a couple of antenatal interviews and lots of interruption and having conducted one interview inside my car in the hospital car park, with the woman's consent, I decided to recruit from antenatal clinics in the local GPs' practices instead. The antenatal clinics in GPs' surgeries were being run by midwives from one of the integrated teams. Three GPs' practices were involved. After discussions with practice managers of each surgery, a vacant GP's room was offered to me for certain periods of time to conduct the antenatal interviews. These interviews were carried out very successfully. I had much better co-operation from midwives in the GP's clinic. Women were introduced to me by midwives after antenatal follow-ups and I had the chance to talk to women, discuss the study and give them the information sheets. For women's convenience all the postnatal interviews were carried out in their homes.

Second part of the study

The second part of the study was carried out in a maternity hospital with an existing birth centre. A birth centre is defined as:

"... an institution that offers care to the women with straight forward pregnancy and where midwives take primary professional responsibility for care. During labour and birth medical services, including obstetric, neonatal and anaesthetic care are available should they be needed, but they may be in separate sites, or in the separate building, which may involve transfer by car or ambulance". (DoH, 2004)

The birth centre was situated on the second floor of the hospital. There was a lift in the birth centre's corridor which facilitated the transfer of women to the delivery suite on the third floor when needed. There was no team midwifery in the structure of maternity services; instead small groups of midwives were providing one-to-one (caseload) care to small defined groups of women (mainly those with exceptional social circumstances). All other women mainly received their booking and antenatal follow-up visits in the hospital throughout their pregnancy. For women with low risk pregnancies a couple of their antenatal follow-ups would be done by their GP. Those who wished to give birth in the birth centre were assigned to the birth centre and had their antenatal follow-up either in the birth centre or antenatal clinics outside the hospital run by the birth centre midwives. Therefore, practically speaking, women who booked into the birth centre saw birth centre midwives throughout their pregnancy. Their postnatal home care was provided by community midwives. The birth centre had about eight hundred deliveries annually (2005-2006). Every shift usually included two midwives and one maternity care assistant although sometimes there would be only one midwife and one maternity care assistant. Women were looked after in the birth centre postnatally until they were discharged from hospital. Women under the 'one to one scheme' whose pregnancies were low risk delivered in the birth centre but had their named midwives with them during their delivery. Postnatally they would be left under care of birth centre staff.

The demographic characteristics of women in the study are shown in Tables 4 and 5 (page 116). Women in both groups were medically defined as low risk.

In that stage of my study, which was carried out in the birth centre, I had no difficulty in recruiting or interviewing women. Although I had no direct connection with the birth centre, as an employee of the hospital I was known to the midwives and had their full co-operation. My area of work, while conducting the research, was in the community as part of the postnatal visiting team. I was even offered a quiet room to do the interviews with no disturbances. Some of the women who were due to deliver their babies in the birth centre also had their antenatal follow-up

appointments at the birth centre. I approached the women in the waiting area and those who gave their consent were included in the study. I had leaflets and information sheets about the study in the waiting area, although these were displayed in the birth centre where I recruited my respondents. At this stage antenatal interviews were conducted. The postnatal interviews were carried out 4-7 weeks after the birth of their baby, at the women's homes.

Women who were booked into the birth centre had learned about the birth centre at their first antenatal appointment, either by picking up a leaflet in the clinic or being told about the availability of the birth centre by midwives, and some women had heard about it from friends and family. None of the women had given birth in the birth centre before.

Interview

During the interviews I was quite aware of my possible influence on women's responses. I therefore tried to make them feel comfortable and not to impose any direction on their reply. The list of antenatal and postnatal questions is included in appendix II. In Chapter Two I explained the interviewing approaches used for my study.

I started the antenatal and postnatal interviews with a set of simple questions. In the antenatal interviews I started by asking about their gestation of pregnancy and how they felt in general. The postnatal interviews commenced with asking women about how their labour started. Women were extremely enthusiastic to talk about the start of their labour, going through all the details including the intensity of pain and the frequency of their contractions. This method proved helpful in making the women comfortable and let them openly discuss their expectations and experiences. In the recruiting phase and again before the interviews I provided all women with the information sheet, which explained the purpose of the research and that their anonymity and right to withdraw was reassured.

During all interviews I did not appear to influence the women's attitudes while discussing their knowledge, experience and expectations or any other raised issues. As the interviews were directly connected to women's own experience, it did not appear in any interview that they were trying to give an ideal answer instead of a

spontaneous one. All of the interviews were done in such a free and open manner that I did not feel at any stage of any interview that women were repressing their stories.

Table 4 - Characteristics of women who gave birth in the delivery suite of the hospital with no existing birth centre.

The 1st part of the study

		Antenatal interviews	Postnatal interviews
No. of interviews		20	8
Parity	Multip	6	5
	Primip	14	3
Ethnic Group	British white	13	5
	African-Caribbean	3	1
	Others	4	2
Age		19-39	19-37
Type of delivery	C/S		4
	Ventouse		1
	SVD		3 (all in supine position)

p/n: Postnatal, a/n: Antenatal, lw: Labour Ward, bc: Birth Centre, svd: Spontaneous Vaginal Delivery, c/s: Caesarean Section

Note: women in both groups were medically defined as low risk.

Table 5 - Characteristics of women who were booked to give birth in the birth centre of the maternity hospital with existing birth centre

The 2nd part of the study

		Antenatal interviews	Postnatal interviews
No. of interviews		13	6
Parity	Multip	4	4
	Primip	9	2
Ethnic Group	British white	10	4
	African-Caribbean	1	0
	Others	2	2
Age		25-41	26-38
Type of delivery	C/S		
	Ventouse		3
	SVD		3 (all in upright position)

p/n: Postnatal, a/n: Antenatal, lw: Labour Ward, bc: Birth Centre, svd: Spontaneous Vaginal Delivery, c/s: Caesarean Section

Data Analysis

Throughout the research and data collection I kept a reflective diary which helped me to better identify key points in the interviews. If there was anything to add after each interview I made a note of it. There were a couple of occasions where after the completion of interviews, women pointed out, in a casual conversation, important elements that had affected their experience and I made a note of them in my diary since they would assist in describing the context of their care.

I completed each of the transcriptions personally, which benefited me immensely. I tried to do each transcription prior to the next interview. Particularly in the early stage of interviewing this helped me to identify and become familiar with the themes and issues that could be raised in the subsequent interviews. After a couple of interviews I could identify a number of themes that recurred during the data collection.

After doing all of the transcriptions I repeatedly listened to interviews and analysed the data as described in the previous chapter, starting with open coding. Constant repetition of coding, constant comparative analysis, memo writing, hypothesising, searching for cases and categorising led to the identification of substantive categories and concept development as have been described in Chapter Two in detail.

In parallel with undertaking antenatal interviews in the first stage of the study I started analysing the data through reading the transcripts several times. In the first reading of the antenatal interviews, by examining the transcripts and diary notes, I tried to understand the significance of women's knowledge of birth position, their expectation and their desire for adopting a specific position while in labour. In the second reading I scanned the data and found the passages that interested me. Women's knowledge of birth position and their preferences were particularly highlighted. At this stage open coding as well as initial axial coding took place. The result was promising, as every woman, in both settings, had a fair knowledge of birth position, and their preferences were towards being in an upright position. During this stage I kept asking myself if I were looking at the results superficially. Was there something that I could not see? The whole picture was not very clear to me until I carried out the postnatal interviews. I went back to the antenatal interviews again and

looked at their beliefs and expectations and compared these with what happened in the delivery suite. A group of concepts appeared. Based on labelling of phenomena found in the data, which in itself was based on relevance, intensity and frequency of concepts' appearance, substantive codes and categories emerged.

To build up a framework or, as defined by Glaser (2005) and Strauss and Corbin (1998) a 'skeleton' or a theoretical structure, lots of drawing took place. These skeletons changed during the analysis process as a result of frequent readings of data and coming up with new categories. The first categories developed were related to the environment and subsequently, as mentioned in Chapter Two, issues of technology and power were raised. Reading through interviews of those giving birth in the delivery suite under medical domination, the terminology of control was used frequently: for example, "they made me", "they put me", "they done to me", "they were worried". I went through the data again, this time to find out how women noticed the power and perceived it, and why they complied with the existing power. Women's fear of the unknown and fear of the harm to the baby if something went wrong was evident in the data. Leaving the analysis for a short while at this stage and having frequent meetings with my supervisor I decided to do more reading about the subject of power and control. After going back to the data again and carefully analysing several interviews, on close inspection a new skeleton and theoretical structure was built; however, it needed to be dense and tightly integrated.

Although women who gave birth in the delivery suite were complying with a medical model of care, they mostly remained unhappy and used expressions such as "frightening", "intimidating" and "mixed feelings".

Women whose labour had been medically managed had a passive role and expressed their inadequacy and later questioned their compliance. When their movement was restricted they were subjected to strong feelings of powerlessness and they used expressions like "cruelty" and "traumatic", if their labour had been medically managed.

Women who were giving birth for the second time were more aware of the institutional policy. Their decision on the type of pain relief was influenced by their previous delivery experience. Surprisingly, those who had had epidurals in their previous delivery expressed their wishes against the use of epidural for their present

delivery. A number of reasons were mentioned for this which included the fact that it restricted their mobility; also they felt they had no control over their body and had to rely on others to inform them about things such as pushing, etc. In addition, inability to be an active participant in labour as well as believing that they had longer length of labour were mentioned as other reasons.

The second stage of my study included antenatal and postnatal interviews with women who were giving birth in the birth centre, where the same process was repeated. As further interviews were conducted, more conceptual variations emerged. The different readings helped to define the concepts from various points of view. But this time I was quicker to grasp the concepts. The issues of power, control and frustration were also raised in reading the data at the second stage of the study. These issues were apparent with the women in the second stage of study who gave birth in the labour ward. Similar themes also appeared in the first stage of the study where all women gave birth in the delivery suite. However, less frustration was expressed by them in the postnatal interviews in comparison with the women who were supposed to give birth in the birth centre but ended up in the delivery suite.

From my analysis of the data I found that support and technology were also very important in creating and influencing the clinical environment, where women make decisions regarding the birth position. In the chapters to follow in this section the effect of these factors on women's decision making will be examined and finally the decision-making process will be discussed based on captured data. The discussion of concepts and themes will be clarified using relevant literature. Each of these categories and themes will be discussed in detail in the separate chapters. A summary of the issues within the codes with IDs of the relevant respondents next to them is presented in Appendix IV. This method is defined by Ziebland and Pherson (2006) as a method of going through each extract of data methodically and summing up points on one sheet of paper (OSOP).

The first cut through the OSOP resulted in different issues.

Issues raised from antenatal interviews in two stages were:

antenatal education-knowledge
physical environment
social environment
expectation
plan

Issues raised from postnatal interviews in both stages of study were:

antenatal education
control-power
social support
midwife's role
technology, gaze, panopticonism
paternalism
facilities-institutional policy
gaining control
sense of freedom
environment (physical, social)
antenatal education
support
satisfaction
feeling safe
trust

Main themes were identified from the raised issues and these will be discussed in three separate chapters. In Chapter Six the issue of environment, in Chapter Seven power and in Chapter Eight support will be discussed. I then had a fresh look at the data and looked for the pattern of women's decision-making that will be discussed in Chapter Nine.

Chapter Six

Environment

"It was actually a very big room as I remember it, perhaps too big. I felt I was lost in the middle. There was medical type equipment but nothing like birth pool or bean bag or anything comforting like that at all, not anything useful to me but useful to staff obviously".(25BC, LW)

"When I think about the labour room, I think about the bed". (15A/N, LW)

6.1. Introduction

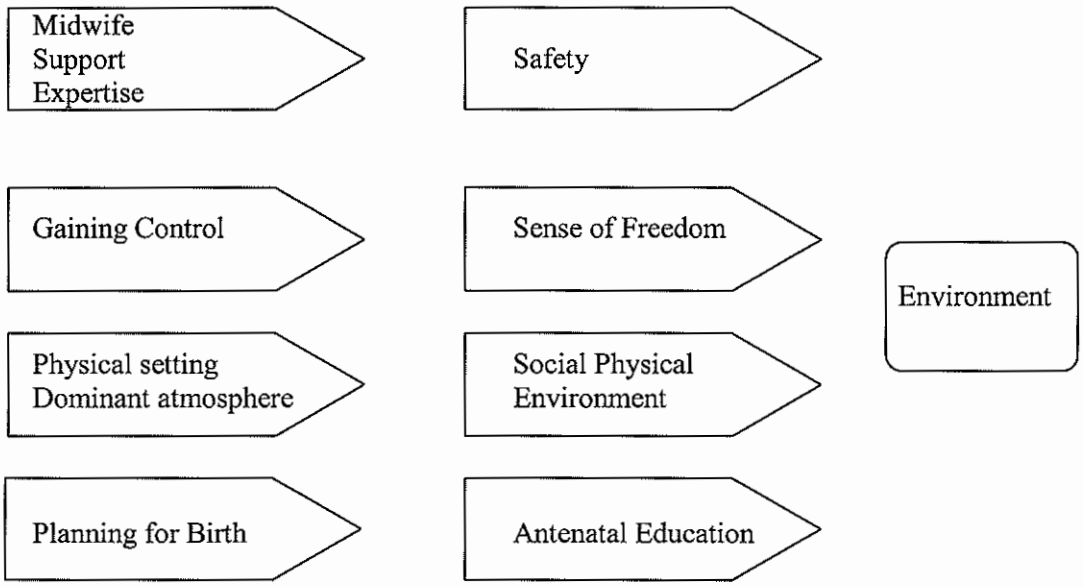
The standards for the birth environment advocated by the English Department of Health (DoH 2004) consist of promoting the normality of childbirth by introducing a home-like environment, making it possible for furniture to be rearranged to allow mobility and different birth positions, making a birthing pool available with staff competent in facilitating water birth (DoH, 2004). The National Service Framework for Children, Young People and Maternity Services (DoH, 2004) acknowledged that the emotional wellbeing of women and their relationship with their babies can be influenced by their birth experience and birth environment.

There is no doubt that the birth environment matters. Environmental factors can raise ethical challenges to midwives and other caregivers when the centre of their role should be supporting the choices of women and decision making. To assess the effect of a home-like birth environment compared with a conventional labour ward on the outcome of labour, Hodnett et al. (2005) undertook a Cochrane systematic review of the literature. Five RCTs and one quasi-RCT were included. The review shows that when women are looked after in home-like birth environments rather than conventional institutional settings, childbirth is associated with modest benefits including reduced medical interventions and increased maternal satisfaction.

In this chapter findings of my study with regard to the relation between environment and the following subjects will be discussed.

The first category generated from the data was the physical environment. The dominating culture of the environment will shape the physical environment. The space of the room was one of the factors that appeared to affect the mobility of the labouring woman. However, even in a very large room in the labour ward women did not feel free and relaxed and still felt they were alienated. The midwife remained an important component of the environment in my study; a trusted midwife's presence sometimes made the actual physical environment less important for women. Another component of the environment in my study was safety. Feeling safe did not mean advanced technology and machinery for birth. In fact women felt less secure and more frightened in the labour ward environment. Women in the first part of the study who gave birth in the labour ward had the same definitions and feelings regarding the room and environment as the women in the second part who planned to give birth in the birth centre but ended up in the delivery suite. Both groups expressed negative views concerning the labour ward environment and felt estranged. They also expressed that their movement became restricted and they were unable to maintain the upright position. Those who gave birth in the birth centre, on the other hand, felt safe, supported and satisfied with the birth experience and were able to stay mobile and gave birth in the upright positions. Figure 2 shows the codes and categories generated in my analysis in relation to environment.

Figure 2- Codes, categories and theme: environment



6.2. Environment and Safety

Definition of safety is partly symbolised through environment. An appropriate environment for the woman contributes to feeling safe and therefore being safe in this sense is fundamental to the birthing process. In the modern developed world, one parameter of the society is to live 'safely'. Society is increasingly preoccupied with the future and also with safety, which generates the notion of risk (Giddens, 1999). Evidence-based obstetrics often requires less intervention rather than more (Martin, 1992). However, in obstetrics high technology care is nonetheless regarded as a most appropriate means of reaching a perfect natural pregnancy outcome (Schwarz, 1990). A midwife with her expertise and support can also provide the 'safety net' as a woman comments:

"Support and expertise I think. I think we don't have any idea really what to expect and when should I be pushing and when should I be panting and is this level of pain normal or does this mean there is something wrong? I think real support and advice and expertise and comfort um this way I think I have a safety net or comfort blanket it will be going all right however it feels"(23 A/N BC).

Edwards (2003) argues that environment is more likely to flow from ideology than vice versa (though the two can engage in a recurring process where each influences the other).

The word obstetrics is derived from the Latin word 'stare', which means 'to stand by'.

A woman's body understands giving birth instinctively and will respond in a setting in which she is encouraged to move in the ways that feel right. Modern obstetrics however, has changed from a 'stand by' position encouraging the woman's body to respond naturally, into an authoritarian and often invasive practice, as described in Chapter Three. Obstetric ideology clearly characterises birth in terms of competent management of women's bodies and the safety of the birthing process is vested in machines and routines, and the woman's body becomes the least reliable of the machines (Schwarz, 1990; Martin, 1992). The restricted space, the bed, the equipment, lighting, hard-glaze surface and so on, indicate that a woman is expected to be monitored and rather inactive during birth.

6.3. Sense of Freedom

Women in my study emphasised the importance of being relaxed and the need for the environment to provide them the essence of freedom. One woman commented:

".....I didn't have any pain relief. I just didn't. I always wanted to have it as natural as possible and I figured that I could keep going. All I kept thinking in my head was it could get worse than this and if I need to ask I'll ask, but it just never got to that point. Obviously because the birth centre is all very natural they don't suggest to you to have a pain relief, so it just got to the end without having any." (33 P/NBC)

To free women's minds, bodies and spirituality, sometimes the material and ideological environments need to combine. However, the body often takes a mechanical form in medicine, an impassive, fragmented object (Shildrick, 1997).

A medicalised and institutionalised environment is likely to reduce the positive experience sustained during labour and birth. A woman who had an instrumental delivery in the delivery suite, replied when asked about the best thing about her labour:

"I guess the best thing probably was being at home, you know I was lucky to be fully dilated when I got there because if I had to stay there, two days beforehand or whatever that would have been awful." (9 P/N LW)

Another woman who ended up with an emergency Caesarean because of fetal distress talking about the worst thing in her labour:

"I think the worst thing was that I was so out of control the whole experience was without my control." (11 P/N LW)

6.4. Physical Environment

The hospital delivery room is usually symbolised by its central bed. The beds are often an obstetric instrument designed to facilitate a variety of interventions and procedures. The delivery room is usually clinical, brightly lit with basic furniture and easy-to-clean surfaces. The presence of resuscitation equipment, gas cylinders, monitors in various shapes and forms, portable lights and stainless steel trolleys equipped with packages, make the room seem rather mechanical.

In the hospital birth room where the bed is central, space is often restricted. That makes it difficult for women even to find something to lean against. Women who were going to give birth in the delivery suite were asked in antenatal interviews what was the first thing they noticed entering a delivery room in a labour ward if they had visited the unit. 19 out of 20 answers were the bed and one said the gas cylinder (see appendix IV).

Drawings made by women describing the birth centre room and the labour room where they had delivered their baby illustrated women's impressions of the physical environment. They also brought out the differences in perceived physical environment between the delivery suite and the birth centre (Figures 3 and 4).

The overall image given by the drawings suggest that in the labour ward setting, the bed is the dominating feature and is extensively noted by women. This could suggest that this dominating feature influences the choice of birth position and may result in an underlying message for them to adopt a horizontal position. On the other hand, the drawings of those who visited the birth centre suggest an informal setting with the beanbags dominating the room (see also Appendix IV). Beds were not notable and occupied the same space as the beanbags in the drawings, while in reality beds are larger than beanbags. This could reflect their mental image and impression from the room. Furthermore, the centre of the room in the birth centre rooms is an empty space for easier mobilisation.

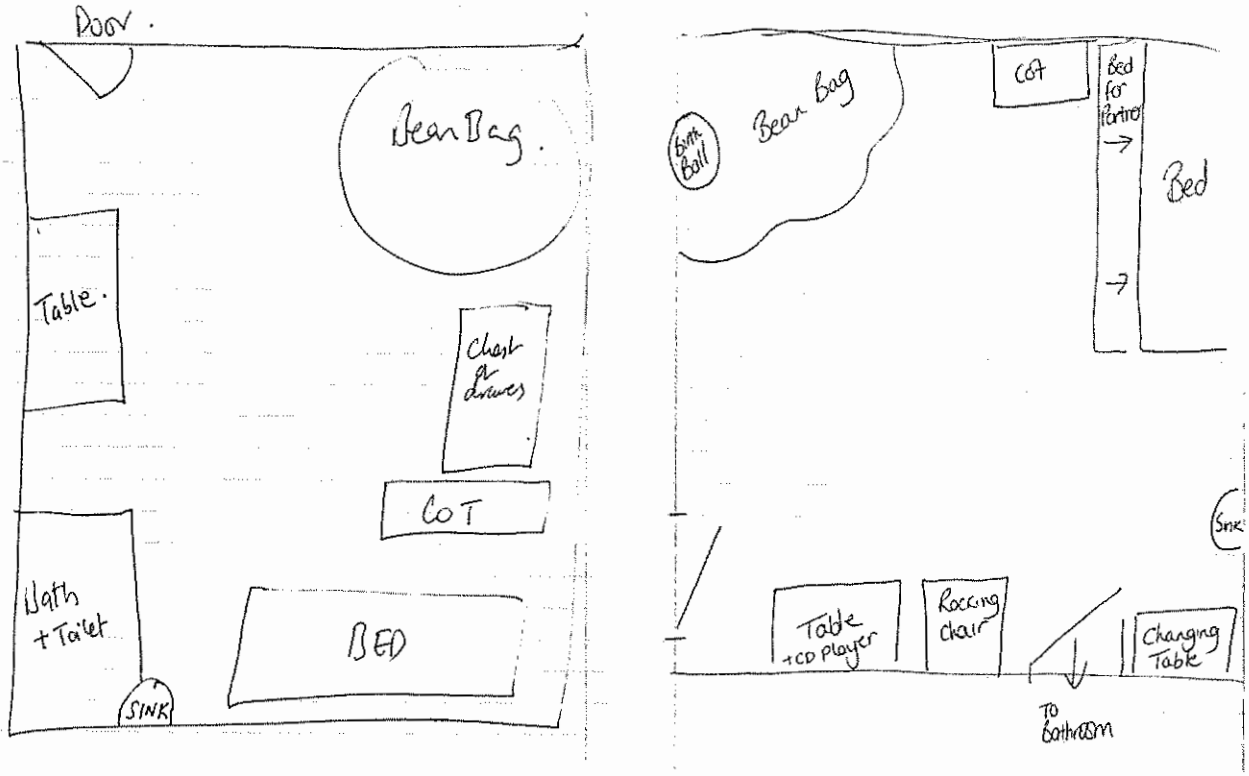


Figure 3: Two sample pictures drawn by women who gave birth in the birth centre.

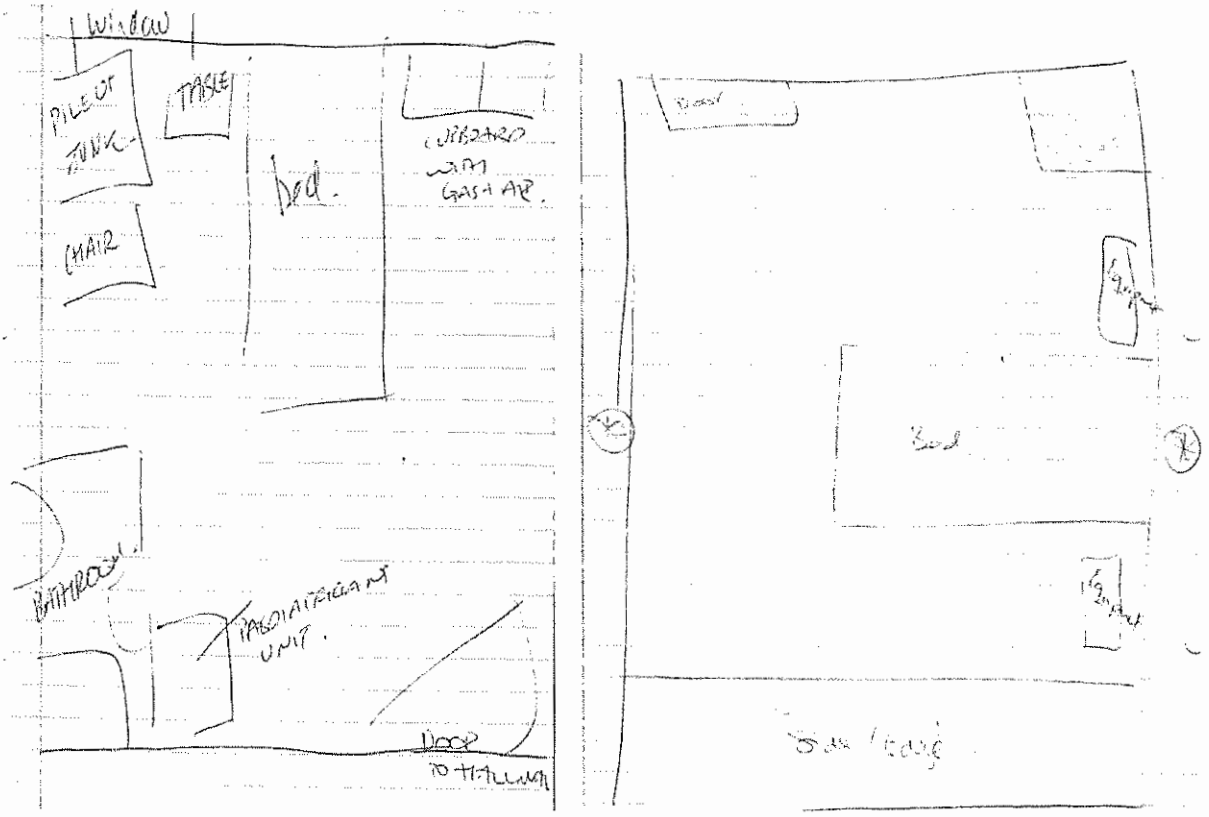


Figure 4: Two sample pictures drawn by women who gave birth in delivery suite. The bed clearly dominates the room.

Following are a few comments from women about the labour room:

"....I mean, obviously they are made for people to lie down, not for people to walk about." (1 P/N LW)

"... about those rooms and then the more sterilized room, I thought it was a bit more intimidating that was. I thought how the light would be very bright here; I feel more like being in hospital, more like if I was ill rather than having a baby." (4 A/N LW)

"When I think about the labour room, I think about the bed." (15A/N, LW)

The setting greatly influences the labouring woman's delivery and the atmosphere of birth. Labour is a time of great vulnerability. The human birth environment is difficult to study because of the multiple factors of nature and the setting. A classic animal study was done by Newton et al. (1968). The researchers studied 100 labouring mice, randomized into three different birth settings. The researchers were able to stop the labours of mice by moving them, placing them with unfamiliar objects and odours, and removing privacy. This study provided an example of a connected animal model for mammalian birth. Most mammalian species give birth in quiet, dark environments. If they are threatened, contractions stop and they move to a safer environment to continue labour and give birth. While certain women might prefer quiet and dark labour environments, others may find themselves in noisy birth environments, full of visitors, conversations, telephone calls, television and music. For some women, this may be an intimate environment that makes woman relaxed and comfortable. Women may respond differently in various settings. There are clear distinctions among environments.

Odent (1994) expanded on this idea and applied it to human birth in his centre in France, where he observed women labouring and delivering with support but without instruction from the midwives. Odent (1994) believed that a quiet, warm, and dark room in which a labouring woman feels protected, safe, and free from interruption is necessary for her to reach a point where she is employing less intellectual control of her brain. He suggested that in order for women to be able to tune out the external world to allow the contractions and other feelings that they are experiencing to open out and birth to happen, they need to be undisturbed. Odent (1994) commented that more natural control of the birth process happens spontaneously in the hypothalamus rather than by a woman examining and trying to control her responses using the

neocortical part of her brain. He claims that positive maternal and neonatal outcomes were related with his method.

Women in my study often described the interruptions they experienced in their birth environment. Many mothers verify changes in the environment: the presence of too many people. One woman who was sent to the labour ward explained the reason for her transfer and also commented about her feelings about that transfer.

"... as far as I can make out there was two reasons: first at all it was busy (BC,) and secondly I needed the antibiotic cover for heart problem I had since I was a baby; and they want me to go upstairs to be checked out; and they did say that I can come back later if things slow down in the birth centre, but it wasn't really an option." (23p/n BC LW)

"I was really shocked. I knew I was in hospital and I could have been having any kind of operation, Loads [of] equipment around the place... the medical-looking equipments ...." (23 BC LW)

Another woman described the change of the birthing room. When she called the birth centre initially at the start of her labour she was told by the birth centre that they were very busy and she had to go to delivery suite.

"Birth centre was absolutely fantastic; you couldn't do anything better in the birth centre, it was perfect, the room. The room I had in the labour ward, it was half the size, it was too small, it was too small. We had the midwife in there, two doctors, and for the actual birth, because we had assisted delivery, we had to have a paediatrician there, so four health care professionals, me, P... (partner) you know, that many was in the room and it was too crowded. There was no way for you to go, there was absolutely nowhere, yes .... and also there was furniture stacked up in one corner of the room. There was nothing rather than the bed to sit on, so I had been ... I asked for a birthing stool and there wasn't one; there was nothing rather than the bed we could use." (27p/n BC LW)

6.4.1. Social Environment

Sometimes women reported their wishes were lost in the anxious atmosphere and routine hospital practices. The dominant atmosphere in the labour ward was reported as an anxious environment that caused women to worry that something might go wrong. One woman critiqued the situation:

"I said that I really feel there is something wrong, you know, and I couldn't sleep. She said '... oh you had the epidural, now go to sleep.'; but because you can hear the monitor and the heartbeat, and just kept thinking I could hear going down and up ... I felt I was let down, they didn't listen to me." (5 P/N LW)

Research by Van de Vusse (1999) has demonstrated that there is a majority of provider control during labour. Yet Simkin (1992) has shown that when we

encourage women to be active participants in their births, their long-term positive memories, self-images, and abilities to mother will improve.

In a hospital setting a birthing woman is expected to take a patient's role. For example, in a classic work, Davis-Floyd (1990) noted that a labouring mother is given the patient role in a hospital. Once adapted to the patient role, women often try to adapt to circumstances to meet further staff members' expectations, such as conform to the procedures and go along with directions. The challenge of changing the birth environment requires a support effort that involves women and families as well as professionals.

Satisfaction with birth experience is highly related to the support women received during labour. Midwives' knowledge of women's previous experiences with births and even the women's birth stories may help them to work out a careful plan of care. As Simkin (1992) noted, women remember the words that health professionals said to them for the next 20 years or longer.

Obstetricians are also largely applying control over the timing of the birth, even in their absence. As one woman in my study states:

"I was on the bed but I was under a lot of pressure from the doctor to get things going very quickly. And, oh, this baby needs to be arrived by certain amount of time, and I felt very frustrated that things won't getting on moving because I was sat down; and I thought it is a vicious circle, let me get up, and in the end I unplugged myself from the machine, yes I did, and took myself up for a walk." (27p/n BC LW)

One way that a woman also exercises control is by letting her body take the lead.

"I didn't make any decision consciously at all, it was my body completely took over; and that was how, and that was how is going to be, and I think it was very good way. I felt the gravity definitely had a part to play." (33P/N BC)

Another woman who had an epidural and ventouse delivery says:

"As soon as I agreed to have the epidural they insisted that I strapped up to a heart monitor for the baby; everything slowed down because I was ... all of the sudden I was stationary, and they made me lie on my back and they wouldn't let me actually ... let me get up at all, they wouldn't let me stand up. They said because we need to monitor you and we need to monitor the baby, and actually because baby's heart rate were dropping between contractions." (9 P/N LW)

One woman initially wanted to push, but doubted her instinct because of the memory of previous experience.

"I felt that I am coping well enough with the gas and air, um, and yes, then I started really pushing because of my first pregnancy. I started saying 'oh I am really sorry I am pushing and I know I shouldn't be pushing'." (7 P/N LW)

The environment of labour and birth make a huge difference to woman's experience and outcomes. When it comes to creating a new environment there is much we can improve rather than just remodelling or rebuilding. One woman who gave birth in the delivery suite talked about her actions at home that reflected her ideals and beliefs about birth. However, in the hospital her movement was restricted. She had been denied admission to the birth centre because of staff shortage:

"When I was at home I was doing all sorts of things. I was leaning on the bag walking around and doing this sort of thing but as soon as I got to hospital it was like, flat at my back tied up to the monitor. I did try going to all fours position, because the midwife who looked after me said 'Why do you want to do that, you should be on your back.' I was really anti all of them, that kind of thing, I was really disappointed about it." (23p/n BC LW)

6.4.2. The Midwife

Midwives as a component of the environment are also a factor in women's decision making. In the analysis of 33 birth stories, Van de Vusse (1999) identified the different ways that caregivers can affect women's decision making. Women, who were more involved and informed, stated more positive emotions regarding the decisions that were made during the period of labour.

In order to meet a woman's expectations and maintain her personal control, the midwife can assist the woman to organise and control herself and her environment. One woman expected assistance from a midwife to get a more comfortable birth position:

"I want to move positions in the different times and I need somebody who would be able to help me to get in different position that could be comfortable for me. I can't stand or walk around and I need to know exactly ... and also afterwards if I need any stitches or anything like that, to make sure again to keep me again in right position." (26 A/N BC)

The availability of calm and supportive staff, and preferably a midwife known to the woman, is crucial (McCourt et al, 1998). One woman who knew the midwife from the birth of her first child commented:

"... oh I was really pleased to see her, I just knew how well I got on with her and I just felt, you know, I was sort of grabbing her before my husband arrived, I was grabbing her arm and squeezing and saying 'You don't mind holding?' You know, she was good , I was really pleased that she was there.". (7 P/N LW)

Analysis carried out by the National Childbirth Trust (NCT, 2005) based on a survey of almost 700 women, suggested that many factors contributed towards medicalised birth in the UK. These problems included public views and understanding, lack of access to one-to-one continuous support, the environment in which women give birth and the organisation and systems of the NHS. High priorities for most women included having a clean room with en-suite facilities, being able to move and walk around freely, and comfortable furniture for themselves and partners. Women valued privacy and being in control of their surroundings (NCT, 2005).

There is a great deal that can be done to improve the hospital environment. The most important aspect of this is continuous support in labour. Support from a midwife plays a vital role in encouraging women to move around, adopt different positions, breathe in a way that helps them to cope with the pain of labour and to have uncomplicated vaginal birth (Hodnett et al., 2007). In my study women expressed that they would like to be offered alternatives. They appreciated it even in cases where they did not find it very helpful:

"Well I think they were just trying to help me to find the most comfortable positions, so I think they did ... they suggested different position In one stage one of them brought in a birthing stool and for some reason I never find it comfortable sitting on it Absolutely, yes they were brilliant and I had a student midwife as well." (33 p/n BC)

A midwife's attitude and personal preferences can also influence the decision making of labouring women. As authority figures midwives can exercise power over women in different ways (Sooi-Ken, 1996). Even in cases where a midwife does not express her preference by not giving advice on alternatives, her bias will be apparent.

Behaviours of healthcare providers influence women's decisions regarding birth preferences. The birthing environment can add to the excellence of the birth experience. A midwife has an important role in creating a sense of satisfaction, uncertainty, or dissatisfaction with this fundamental life event. However, because of the complex nature of labour, a number of factors contribute that are not predictable, such as length of labour or non-reassuring fetal status. The communication between midwives and labouring women where precise information is delivered to the woman is considered to be very important in decision making by the woman.

Giving autonomy to women over decision making, with the impression that they are in control of pain management decisions, is also an important factor. Midwives'

knowledge of decision-making processes in childbearing women is another crucial factor. Although there are views that supporting intervention in childbirth appeared along with the appearance of the male birth attendant, changes in the gender ratio of the obstetric workforce and the increase in female practitioners in the last few decades have not led to a decrease in obstetric intervention. In the hierarchical environment and bureaucratic structure of the NHS, some midwives experience inconsistency between what they have been taught and believe and what is being practised, but learn to behave adequately to survive (Hunter, 2001). These 'shifts' are sometimes very difficult to avoid even when there are conflicts between the midwives' perceptions of good practice and policy and the protocol of hospitals. Midwives cannot empower women without being empowered through their work and engaging in a decision-making role (Sooi-Ken, 1996).

6.4.3. Birth centre environment

Like the community birth setting, birth centres in the hospital setting are able to bring philosophy and environment together through a social midwifery definition of birth (Walsh, 1999).

Literature on community settings suggests that midwives and women can create different approaches to birth, but that it remains highly challenging to develop woman-centred care in a risk dominated litigious community (Kirkham, 2003). It will require political awareness and great courage and persistence. That could apply to the birth centre with less intensity.

Obstetric ideology is not necessarily confined to large hospitals; it may also be transferred to the smaller units such as birth centres. One woman who was supposed to give birth in the birth centre but ended up in the delivery suite due to staff shortage at the birth centre talked about her experience of labour, her feeling and how estranged she felt in the labour ward:

"I knew I was in hospital and I could have been having any kind of operations. Loads of equipment were around the place. The medical looking equipment ..... oh it was really horrible, horrible." (23p/n BC LW)

Edwards (2003) believes having home-like birth centres based on social models of birth is no longer a choice issue, it is an ethical issue. Where there is evidence showing that out-of-hospital births can also reduce physical and emotional harm to

women and babies, it is unethical not to provide easily available birth in the community, at home and in the birth centre.

Edwards (2003) believes that for some women it is not easy to give birth in a high-tech medicalised and alien environment. But their integrity depends on being able to satisfy their own meaning of birth to the best of their ability.

A growing number of research papers state the benefits of providing a woman-centred environment during childbirth. However the NCT report described earlier in this chapter (NCT, 2005) shows that there is still some way to go before birth environments fully meet the needs of all women.

In the survey by the NCT (2005) around 90% of the 700 women surveyed said that the birth environment affects how easy or difficult it is to give birth. The survey also found that women were still giving birth in units that potentially made labour more difficult. At least 26% of the women surveyed found that being in a room that looked clinical rather than homely, made it difficult for them during labour. In 17% of the cases women said the lack of adequate space made their labour more difficult. The report also revealed that not having sufficient space to try a range of different positions and move around was associated with a higher rate of emergency Caesarean sections.

Factors valued by women in the NCT survey included a clean comfortable homely room that they could stay in throughout labour and have the opportunity to stay in afterwards. Women needed to be able to move around freely and they wanted to be able to use a private toilet. Women find it supportive when their midwives honour their wishes. They wanted midwives to encourage them to try a variety of techniques for coping with pain during labour. This is in line with what women in my study expressed. The survey also found that when women had an environment they valued, a straightforward birth was more likely; and of the women who could walk around, 88% had a vaginal birth compared to only 74% of those who could not walk around (NCT, 2005)

In the NCT (2005) survey women certainly felt that their surroundings affected their experience of labour. Generally the facilities women found most helpful were similar to those in the findings of my study: space for walking and moving around, birth pool or large bath, an en-suite toilet, low lights or adjustable lighting, privacy and

quiet. All women in my study wanted the birthing room to be comfortable, calm, relaxing, (not smelly), clean, non-medicalised, homely, spacious, modern, with the right light and colour, and a birthing pool. Some of their views about rooms in the birth centre are presented here:

"The atmosphere really ... they quiet they were relaxed. I can't believe that they have so many babies that born here because it is always so quiet and relaxed, and everybody is always smiling, and very cheery, which I think is quite very important when you are in very anxious state." (22 A/N BC)

"In fact that it didn't feel like a hospital. I felt instantly quite reassured and I knew that if this was an option that is the route I'd like to go down; it felt very homely. The fact that there was a bed and a spare bed for your partner, it was big, it didn't feel clinical. It was painted in the kind of colours you expect to get at home, not in a hospital. It felt just really nice." (24 A/N BC)

"Generally I thought it looked like a clean modern hotel room, very comfortable and clearly someone has thought about how to make someone as comfortable as possible, and I was incredibly impressed because I gave birth to my daughter in the hospital, which was terrible, really awful, really awful and this is lovely." (33 A/N BC)

In my study women also expressed their desire to have these facilities available to them whether giving birth in the birth centre or in delivery suite. One area of their disappointment in the birth centre was the birthing pool which was allocated on a first come first served basis.

"We had classic music on; that was great, and I didn't find anything wrong with the birth centre at all, Apart from the fact that I would have preferred to have had a water birth, because I've had two babies in the birth centre now and I have been desperate to get in the pool. Each time it has been occupied so that is a shame." (24 P/N BC)

The finding of the NCT survey (2005) showed some clear tendency for suggesting that the place where a woman chooses to have her baby makes a difference, and the kind of environment may influence the chances of having straightforward vaginal birth. However, it can be argued that women who were responding to this type of survey were motivated, particular people whose views are not representative of the majority of maternity care users.

6.5. Antenatal education

Antenatal education plays an important part in educating and preparing women for birth. A number of challenges will be raised in that regard. The terms of education

that empowers childbearing women to make informed decisions symbolises an ethical approach to caring. The importance of mobility in labour has long been known and taught in antenatal classes, but then often fails to be practised when labour commences. Coppen (2005b) conducted a double-blind randomised study to examine the effectiveness of focused information on birth positions and to test the hypothesis that such information would increase the use of an upright position in labouring women.

The study was carried out in a maternity hospital in Surrey in 2000-2001. A total of 235 women participated in the study and were allocated to two groups: experimental (n=118) and control (n=117). Stratified randomisation was employed in order to achieve a similar distribution of participants in terms of their characteristics (Jadad, 1998) in the two groups. For this purpose two factors, parity and level of education, were identified as being related to the outcome of the study.

The participants were asked to complete a number of questionnaires including one pre-test, two post-test and one post-delivery questionnaire. Coppen used ADAPT (a decision analysis preference triage) which was an instrument designed to help women in their choice of birth position.

The results showed that provision of focused information was effective in the first stage of labour as more women in the experimental group adopted the upright position. Therefore the results indicate the importance of focused information in enhancing the knowledge level and decision certainty, and reducing the decision conflict with regard to decisions made by women on their choice of birth position, particularly during the first stage of labour. However, it also showed that women could not concentrate on their choice of birth position during the second stage and that decision making was mainly controlled by the midwives. As a result, the focused information was not effective in enhancing the rate of normal delivery.

Some women in my study stated that they had not been prepared for the intensity of their contractions. These issues were not included in their antenatal education. Giving power to a woman to overcome the fear, when connected with a sense of control, can increase her confidence in birth:

"I think maybe in antenatal classes they should be more realistic .... you know, everything was different, was completely different to what happened ... you just need to be prepared for that, and at the end, because I beat myself up quite a lot about it, but really baby was fine,

she was never distressed all of the way through it. That is the main thing, she is fine now, but I think it is nice to have these ideas to be able to accept if it is not going to happen.". (23 p/n BC LW)

"I was prepared, yeah, I was prepared with all the classes, and I went to the NCT classes and all that, but you know you can't prepare yourself for your own labour because you don't know. And nobody knows what it's going to be like, and maybe the next one would be wonderful, but, you know, how can you be prepared for labour when you haven't had one before? I was prepared because I knew all the possibilities." (25p/n BC LW)

Women in the second part of my study who gave birth in the birth centre, reported a higher level of knowledge about birth positions than women in the first part of the study. In the antenatal interviews women in the second part of the study all strongly advocated an upright position and were going to adopt an upright position during labour and birth.

"I would like to be in the birthing pool... I want an active birth, I don't want to be lying on my back, I want to be actively participating and, you know, I think at the moment some kind of squatting with an assistance is the position that is appealing to me now." (29 A/N BC)

"...on all fours or leaning on a birthing ball, or something like that. I definitely don't want to be on my back." (31A/N BC)

6.5.1. Birth plan

The use of birth plans was strongly supported by the *Second Report on Maternity Care in Actio*n (DoH, 1984) as a way of negotiating individual needs during labour as well as de-medicalising the birth process and empowering women during childbirth (WHO, 1985). Since then, the use of a birth plan has been assumed to be a common practice, especially in maternity units with fragmented care. It has also been believed that discussing the birth plan with women can create an opportunity for midwives to know the women and understand their needs (DoH, 1984).

Crooke and Smith (1988) commented that the use of birth plans has improved relationships between women and midwives, thus making the midwives' role more satisfying. However there is no evidence showing that the use of a birth plan in intrapartum care empowers women, as confirmed by Green et al. (1990a) who found that midwives relied on stereotypes to help them interact appropriately with women and to make assumptions about what women want and what is good for them, mainly in a busy labour ward where midwives do not have the opportunity to get to know the women before or during labour.

Sooi-Ken (1996) carried out a small study to explore the effect of a birth plan on women's empowerment. Semi-structured interviews were conducted with ten women who used a birth plan in their delivery. The findings of her study indicated that the birth plan can empower women but its success depends on the effective communication and adequate information given antenatally, which needs to be followed through during labour.

In my study two women in the delivery suite group and three women in the birth centre had written a birth plan. However, there was no evidence to indicate that use of birth plans improved the midwife's relationship with the women or empowered them. It also did not play an important role in women's decision-making regarding birth position. The birth plan was not of great importance in my study although some women wrote one. The majority left it to the last minute and it was more a matter of wait and see as they did not want to make a strong statement. Those who did prepare a plan said it changed completely in actual circumstances. Two women in the birth centre group had planned for water birth; however, there was no pool available at the time of delivery. In another instance a woman who planned for an upright position ended up in the supine position since she had an epidural and ventouse delivery. The third group were those who said they made a mental note of a plan and preferred to discuss it with the midwife while in labour. Overall the data in my study suggest that women do not see the birth plan as an appropriate substitute for communication with the midwife. They found it easier if they could discuss their plan with their midwives informally instead of writing the plan for an uncertain process of birth.

6.6. Conclusion

Women in my study expressed an opinion that environment made a huge difference to their experience. Those who gave birth in the delivery suite in the medicalised and institutional environment reported more distress and anxiety with restricted movement, whereas those who had given birth in a homely environment in the birth centre felt relaxed, and the joy of giving birth was increased. Although all women appreciated the nice physical environment (comfortable, calm, relaxing, no unpleasant smells, clean, non-medicalised, homely, spacious,, right light and colour, with birthing pool), when they had expertise and support of a midwife the actual physical environment became less important. Irrespective of the place of birth they

wanted the midwife to be present and support them in their preferences. When it came to birth position they wanted the midwife to talk about the alternatives and help them to get to the most comfortable position. They valued antenatal education and wanted it to prepare them for the intensity of contractions without raising fear. In the antenatal interview women expressed that they did not want a passive recipient role.

However, those who gave birth in the delivery suite - especially those in the first stage of the study - adopted a passive role while in labour and were unable to maintain an upright position. Environment could largely uncover and underpin beliefs about the birth. This is why women's home and birth centres tend to de-medicalise the birth, while simply improving the decoration in obstetric units usually does not (Edwards, 2003). Environment should not be narrowly defined and changes should not be limited to improving decorations and hiding obstetric equipment. Superficial changes to the physical environment will not change the dominant culture. Hospitals with superficial decoration changes may still disaffect women. Environmental changes need to point towards ideological changes otherwise these remain superficial.

Chapter Seven

Power

7.1. Introduction

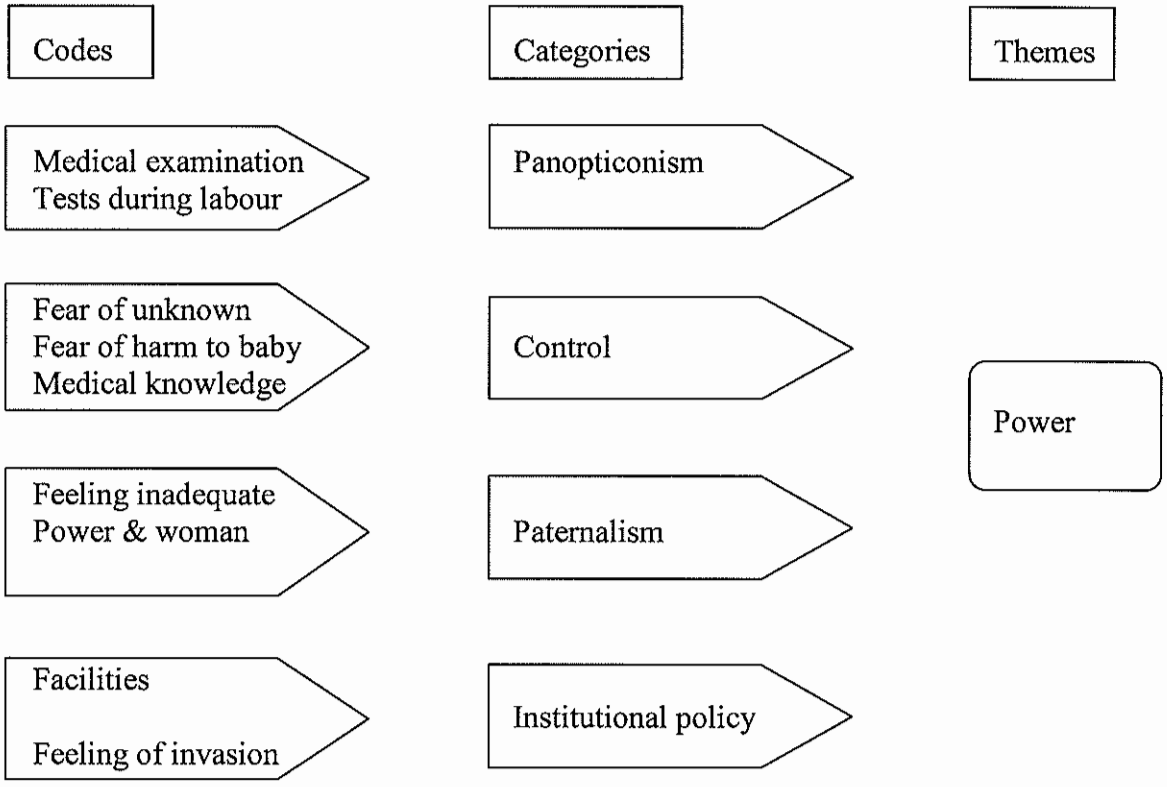
"They frighten you into thinking that things are going very badly and .... restricted, to be lying down, which I found really horrible. I didn't enjoy it, it was a horrible experience; I felt like I was in an accident, not doing something naturally. I felt it was invasive and horrible." (27 p/n BC LW)

"The doctors came in and made me turn around and lying on my back, and they wanted to examine the baby, and they put me back on the monitor; baby's heart rate was dropping between contractions. Then they wanted to do a scratch test, they were worried about him. They wanted to do the test, and they did the scratch test on his head to check the oxygen level, Oh gosh, the other thing is they had my water broken; they broke my water to do the scratch test." (9 P/N LW)

As mentioned in Chapter Two the issue of control frequently emerged from the data. Exploring the wider sociological perspective regarding the power relations in society and reading the French philosopher Michel Foucault's view of historical evolution of power, and going back to the data again, it became apparent that the core concept was the power of the medical model that caused control and paternalism. In this chapter, the issue of 'power' will be examined from a historical perspective to the modern day influence. Foucault's concept in relation to disciplinary power will be outlined and then applied to the maternity service. The codes, categories and themes arising from the data in relation to power are shown in figure 5.

After reviewing the theoretical literature regarding the emergent theme 'power', all emergent categories will be discussed and where appropriate some codes will be selected and discussed.

Figure5 - Codes, categories and themes arising from data: power



7.1.1. Legal and disciplinary power

"Power is the ability of one person to influence another individual to do what the other wants. Power operates dynamically and fundamentally in both patient and nurse, as well as in social institutions" (Hawks, 1991; p 755).

The shift from use of a monarch's authorised power to current forms of disciplinary power has been outlined by Foucault (1980). Authorised or legal power as explained by Foucault is open to public view and can be very efficient even if the subject resists; for example, arrest, public ordeal and captivity can all happen despite great resistance from the subject (1980).

Disciplinary powers, unlike authorised powers, try to be invisible, are not easy to detect and mostly do not happen to be visible until resistance is confronted (Foucault, 1980). By contrast with legal power, disciplinary power needs the subject's compliance. Medical power in childbirth is normally invisible and operates more effectively with the co-operation of the midwife and the submission of the childbearing woman. One of Foucault's main theoretical concerns was the method

used to obtain the subject's compliance and co-operation. The disciplines he was concerned about were the practice professions and the related institutions through which their power is exercised, such as army, prison, the asylum, the factory and hospitals (Foucault, 1991). Disciplinary power, Foucault argues, works at the same time as the subject's legal power, and may undermine it. In this chapter the issue of power and maternity care, and how these have been exercised on women in my study will be discussed, based on gathered data, but also in the light of relevant literature.

Legal power in history was visible and frequently practised in forms such as capital punishment and public beating, where the power representative was visibly known - either a judge or executioner. In disciplinary power contrary to legal power, those who are controlling the situation and exercising the power remain unseen and invisible; the disciplinary mechanisms operate much of their power by putting the subjects on display. Foucault (1991) utilised the concept of panopticon (observational tower in the jail) as a theory and a model to simplify understanding of how close watch is central to the exercise of the power. He explains that in the initial construction of the jail each prisoner was kept in a cell with two large windows. One window directly faced the panopticon tower and the other was just behind the first window to bring more light to the prison cell in order to facilitate the constant watch of the prisoner from the panopticon. Foucault named this surveillance 'the gaze'. A person subjected to this kind of gaze cannot know when they are being observed and when they are not. Therefore the person usually behaves in the ways that their observers wish for, hence further punishment could be avoided or reward could be gained, like avoiding solitary confinement or awarding parole.

Foucault argued that as soon as subjects adopt the understanding that they may be observed at any time, they become their own observer, turning themselves into a passive and obedient subject. The 'gazing' phenomenon came in with the modern era. It is the foundation of disciplinary power, to such an extent that with no 'gazing' disciplinary power cannot function. A rise in surveillance leads to a rise in disciplinary power and a fall in surveillance results in a fall in disciplinary power (Foucault, 1980).

7.2. Panopticonism in maternity care

Foucault's perception of the panopticon has been shown to have wide relevance to understanding of the medical model of care. Hospital wards were designed to facilitate close watch of both patients and nurses by putting them under the 'gaze' of senior nurses, who in turn were ruled by a matron, who finally was greatly controlled by unseen and hidden medical power. In order to gain knowledge, medicine as a discipline frequently exercised control over patients. It is through the gaze, including invasive technological and surgical gazing, that doctors learn medical knowledge, which is the basis of medical power.

Terry (1989) uses 'natal-panopticonism' as a term for the medical surveillance of childbearing women during pregnancy. In maternity services medical panopticonism exists since, as soon as women come to hospital for antenatal care, they are exposed to the medical gaze through antenatal assessment. The close watch is increased and becomes more powerful via technological gazing such as routine screening tests, ultrasound and admission cardiotocographs and continues with other tests throughout the labour. Clear evidence present in my study confirms the data that subjecting women to these tests resulted in women's increased confinement in bed:

"I was lying on the bed, they were monitoring baby's heartbeat and they kept losing the heartbeat- it was kind of a panic, it wasn't the way I had planned. Actually, I was lying most of the time and they monitored baby." (9 P/N LW)

In my study clear evidence of medical 'gaze' is evident for those who gave birth in the labour ward setting, which played an important part in reducing women's mobility and their ability to maintain an upright position. The most common of these gazes was through the CTG that confined women to bed.

7.2.1. Medical Knowledge

According to Foucault, power and knowledge are identical terms (Foucault, 1980). He argued that power and knowledge are referring to itself; that shows when having the public accept the discipline's knowledge claims; the effect would be increasing the power of the discipline. Therefore, the crucial point is that the society decides which knowledge and authority to accept and which to put in the margin. The society, through its representatives like governments and legislature, lets certain groups such as obstetricians have power, at the same time limiting the effort of others

such as midwives, to increase power over the birth. Foucault believed that disciplines utilised the disciplinary techniques of the Catholic Church (Foucault, 1984). He argues that, in history, the base of the Church's power over the people was the fact that people believed the priest's claim that god's punishment and reward would depend upon their obedience to church principles and guidelines. This implies that a strategy which openly questions medical knowledge, to argue that routine interventions are not evidence-based and not in women's best interest may be a useful strategy in reducing medical authority in birth medicine, and other dominant and influential knowledge such as midwifery.

Perkins (2004) describes how 20th century managerial theory promoted the development of industrial-type organisations for institutions, where there were calls for concentration of work and services in large industrial complexes, labour specialisation, standardisation of process, and domination of technology. This economic model highlighted a number of factors including competence, uniformity, control, and market competition for business among hospitals and physicians. A new definition of 'science' was created by the economic model through combining the two fields of financial management and medicine.

Perkins believes that based on best available assessment of competence and need, staff, institutions, and equipment would have to be measured and reallocated. She identifies that it would be difficult to develop sensible options because of the power, control and force present in the medical system and also in the industrial order.

This force and control were evident in my study. Evidence from my data shows that whenever a woman was subjected to a care-giver's 'control', she expressed her unhappiness, felt inadequate, became passive and subjected herself to the dominant force whether it was about adopting the supine position or undergoing invasive procedures. One woman, who planned to deliver in the birth centre, went to the labour ward for epidural analgesia and ended up with ventouse delivery. She commented:

"Honestly I don't feel very positive about it. I have very mixed feelings, because I kind of had absolutely everything that you could have. My experience of [the] birth centre was really positive; my experience of the labour ward was really frightening, and very frightening, (emotional crying). The doctors were very, very intimidating, um, and they really bully you in there. There was no room for anything rather than ... but you must be one cm in one hour; if you are not exactly that then there is something wrong, there is no room for you." (27p/n BC LW)

Another woman said:

"In this birth the examinations were the worst parts of this birth. I mean, I didn't have any problem ... and the others checking to see how far I was dilated for some reason during this birth. It was very, very painful to the point where I was in tears, which was just from the examinations, so my husband was very upset, and that was the worst this time, and hearing that I had to have a Caesarean, which was almost a failure, like I couldn't give birth, it was forced upon me." (1 P/N LW)

Perkins (2004) believes that hospitalisation for childbearing women increased in order to bring a "continuous operational flow" of women. Some physicians did not let labours proceed naturally, but speeded them up with oxytocin regardless of its unpredictable outcome. In order to enhance their reputations, physicians promoted their services by demonstrating their excellent expert techniques like forceps, episiotomy, reinforcing their control of that specific intervention. Also, to certify the greatest efficiency along factory-type lines, series of technical procedures were performed by division of labour and a hierarchy of workers. Those procedures are carried out in a series of work stations staffed by differently-ranked practitioners with various degrees of power within the system. Such division of care influences the actual architectural style of hospitals. And it is likely that architecture also supports and sustains the hierarchies.

Perkins says that this complexity must be broken through changes in actual practice not just by changes in attitudes. Although Perkins' point seems to contradict that of Van Teijlingen (2005), who believes that change needs to occur in ideological and analytical levels, it can be argued that there are elements of interplay here. Implementing a change needs a close partnership between theory and practice.

Midwives and women are repeatedly the subject of medical and professional disciplinary power. However, midwives have significant disciplinary power and sometimes apply their power improperly (Fahy and Smith, 1999).

"So she examined me and I was about 5 cm, and then from that point on I didn't leave the bed. She said 'Oh you' re 5 cm, good girl' and this sort of thing, and she said 'Do you want some pain relief now', because with my first, and for some reason I suddenly got it in my head, because the pain were the same as the labour I had before, and because I was having sensations that I just wanted to push, and it was obviously too early to push ... up to some reason I, I just thought that ' ... oh God I have got a feeling that I am going to have another Caesarean!'. Last time I left it too late having an epidural, so I end it up having a general. So this time, when she said '... would you like a pain relief?', I said 'Could I have an epidural?', because if I've got to have a Caesarean, I don't have to go on general. So I asked for an epidural and she said we'll organise that ". (11 P/N LW)

Lack of communication and the problem of fragmented care are evident in the above quote.

Obstetric discourses are prominent as they have society's approval. This approval was gained based on society's trust in techno-science upon which obstetrics claims to base its treatments. Obstetrics offers rewards such as safe, pain-free birth and talks about punishments such as death or harm to mother and baby. A woman who had her first baby by Caesarean and was determined to have her second baby naturally talked about her experience of adopting different positions and how her desire to stay upright had been "overruled" by the presence of medical power:

"I was on my side. The doctor looked at me and said 'you really need to get to your back now, you can't really do it in your side'; and midwife said 'No', she said: '...you know S ... [woman's name] said she is more comfortable on her side.' I think, when I started to push the baby out he (the doctor) didn't want me to be on my side. The midwife didn't think I was ready to push, but the doctor, er, sort of overruled that, and they put my legs in stirrups to help to get the baby out because I wasn't pushing efficiently". (11P/N LW)

Another woman in the second stage of the study talks about her experience in the labour ward:

"..I wanted to push. Midwife was absolutely fantastic, but the doctor [was] trying to make me wait and they said '... you are not ready ...'. I said, ' Well, you have a look', and actually they did have a look and I was 10 cm and ready to go, and I just climbed up on to the bed and squatted on the bed; they lifted the back of the bed up and I was leaning on that." (27 BC LW)

When there is a medical confrontation midwives do not always support the women. The reason is that challenging medical power directly is a risky approach. According to Foucault (1984), when a doctor feels his or her power challenged, he will most likely counter with an increase of disciplinary power.

7.3. Paternalism

Paternalism and a hierarchical structure of maternity care are totally against the empowerment of women. Although paternalistic care seems to facilitate the midwives to act in the women's best interests, it also indicates that midwives know what is best for women.

Although advocacy is an appealing model for midwives, there are problems that could make advocacy an inappropriate practice for midwifery. An advocate is one

who believes himself or herself to be the professional acting on behalf of passive, silent 'patients' (Kohnke, 1982). In developing such a role, the midwife initiates dependency in women who are healthy and should not, therefore, be viewed as 'patients'. They are capable of stating their requests related to their healthcare needs. Giving the advocate role to midwives not only encourages them to take charge but also to take control and exercise a sort of power over the woman.

Stapleton et al. (1998) and Kirkham (1999) described the culture of midwifery in the NHS as a female culture of caring where it has been expressed and operated without the importance of such caring work being acknowledged. As a result of changes in the maternity services in recent years, women are expecting proper care and support as a right. However, midwives caring for them did not acknowledge themselves as having the same rights. This could have been reinforced by a culture where considerable guilt and blame are produced as well as midwives' dual pressures to conform. Self-blame was pervasive and, whilst this may be a female characteristic in the wider culture surrounding midwifery, it had a weakening effect upon some midwives.

Midwives lacked the confidence or awareness of their own power that is essential before power can be shared, hence their culture of powerlessness did not enable them to empower the women (Kirkham, 1999).

Carlton et al. (2005) conducted a descriptive qualitative study of 33 primiparous and multiparous childbearing women who had changed their stated birth preference from an un-medicated birth to a medicated birth. Participants were interviewed within a month of giving birth to find out what factors influenced their change in preference from an un-medicated birth to a medicated one. Intense pain, length of labour, exhaustion, not knowing what to expect, coupled with a sense of anxiety, feelings of lack of control and poor preparation, and the inability to relax were mentioned as the main reasons for changing their birth plans. They found that these factors added to the complexity, difficulty, occasional feelings of guilt and inadequacy felt by women in making decisions related to pain management during labour and birth. Findings of my study show that the feeling of being inadequate leads women to make decisions that they will regret later. One woman in my study, who planned for natural birth and asked for an epidural while in labour but was too late to have one, reviewed her birth experience afterwards:

"I think now after the birth you have time to think about it, and oh think, gosh I was up in stirrups, how did I let that happen?, I mean, as they happen it didn't bother me at the time, and everything, and everything was so quick I was able to get through everything with just gas and air. And next time I won't necessarily be so quick to ask for ... I probably won't ask for an epidural and probably try to go with the gas and air; and I would try to be up more upright for longer and doing my squatting during the contraction." (11 P/N LW)

Data analysis from my study indicates that some restraining factors in empowering the women to adopt their choice of birth position were fragmented care, lack of facilities and resources and staffing shortages.

Three women who were planning for natural birth in the birth centre were unable to obtain admission to the centre because of high workload and shortage of birth centre midwives.

One of these women who were planning to have a natural birth in the birth centre was forced to go to the delivery suite because of staff shortage. She ended up with an epidural and later had a ventouse delivery. She could not maintain an upright position while in labour. Talking about her experience and disappointment, she said:

"We called the birth centre., The birth centre was full so they said if you want to come now you'll have to go up to the labour ward. So I went up to the labour ward ... they did say that I can come back later if things slow down, but it wasn't really an option." (23 BC LW)

Another woman who was also supposed to give birth in the birth centre ended up delivering her baby in the delivery suite because there was only one midwife on duty in the birth centre and she had to look after other labouring women. She was told that she could not have one-to-one care because of staff shortage in the birth centre, and that the midwife could not be with her all the time, which was contrary to what she was expecting:

"On Monday at about two in the morning I went to the birth centre and they sent me back home because I wasn't dilated enough. So I went back to the labour ward at about five in the morning on Monday because I was in lot of pain and I wanted an epidural; and I went to labour ward." (23 p/n .BC LW)

In her disappointment and the sense of rejection and fright she went back home. However, feeling sick with every contraction, she needed the presence of a midwife with her all the time. Therefore, she decided to go to the delivery suite and ended up with the epidural and ventouse delivery in the theatre. Feeling upset for being let down and badly treated by the birth centre she said:

"You are going to have a midwife with you all the time bla bla and I were, which is something that you wouldn't have in the labour ward. Actually, it was opposite to the birth centre. We were told when you go there you aren't to go home. On top of that there were 'only two of us today and I have got other women so you, know we wouldn't be to look after you all the time'. And I went to the labour ward and I had a midwife or her supervisor with me mostly all the time; the midwife was with me all the time so." (25p/n BC.LW)

7.3.1. Midwifery status

There has always been a political face for midwifery practice where professional identity requires structure change for full development (Bourgeault & McDonald, 2000). Davidoff (1998) has described the debate between the old wives' tales and progressive rational scientific procedure in nineteenth century educational and health developments. Midwifery has defended its status in two ways, arguing at once for professional recognition and at the same time seeking to maintain some of the elements of midwifery's traditional, real intimacy with the birthing woman.

A striking shift in midwives' practices and views about birth took place when birth moved from midwifery to medical management and from home to hospital. In favour of medication, the traditional ways of finding relaxation and comfort were abandoned. Ultimately, in the restricted hospital environment and obstetric care practices, women's ability to find comfort without the use of medication was reduced. With the advancement of birth technology, interventions that were once retained for complicated labours, such as intravenous lines, electronic fetal monitoring, and confinement to bed turned into routine practice for all women.

Women were forced into depending more on modern technology and its hidden promise of a risk-free birth and also to overcome the fear of uncertainty and "if something goes wrong" (Kitzinger 2006). It is evident from my study that technology has been trusted and relied on and became a substitute for the support:

"Yes it is and we were shown to a room and a sort strap up to a machine and just left to our devices for quite a while. And basically people only came back when I got the urge to push." (8 P/N LW)

"Oh the labour ward no, no, because I had epidural. Well, it was a mobile epidural but they had told me before to really have it mobile; you have to keep moving from the beginning otherwise your legs [start] going to sleep which happened, but I was exhausted; I didn't want to move from bed anyway." (25p/nBC LW)

Routine use of interventions for all women in order to decrease only a few risks has resulted in women just waiting for their bodies to fail:

"I was just unlucky, so after the pethidine did nothing. I just felt miserable and tired and then I decided that it was too painful and I need something else and I asked for epidural in this point. About seven o'clock in the morning I had an epidural and actually an anaesthetist was called into an emergency c/s; actually we were very unfortunate: my baby arrived on one of busiest days they had and they planned to close down the hospital to new admissions. There I was, so tired I actually I couldn't concentrate on hypno-birthing and all of those, or any of the breathing just went out of the window because I was too tired and frustrated." (17 p/n BC LW)

7.3.2. Power and Women

Foucault (1984) states that the modern disciplines encourage obedience through promising rewards for compliance and punishment for non-compliance. He believes that this is normally done through implicit faith. Applying this concept to medicine, the promises and rewards that medicine offers would be 'life', 'health' and 'pain relief' while the punishment would be the fear of the 'pain', 'death' or 'disability'. The reward for childbearing women who give in to medical surveillance and control during the pregnancy and birth would be an offer of an absolutely safe and relatively pain-free birth. In relation to disciplinary power, midwives are often passive subjects. In the construction of midwifery and nurse training, there are lots of rewards and punishments. Within the health care system the punishments for not behaving as passive and obedient subjects are eminent and the subject would be ignored, criticised and excluded, as well as being subject to formal organizational restrictions (Sundin-Huard and Fahy, 1999). Foucault believed that one of the most powerful incentives is to release and discharge responsibility and pass it to another authority to make a decision. This would free a person from the fear and anxiety of taking control of the situation and being held responsible (Foucault, 1980). Therefore some midwives dynamically defy the introduction of midwifery models of care, and support the medical model of care for childbearing women. That would be a way to avoid more personal responsibilities, especially in a situation where there might be conflicts between ideology and reality, as referred to by Hunter (2001) in her study of emotional labour in midwifery. The fact that birth is managed in an atmosphere of fear also forces women to go through almost anything that they are told will save their babies' lives or prevent harm to babies' brains. It is easy to convince pregnant women into obedience by highlighting a threat to the baby. They are also often frightened that if they are disobedient, their care will be neglected and they fear punishment. Many woman in my study stated their fear and disappointment:

"Actually it is wrong. They frighten you into thinking that things are going very badly." (27P/N BC LW)

"She only went to distress once, and the doctor stood with me about ten minutes; and her heart rate went back up again; because her heart rate was about 150 or something and went right down to kind of 65 59 , 65 and then he was very worried but she managed to regain, you know, she got better; after about ten minutes it got better so the doctor said this drug (oxytocin) is obviously upsetting the baby. We are not going to use it any more, we'll leave you to see if you can carry on this labour naturally. By seven o'clock that morning nothing had happened, just gone two more cms in twelve hours and he said '... she is just not coming up – yes –'. he said '.. .look, we are going to bring her up by Caesarean."(4 P/N LW)

Another woman expressed her shock:

"Yes because his heartbeat dropped for the first time, I thought, you know, it was a shock, because through the whole of my pregnancy they always said how healthy he was. You know, how well he was growing, his heartbeat was strong, they always said, '... oh he's got very strong heartbeat', you know, it was perfect, everything was perfect." (5 P/N LW)

Where care in childbirth is planned and managed like a machine and women's bodies are seen as faulty machines, the consequence would be that caregivers are constantly anxious about risk factors and potential disaster. So the intervention will take place without necessity and place women under more iatrogenic risks: induction of labour, clock-watched labour, electronic fetal monitoring, artificial stimulation of the uterus, epidurals, and instrumental or Caesarean delivery. Epidural was one of the restraining factors for a woman in staying upright. A woman with an epidural who had been kept on the bed said:

"Midwife once was trying to get me on a rocking chair, but because the baby ... they were monitoring baby's heart rate; it has been slow sometimes, so she tried changing the position and tried to put me on the rocking chair. And then the heart rate went down even further so they put me back in bed." (33 P/N BC.LW)

Caregivers are exposed to allegations of malpractice or negligence, ('punishments') so that they are apprehensive and anxious to present recorded evidence of preventative action in the face of developing danger and they often persuade their patients into accepting this.

One of the issues regarding the intervention is that there are cases when a woman asks for an intervention. Attitudes to pain could be at the heart of it. Experience of pain is no longer acceptable in modern lives. That was one of the other factors recognised in my data which was particularly evident in women who were giving

birth in the labour ward. As a result they asked for epidurals that greatly affect their mobility during labour.

"When I went in at 3.00 a.m., by 4.00 a.m. I asked for an epidural. So they gave me an epidural and right after they gave it to me his heartbeat dropped very low, so everyone rushed to give me oxygen to try and get his heartbeat back up again. That was about 4.00 - 4.30 so that was quite early and they said if it doesn't stay stable they would have to give me a Caesarean. But it did stay quite stable but from then on they kept me strapped down and because that wasn't picking up the signals very well from his heartbeat they put a clip on his head." (1 P/N LW)

As high rates of intervention become the norm, women may no longer expect to give birth without hi-tech medical assistance.

Green (2006) believes that women become compliant because (a) they trust their caregivers; (b) they don't want to experience pain, and in some cases are particularly worried about this; (c) they don't essentially see 'intervention' as bad; (d) both caregivers and women are losing confidence in women's bodies to do the job; and (e) 'what is must be best', as supported by data from my study.

Data from my study suggest that women who delivered in a hospital with no birth centre were expected to receive more intervention and find it to be normal. In the first stage of the study only one out of 20 women who were going to give birth in the delivery suite strongly stated her preference to have it all naturally and not have any medical intervention. The rest stated that they preferred to have natural birth but would like to keep their options open for medical intervention in case they needed it. The fear of the unknown led this group into not strongly stating their preference. By contrast all women in the second part of the study, who were supposed to give birth in the birth centre, had strong preference for natural birth. As one of them stated "the philosophy of the birth centre is based on the natural birth so that they would not expect otherwise". However, one should bear in mind that women in the first part of the study did not have a choice of birth centre and so did not choose the labour ward setting. They had good knowledge of birth positions and stated their preference in maintaining an upright position, but they appeared to have less confidence and more uncertainty.

When it came to pain relief only four out of twenty women in the first stage of the study stated that they did not want an epidural during their labour, whereas four strongly stated their preference in favour of an epidural. The remaining twelve said

they would take it if they needed it. Factors that determined that 'need' in my study were pain, anxiety and fear of losing control. On the other hand, women who were going to give birth in the birth centre, when interviewed antenatally, all wanted to have natural birth and not to have any kind of intervention. The 'need' was not basically in their mind for three reasons: firstly because they chose to have it in the birth centre, whereas women in hospital did not have that choice. Secondly, because of the birth centre environment they knew they were not supposed to have any kind of routine medical intervention, and thirdly because by comparison with the other women their attitudes and expectations were varied and they were motivated to have natural birth. One should bear in mind that the motivation of women to have natural birth could have been influenced by the way that information was given to them by the birth centre midwife during their antenatal follow-ups.

Power imbalances in the environment induce these reactions from the mother. Some clear evidence for power imbalance in the environment is evident in my study;

"I was fully dilated so the time baby born she wasn't born until 7 o'clock in the morning; unfortunately she was "o p", they had problem to get an epidural; they wouldn't do ventouse without epidural, which I thought anyway. I didn't want to have epidural; I was scared of them to be perfectly honest and they had trouble to get an epidural in and it was before six o'clock in the morning that [they] actually got the epidural in and then I went straight to theatre, and then she came out with the ventouse. With the ventouse if she wouldn't come out this way it would have been by emcs. So it was all a bit traumatic in the end it wasn't what I had envisaged at all."(23 P/N BC.LW)

"They said they are not doing anything without epidural. I felt I didn't have choice and they said it was too late for anything like pethedine and actually before the epidural they got syntocinon through me as well because they said the contraction is slowing. And that was unbelievably painful. They did it before and I think it was very cruel. I don't know if that was necessary, but it really hurt. That was the only time I really struggled; I really screamed because that really hurt; the contraction, up to that, I was able to do that with gas and air and breathing." (23 P/N BC LW)

In terms of biological perfection women's feelings are not considered as an integral part. In reality, the conventional definition of biological perfection is incorrect. Perfection can only be achieved through respecting women's emotions, thoughts, and spiritual satisfaction, although women's feelings have never been a main concern compared to notions of scientific excellence.

7.4. Institutional policy

Michel Foucault (1991) discussed the notion that hospital institutions are similar to prisons in terms of their underlying structures and ideologies. A woman expressing her feelings about not being able to move freely:

"...restricted to be lying down which I found really horrible. I didn't enjoy it, it was a horrible experience; I felt like I was in an accident not doing something naturally, it felt really invasive and horrible." (27P/N BC LW)

Invasive hospital procedures often impose some kind of intervention on women; data from my study suggest that even those women who enter hospital wanting natural birth could end up with an intervention. Three women who intended to have natural birth in the birth centre but ended up in the labour ward, had epidural and ventouse births. The reason for going to the delivery suite was not because of any complication during labour. Two of these women were denied admission due to staff shortage in the birth centre. Even though one of these women was sent to have antibiotic cover and came back after the injection because of the staff shortage, they were unable to take her back. The third woman was sent home because of early labour and was asked to call before going back as they might not be able to accept her. When the pain became severe at home she decided that she needed an epidural and went directly to the labour ward. Women need to be supported in their labour process by people who truly believe in natural birth. Otherwise women can be persuaded to accept what may be an unnecessary intervention. The classical story of epidural and slow progress and oxytocin was told by one woman:

"I was, well, they had to take me to theatre because they I wasn't dilating; about 2 o'clock in the afternoon they gave me oxytocin and her heart rate dropped a lot and they got all scared because the baby was quite big as well So they said they might give me a Caesarean and they took me to theatre and they said, well, they are going to try ventouse first. If [it] doesn't work they will give c/s; so did really work with ventouse and with two pushes she was out. She was crying, she was fine when she came out, she was not distressed." (25p/n BC LW).

7.5. Conclusion

Power, control and force are present in the medical system. Disciplinary power in the medical system does not require force for its operation. This is a self-disciplinary power that is designed to be invisible and demands the subject's compliance to operate effectively. It was evident from my study that women who gave birth in a

medically dominated unit (labour ward) were under constant 'gaze' by cardiotocograph and all other tests throughout the labour. It was difficult for women to make sensible decisions as they were subjected to disciplinary power in the system. Women were aware of the power of institutionalised birth environment and the concept of obedience. Those who gave birth in the birth centre were freer to move, the power and control were less evident and they remained mobile and gave birth in an upright position. The force and restraints were not evident from the language and terminology they used. In the labour ward the fear of punishment (fear of pain, death or harm to mother and baby, etc.) made women feel inadequate and led to passive obedience.

Chapter Eight

Support

"...mainly encouragement and support, and just to help with breathing, when you are supposed to push, when you are not supposed to push, and I would like try different positions; and I'd like to be encouraged by the midwife and by the birth partner to move around, not lie down, and be reminded that I have to be more mobile.".(3 A/N LW)

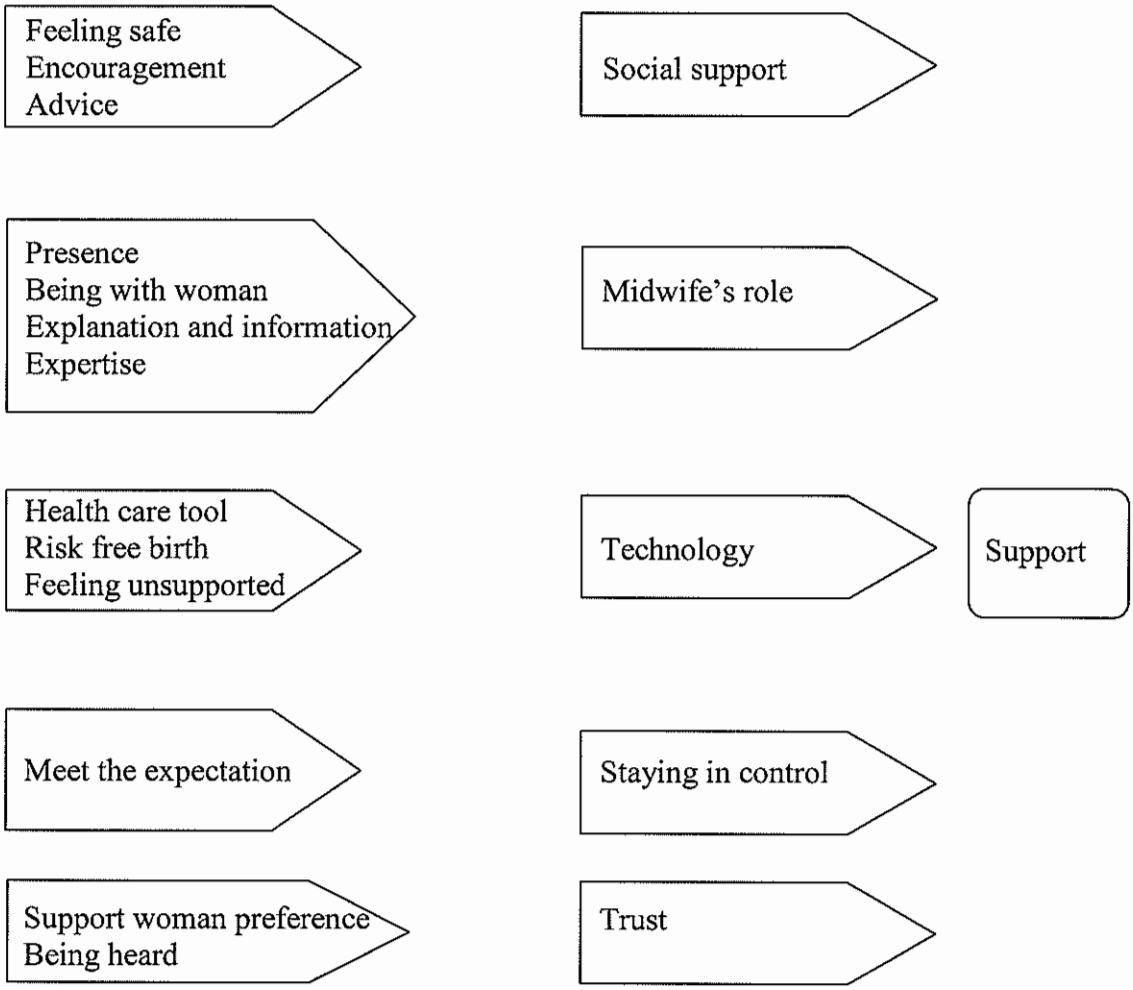
"I am happy at the birth centre because I feel, even [though] I didn't know all of the midwives I feel they have the time to talk to me. They want to understand and I felt quite supported. There is a medical side that they are aware [of] if there is any problem, but at the same time it is not so medical oriented. They talked about everything, you don't feel so pressurised, I am feeling very positive and it didn't happen to me last time." (32P/N.BC)

8.1. Introduction

The ancient way of birthing, as illustrated in sculpture and painting, showed confident looking, strong, active women giving birth in the upright position, supported by other women. Natural birth today looks much the same as the primitive way. The birthing woman needs to have confidence in her inherent ability to give birth. Having confidence in her instinctive ability to give birth is a necessity in the birthing woman. She requires the freedom to find comfort in response to contractions. Continuous emotional and physical support is a major element in providing the comfort and freedom for a birthing woman She needs to be valued and respected as she moves through labour and to be surrounded by people who trust birth and have confidence in her, no matter what the circumstances (Hodnett and Osborn 1989). The natural state of labour will be disrupted by policies and practices that undermine her confidence and restrict her freedom of movement. Routine practices and policies in the birth environment influence the effect of continuous support (Hodnett et al. 2003). That may also affect a woman's autonomy, freedom of movement, and ability to cope with labour. In this chapter I will examine support in the two different settings and explain how it affected woman's choice in my study.

Figure 6 shows the links between the codes, categories and themes derived from the data.

Figure 6 - Codes Categories and Theme: Support



8.2. Social support

Kahn (1979) defined social support as a human interaction that is intentional and engaged in the three following factors: (a) affect, which been regarded as understanding, approval and respect and also feelings of being safe and protected; (b) affirmation, which refers to encouragement, advice, and to influencing one's means of making decisions; and (c) aid, helping somebody by means of objects, spending time or money or practical support. Continuous emotional and physical support during labour can significantly decrease interventions and complications (Hodnett and Osborn, 1989). In my study those women who gave birth in the labour ward (seven in the first part of study plus those in the second stage of study who were supposed to give birth in the birth centre but ended up in the delivery suite) reported that their wishes to maintain different positions in labour were not supported. The affirmation, encouragement and support to adopt upright positions were absent in the labour ward. Not only were women never recommended to adopt an upright position; they were encouraged to stay in bed in the cases of epidural and CTG. Moreover, practical help was not evident in the study for those who gave birth in the delivery suite. Out of eight women who gave birth in the labour ward in the first part of the study, only one woman's wish to stay in left lateral position was supported by the midwife. Four of the eight had Caesarean and the other three gave birth while lying flat on the bed.

Robust evidence exists as to the benefit of caregiver support in childbirth. The likelihood of operative delivery and ensuing complications may be reduced with labour support and it also enhances women's feelings of control and satisfaction with their birth experience. (Hodnett, 2002b)

Hodnett (2002a) reviewed 14 randomised clinical trials, involving more than 5,000 women, and found that the continuous presence and support of someone to the woman in labour could reduce the likelihood of medication for pain relief, operative vaginal delivery, Caesarean delivery, and a five-minute Apgar score of less than seven. Length of labour was also slightly reduced with the continuous support. From the 14 RCTs that were reviewed by Hodnett, six trials also evaluated the effects of support on mothers' views of their childbirth experiences. Although the trials used a range of different measures (overall satisfaction, failure to cope well during labour,

finding labour to be worse than expected, and level of personal control during childbirth), the results were in favour of the benefits of continuous support in each trial.

Hodnett et al (2003) conducted a Cochrane systematic review of continuous caregiver support during labour and its benefit to maternal and infant outcomes. From 15 included trials involving 12,791 women, those who had continuous support were less likely to have labour analgesia and operative birth, and were more satisfied with their childbirth experiences. In general, when a woman received continuous support from early labour given by a non-hospital member in a setting where epidural analgesia was not offered routinely, she reported much benefit from continuous labour support. Hodnett et al (2003) compared two theoretical explanations that have been offered for the effect of the labour support on childbirth outcomes.

The first theoretical explanation considers possible systems when companionship during labour is used in a distressing, threatening and disempowering clinical birth environment (Hofmeyr et al, 1991). Women may be highly vulnerable to environmental influence during the labour. As a result of modern obstetric care women are frequently subjected to institutional routines, high rates of intervention, unfamiliar staff, lack of privacy and other conditions that may have adverse effects on them. These conditions may have a harmful effect on progress of the labour and on the progress of a feeling of competence and confidence in women. The focus of the second theoretical explanation is not on a specific type of birth environment; the focus is on the physiology. Relatively it describes two approaches: enhanced canal of the fetus through the pelvis and soft tissue, as well as decreased stress level. This can be achieved by supporting women in adopting their chosen positions and suggesting different positions for different situations, and encouraging mobility and effective use of gravity. Both explanations assume that labour support improves labour physiology and increases feelings of control and confidence in the mother, while reducing dependence on medical interventions. One woman from my study expressed her feeling in the birth centre when she felt supported by the midwife. Her levels of stress and anxiety were reduced:

"I am happy at birth centre because I feel that, even though I didn't know all of the midwives I feel they have the time to talk to me, they want to understand, and I felt quite supported. There is a medical side that they are aware if there is any problem, but at the same time it is

not so medical oriented; they talked about everything, you don't feel so pressurised I am feeling very positive and it didn't happen to me last time." (32 P/N.BC)

Another systematic review of continuous support for women during childbirth was recently conducted by Hodnett et al. (2007). The review was aimed at assessing the effect of support on mothers and their babies in comparison with usual care. The study also tried to find out whether support in labour is influenced by the birth environment, hospital policy and medical intervention (e.g. epidural and continuous electrical fetal monitoring). Sixteen trials involving 13,391 women were included in the review. The findings indicate that continuous labour support reduces a woman's need for pain relief medication and increases her satisfaction as well as the probability of a spontaneous birth, while there are no identified risks. In addition, according to the subgroup analysis, healthcare professionals as well as the women are influenced by the childbirth environment. Continuous labour support that begins earlier in labour seems to be more effective than support that begins later in labour in settings in which epidural analgesia was not routinely available.

Women in my study who gave birth in the birth centre benefited greatly from support given by midwives and partners to maintain mobility and adopt upright positions:

"I was walking about for most of it actually; I carried on walking about in there until it was really time to actually push, push, and when I had two birth partners I had my husband and my best friend, and although I was lucky that my best friend actually made it, because I told her go to work 'it will be fine' they send me home,' it is not going [to] happen', and also we had to get to hospital quite quickly. So I was using the big bean bag and I was bent over, ah ah kind of on my knees first, and then I think the position was slightly strange; oh I tried lying on my side on the bean bag and then midwife suggested me what I like to do it standing up and I thought I would feel better, so the final position I was in it was standing up, leaning on the table with my husband holding on the one arm and my friend holding on the other arm it was perfect " (32 P/N.BC)

8.3. Midwife Role

Significant issues arise from presence and role of support people in the labour room. The women who gave birth in the birth centre had a higher expectation of support during the labour. That could be attributable to their antenatal education. Many of them attended the National Childbirth Trust (NCT) parentcraft classes as well as hospital antenatal classes (see Appendix IV). Some also had private tuition with hypnobirthing in order to improve their pain-coping mechanism by means of self-hypnosis and visualisation (see Appendix IV). They felt the need for the support

from the whole surroundings including the midwife to help them achieve a natural birth. As one of them mentioned, the philosophy of the birth centre is to promote normal delivery; hence they had a high determination to give birth naturally. It was not a matter of 'wait and see' but more a matter of control, choice and determination. They were seeking the type of birth environment that would help them achieve their goal regarding their birth. In the birth centre environment where women were offered support from a midwife, they felt 'safe' and valued the advice from the midwives and were satisfied with the birth experience afterwards. The midwife's physical presence during the whole time was greatly appreciated by women whether they delivered in the birth centre or in the delivery suite. Analysing the data from my study indicates that women in both groups had a similar antenatal educational background. Some of the women from both groups had attended NCT antenatal classes (see Appendix IV). Based on gathered data in my study women in the second stage had no preconceived ideas about giving birth in the birth centre. They themselves did not seek information about the birth centre; all of them learned about the birth centre either from the midwives in their antenatal follow-up appointments or from the leaflets in the antenatal clinic. Women in the birth centre group were more motivated to have the birth naturally. This motivation appeared after their antenatal classes. Women in both groups were of similar social backgrounds and had similar sources of information available to them. The main source of their information in both groups was antenatal classes, also pregnancy books and leaflets given by the midwives. I should add here that at the time of this study all the antenatal classes were conducted at the maternity hospital. The birth centre midwives did not conduct separate antenatal classes. But women planning to give birth in the birth centre had their antenatal follow-ups conducted by the birth centre's midwives and the encouragement they would have received from them could have added to their motivation to have the birth naturally.

All women expressed clearly their expectations of midwives in the antenatal interviews. They did not view technology as a substitute for a midwife's presence and those who gave birth in the delivery suite frequently expressed their unhappiness at being left alone effectively in the care of technological devices without the midwife's presence.

For many women and their families the experience of birth will be influenced by the way that the midwife works with and accepts or denies these matters.

A woman who had planned to have water birth in the birth centre but could not be admitted because the birth centre was too busy, felt cheated. She even questioned her antenatal education in the parentcraft classes. In her antenatal interview she strongly expressed her preference for natural birth. Hoping to have a natural birth, she had attended a series of hypnobirthing classes and homeopathic sessions. She explained her experience of going to the labour ward:

"I felt they were more kind of saying, they would telling you about different positions that you can go in, saying, trying not to have an epidural, because people who have epidurals end up with more interventions things like that - trying to be natural as possible but I felt when I got there that wasn't how it was handled at all." (23p/n BC LW)

She added:

"The false sense of security through the antenatal classes, you know what is going on, you have the right to make a decision, you are able to do how you wanted, but actually it wasn't how it happened and it isn't necessarily." (23 p/n BC LW)

She felt quite disappointed with the antenatal education. Her expectations were raised based on unreal circumstances, circumstances that were never realised in the labour ward.

One woman expressed her appreciation of having a midwife who was directive:

"I think the worst thing was monitors if you see what I mean. and not be able to move as freely as I want to and the second midwife, she was very, very good, because I was using gas and air at that point. My husband try to make me breathe and I couldn't breathe out very well; and as soon as she came in she said '... you don't want to breathe do you? You want to push.', because she knew, because I didn't know that I've gone from stage 1 to stage 2 if you see what I mean. She knew immediately, so I was very pleased." (11P/N LW)

Emotional support from the midwife, her continuous presence, reassurance and encouragement, offering information and advice and giving comfort and assistance may reduce a woman's anxiety and fear related to adverse outcomes during labour. In contrast, not giving information and not talking about alternatives may increase anxiety for a woman and her family. A woman talked about her experience in the labour ward:

"We kept asking, why do you have this, what are the alternatives?, but it really came back to they were not listening; it was a busy night. They just want to get you out of here, that's the way I felt." (25p/n BC LW)

The physical presence of the midwife at the bedside of labouring women was a significant factor. In an attempt to stretch a midwife between several labouring

women, CTG monitoring may result in reducing the midwife's time for bedside care; however the use of intermittent auscultation for the care of low-risk women can result in reclaiming of the midwives' role to remaining at the woman's side (Berg et al. 1996). Labour support and continuous physical presence from the midwives are supported by research, valued highly by mothers, and associated with improved prenatal outcome (Lundgren and Dahlberg 1998, Berg et al. 1996). One woman expressed her satisfaction when midwives were regularly present to check her baby's heartbeat.

"Using sonicaid and they did that very regularly. I couldn't have better care from midwives." (32P/N BC)

With appropriate support a woman can move about in the first stage of labour and adopt the positions she finds comfortable. In a calm surrounding, with minimal disturbances, she will be able to pay attention to herself and find a pattern in her contractions. A woman in the first stage of study who had a normal birth on the labour ward in bed expressed her regret and her wishes for her future delivery. She talked about lack of support to adopt the upright position in labour:

"I think if I have the choice I would like to be more free in the first stage, if you see what I mean ..... if someone had supported me but it wasn't an option. But I think in the first stage I would maybe have liked to walk around when I wanted." (18P/N LW)

One woman in my study who gave birth to her baby in the labour ward expressed her sadness at being left alone:

"We had these placenta literally pulled out; the doctors left the room, my husband left the room to go and phone the family and to let them know that everything was OK, having been not allowed to have a drink or anything to eat the whole time. I was being promised a cup of tea and slice of the toast, in the end nobody brought it. I didn't even get a glass of water; they left me on my own with the baby covered in blood and ... not able to reach the buzzer for help in a filthy room. We weren't being offered any skin to skin contact at all; we weren't being offered any help with breast feeding and we were literally left in the room that was absolutely filthy; and you couldn't feed her there if you wanted to. It was so bad, the aftercare: we were two hours in there before we [were] offered a clean room." (27 P/N BC LW)

8.4. Technology

Can we rely on technology as a source of support for women? Technology as a pervasive facet of healthcare manifests itself in diverse ways and levels of complexity. Technology signifies a large and developing aspect of the professional's

collection of healthcare tools, extending from rather simple mechanical devices to complicated electronic devices. The need for initial and regular training in its usage is increasing. Technology in childbirth is within the domain of midwives and obstetricians and places a demand both on their technical competency, and on their professional judgement, for example, in deciding when to use it and in the interpretation of any readouts. Technology is a recognised phenomenon in childbirth; therefore midwives and obstetricians have to take responsibility for their practical and competency levels, also for their professional judgment as to when it should be used and the potential benefit it may present for the woman.

The prime concern is the safe use of technology which has been considerably referenced in the literature (McConnell, 1989; Hately et al., 1995; Fraser et al., 1999). Midwives' views of technology used in labour are not known empirically, but consideration should be given to a range of possibilities. One adverse view is that technology is de-skilling midwives and weakening their professional expertise (Dover & Gauge, 1995). Another view is that midwives place too much faith in machines, and that relevant safety issues have not been sufficiently recognised (Hemminki, 2006). Some midwives believe that the use of technology alienates them from the naturalness and human aspect of childbirth (Cowie & Floyd, 1998). A woman in the first part of the study who gave birth in the delivery suite talks about her submission to childbirth technology and how it restricted her movement:

"When I gone they put the monitors on me. I had the most of those hours on these monitors so I couldn't move around as much as I wanted to. But when I had the monitors off, when I walk, I tried to keep vertical. But the actual second stage of labour I was on the bed with these monitors on. Well, I did ask about epidural once, I had a moment of weakness". (18P/N.LW)

Barclay and Jones (1996) argue that technology has been used in order to assume control and power over women through the birthing process. Conversely Bates (1997) believes that technology has been promoted to upgrade obstetric interest. Although there is a broad range of views on the role of technology in clinical midwifery practice, pragmatic work on midwives' attitudes to the use of technology in their practice has not been undertaken yet, though some related work exists in the wider field of nursing and health care (Pelletier et al., 1998).

It is essential that the art and skill of midwifery is maintained by midwives who are not over-dependent on machines. Confidence emanates from competence which can

increase the autonomy of professionals. The effect of technology on childbirth has been discussed in Chapter Three. In my study all women in the first part of the study who gave birth in the delivery suite indicated that fetal heart monitoring, epidural and augmentation were the largest barriers to their mobility and maintaining an upright position in birth. Likewise this was also stated by the women in the second part of the study who gave birth in the delivery suite. All three ended up with ventouse delivery and they partially blamed their stationery position for the slow progress of labour and ventouse delivery. Women from both groups stated their determination to stay more ambulant in a future delivery and birth.

8.4.1. Women's satisfaction

A satisfactory childbirth experience improves women's confidence and sense of achievement (Simkin, 1991; Laurence, 1997) and their expectations for future positive childbirth experiences (Slade et al., 1993; Mackey, 1995; Waldenström et al., 1996).

An unsatisfactory or distressing birth experience could cause postpartum depression or post-traumatic stress disorder, where women remember their labour in dreams and flashbacks that, consecutively, generate great anxiety reactions (Ballard et al., 1995).

A mother's positive feelings towards her infant and the adaptation to the mothering role have been associated with positive views of her birth experience (Simkin, 1991, 1992). By contrast, traumatic birth experiences have been reported to affect women's ability to breast-feed and bond with their children (Laurence, 1997).

Childbirth satisfaction has been studied by many researchers, where satisfaction has in general been perceived as an overall evaluation of childbirth. However the findings have not always been similar throughout studies, implying that childbirth satisfaction is a compound experience, made up of various elements or factors of satisfaction (Lavender et al., 1999; Campero et al., 1998; Hart and Foster, 1997).

Another factor linked to satisfaction with the birth experience is personal control. Higher levels of personal control have been linked with higher childbirth satisfaction (Simkin, 1991; Lavender et al., 1999; Campero et al., 1998; Hart and Foster, 1997). Personal control accounted for 59% of the variation in childbirth satisfaction in one study (Bramadat & Driedger, 1993) and 46% of the variation in another study

(Knapp, 1996). Women have also revealed their satisfaction with their childbirth experiences related to how well they felt they had managed their behaviour and stayed in control. Those who stayed in control viewed their childbirth experience as positive whereas those who had difficulty or managed poorly viewed their childbirth experience both positively and negatively (Mackey, 1998). Others have also reported that the amount of personal control women experienced during labour and birth had influenced their childbirth experience (Mackey, 1998).

Three women in my study who gave birth in the birth centre in an upright position were satisfied with their experience. On the contrary, three women who gave birth in the delivery suite with restricted movement and a supine delivery position were either very unhappy and disappointed or ambiguous about their feeling. Although the birth position was not the only basis for their satisfaction and dissatisfaction, it could well be a contributory factor. At the postnatal interview women expressed their dissatisfaction and disappointment as their expectations were not met during their labour.

Women would like to be heard and wish to be respected. One woman explained her dissatisfaction with her midwife in the delivery suite concerning the change of position:

"I felt that she was negative about any suggestion I made, it was, you know, I wanted to change the position. She said' Why do you want to do that?" I just felt that she wants me to be flat on my back tight up to this monitor and, that is, it which I was really shocked out, considering I have been to the antenatal NHS classes, obviously run by the birth centre midwives, and their attitude was so different." (23 p/n .BC.LW)

8.4.2. Control and satisfaction

As mentioned before, the review of the literature presents conflicting and limited information about factors associated with childbirth satisfaction. These conflicting findings imply that childbirth satisfaction is a compound event under the influence of several factors. Women can be satisfied with some element of an experience and dissatisfied with others.

Childbirth satisfaction is related to positive expectations (Green et al., 1988, Waldenström et. al., 1996). When there is a harmony between the expectations and the real experience of childbirth, satisfaction with the experience will be generated. In Waldenström's (1996) study of 295 new mothers to clarify different aspects of the

birth experience she found expectations, fulfilment and being in personal control were repeatedly associated with childbirth satisfaction. So, it is important to evaluate elements of the childbirth experience as well as reviewing general childbirth satisfaction levels in order to understand women's total satisfaction with childbirth.

A woman who had planned to have a natural birth in an upright posture in the birth centre but ended up in the delivery suite with ventouse delivery spoke of the best thing about her birth:

"The best thing about it was I had to go back to the birth centre afterwards because they didn't have the bed for me in the labour ward, so I had to go back to the birth centre, um, the worse thing about it was being under pressure to reach certain landmarks in certain times by the doctors not by the midwives by the doctors." (27 p/n BC LW)

Another woman who gave birth in the birth centre talked about her satisfaction that she attributed to 'perfect room", "midwife's presence" and her feeling of being "relaxed".

"The birth centre was absolutely fantastic, whenever I buzzed for the midwife she was there and they were great and I just felt quite relaxed and happy." (33 P/N.BC)

8.5. Support and trust

The decision-making process in childbearing women regarding birth preferences raises ethical issues. A woman's life might change thoroughly as a result of giving birth. Childbirth is considered to be a powerful event that leaves a lasting impact on the childbearing woman. The birth experience may be perceived positively or negatively or with feelings of uncertainty.

Supporting a woman's birthing preference is an important aspect of enhancing her satisfaction. Birth support during labour is a key factor for a positive childbirth experience (Lundgren, 1999). Birthing women want support, not only from those close to them such as partners, but also from their midwives (Berg and Dahlberg, 1998).

"I expect them (midwives) to be experienced and have the right facility and equipment; every person who treat me knows exactly what should be happening because obviously when you're in labour you are very vulnerable and need somebody telling you exactly what to do and ensure that you don't do it because by experience your body takes over and you know you could do all the strange things." (26 A/N BC)

"The midwife needs to be very supportive, that is one of the thing that I like about the birth centre, their philosophy is to give lots of support, lots of encouragement, to encourage your partner to do the same, and to an extent, well, I also I need to have to large amount of the trust in them then I would obviously know what they're doing, because I am not an expert in childbirth. So if anything was to go wrong I need to feel hundred per cent confident." (31 A/N BC)

"I hope that I'll be able, that I would be able, to trust my midwife and have a good relationship with them and they will listen to what I want and what I am saying. I think it is happening and being supportive rather than directive I suppose apart from obviously when is necessary and obviously being to follow their advice and their experience when necessary." (27 A/N BC)

A qualitative study by Berg et al. (1996) showed that the essence of women's encounters with the midwife during childbirth is 'presence', the meaning of which as Berg believes included three issues: to be seen as an individual, to have a trusting relationship, and to be supported and guided on one's own terms. Findings from my study indicate that although women want to be heard and listened to and be able to be involved in decision making, they would also want midwives with their knowledge and expertise to help them to make a good decision. A study by Berg and Dahlberg (1998) showed that when women experience obstetrically complicated childbirth, they do not point to the length of labour or the use of technical interventions of any kind as being important. Instead, they believe that what is central in such an experience is the need to be recognised and confirmed as a true participant in decisions about aspects of their labour and birth.

In my study the people supporting women during birth were as much a part of the environment as the physical surroundings. A pregnant woman talked about her expectations of the midwife in the first part of the study:

"...mainly encouragement and support and just to help with breathing, when you are supposed to push, when you are not supposed to push, and I would like try different positions, and I'd like to be encouraged by the midwife and by the birth partner to move around, not lie down and be reminded that I have to be more mobile." (3 A/N LW)

"I want support and advice. I want someone who knows what is doing so if there is any problem they can give me right advice. And when there is not any problem I just want encouragement, guidance, without being too, you know, collaboration with me." (5 A/N LW)

"...and presumably I want to move positions in the different times and somebody who would be able to help me to getting in different position that could be comfortable for me." (26 A/N BC)

Kirkham and Stapleton (2000) conducted a study to identify midwives' needs for support in a large study of the supervision of midwives in England. The data were collected from six sites, five of which belonged to the National Health Service (NHS) and one site which was outside of the NHS. Interviews were conducted with 168 midwives and a grounded theory approach used for analysis. They reported from their study that two different discussions ran through all the data. The first discussion indicated that midwives need to be supported by their supervisors. The second issue was trust. Midwives felt that in many ways they were unable to trust supervisors or managers.

The women in my study who give birth in the birth centre had a very good trust in the midwives, who were described by the women as being 100% supportive. Even for one woman who was in the birth centre at the first stage of labour, but in need of analgesia so decided to go to the delivery suite, one of her best memories of birth was being supported by the midwife in the birth centre. The fact that midwives in the birth centre were supportive could reflect the support they received in their working environment, which subsequently affected the ways they interacted with the women they cared for.

8.6. Conclusion

Very rich data were obtained from my study regarding the effect of support in women's choice of birth position. Woman who delivered in the birth centre had felt fully supported in maintaining an upright position. They reported higher levels of personal control, higher satisfaction with the birth experience, less anxiety and less intervention. They also valued the support of the midwife. As midwives supported their priority they also valued the midwife's presence, advice and her expertise. In contrast, technology as a tool failed to support women. Those who gave birth in the delivery suite reported immobility, technology-induced levels of anxiety, dependency and loss of personal control, which were all counted as negative elements in the women's views regarding their birth satisfaction. The difference between the birth centre and delivery suite was not confined to differences in the working practices. If changes from an ideological point of view are going to occur it requires more motivation from practitioners than simple changes in working practice.

On the other hand, midwives may be unable to change practice without systematic ideological changes. Midwives with an ideology different from the mainstream service will face problems. That is why midwives and women in a more autonomous setting like a birth centre will encounter problems when they have interaction with other parts of the service. This was clearly evident in the second part of the study for those women who were transferred to the labour ward for no medical reason.

Great changes are required in midwives' work in order to alter the thinking about the birth concept. In addition to providing labour support, midwives will need to assist in the creation of environments wherein women's efforts are supported. There is evidence from women's comments in my study that the birth environment needs to be altered to better meet their needs. Midwives are able to support labouring women by creating the most favourable birth environment, where the woman is open to discovering her own coping style.

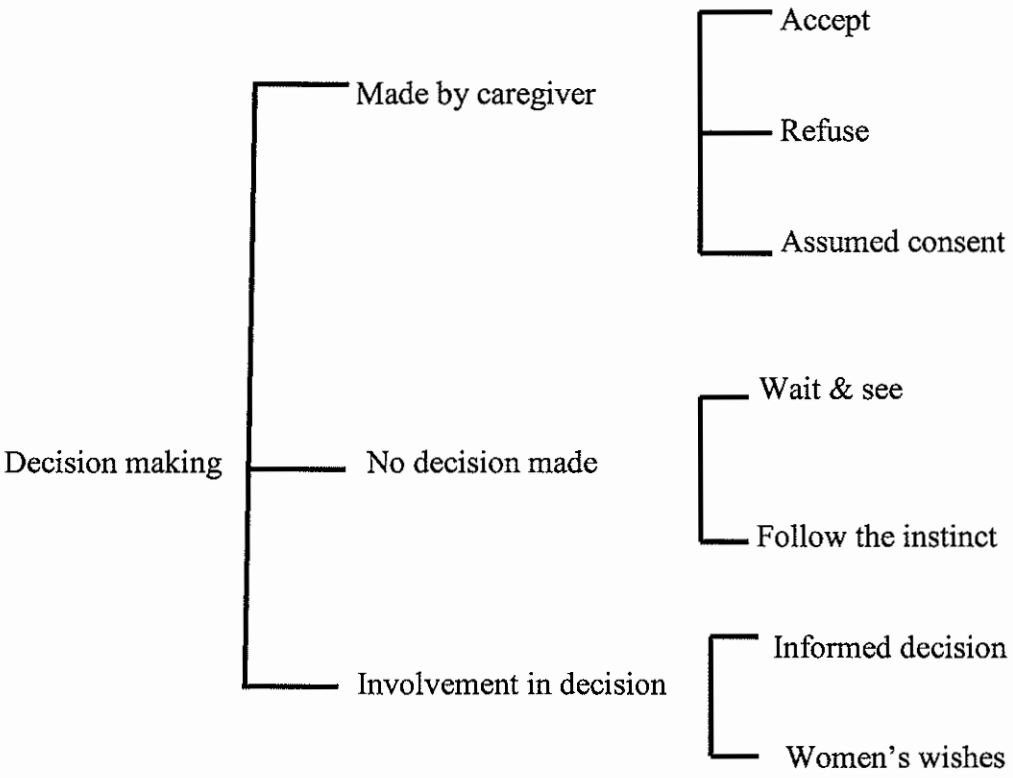
Chapter Nine

Decision Making

9.1. Introduction

Modern obstetrics is usually practised in a medical environment that influences the ability of practitioners to accept women's decisions that do not follow with their own views of best practice. Labouring women are often very vulnerable and frequently hand over decision making and rely on the midwives for advice and assistance regarding pain management plans (Lundgren and Dahlberg, 1998).

Different patterns of decision making were derived from the data gathered from my study. The data gathered from labour ward and birth centre were examined separately for patterns of how decisions were made. Women's involvement in decision making was examined as were caregivers' control and women's challenges to their control. Figure 7 (below) shows the decision-making pattern derived from the study.



9.2. Decision Making

Data gathered from the two study sites were examined separately for patterns of how decisions were made in the women's descriptions of control, which included repeated reading and coding of the data in a variety of ways. Repeated reading of the data helped me to highlight how the decision had been made. In the first reading I looked for events and concepts (decision making). In the subsequent reading I looked to find out under what circumstances the decision was made and who made the decision. Women's involvement in decision making was looked at carefully. When women were not involved in decision making, their reactions, refusals or compliances were looked at. In my last reading I went through the data to look for events when no active decision was made and tried to find out why. The data generated different patterns that described how control occurred and how women challenged control in different ways.

9.3. Decision made by caregiver

One powerful method of control was where the caregivers made the decision and when opposed by the women who disputed the decisions, challenged women in a way that produced distress for them. The woman either reluctantly accepts the intervention and adopts the practitioners' decision or declines the care.

9.3.1. Refuse the decision

Occasional refusals of caregivers' decisions were present in the data, where a woman remained unhappy. One example is provided:

"That woman just prickling needling in my hand, I said: 'what are you doing?'. She said 'I am preparing you for a syntocinon'. I said 'no you are not, I don't want it'. But we really did have the fight with the doctors all the way to say 'no, we don't want this' and then they wanted to use the forceps and I said' no', so I don't feel I did have a choice and we really did have to argue our case." (27p/n BC LW)

9.3.2. Accept the decision

Many examples of women contesting autonomous decisions made by practitioners were present in the data.

a) The first form of acceptance was when the women initially objected and stated their concern, but ultimately accepted the practitioner's decision:

"Strapped up in stirrups which was hideous, which I really didn't want to, and then I ended up doing it because I had the ventouse. It was everything we didn't want basically, the time, I had to fight... I said 'Look, just because I had the epidural doesn't mean... I really want to avoid intervention as much as possible. I wanted to be natural as possible. I went for the pain relief but I don't want anything unnecessary." (27p/n BC LW)

Another example shows an attempt to adapt to the decision but in the meantime criticise the caregiver's decision:

"...they broke my waters and there was meconium in the water, so that was when they decided they need to do the scratch test; and then we came under a lot of pressure to get her out very quickly and they were saying she was distressed because there was meconium and..... ' you need to get her out quickly and if she doesn't you're going to the next door for c/s' At which point I kind of said 'ok look let's get her out.'" (27p/n BC LW)

From her point of view her desire has not been considered and the caregiver did what he intended to do. Even though she conformed, she remained unhappy about the experience. It seems that she accepted the decision only because it was medically advised but was not convinced that it was necessary for her. In these situations, women adapted to the caregivers' autonomous decisions, and were then able to express their feelings and analysis of the circumstances, reacting with a variety of emotional responses from unhappiness and resentment to anxious confusion.

b) The second form of the acceptance was when the woman accepted it without questioning but as it had not been justified, she questioned the events later on when in retrospect she went through the event. As one woman who delivered her baby while her legs were in the lithotomy position, supported by stirrups, stated:

"I didn't dispute it; I trusted that you know, it was the best thing to do at the time so, you know,, I have to admit as I say, I didn't dispute Probably if there is a next time, and they said go put your legs in stirrups, I might question it next time just for my own sake; actually I don't know now why was it but I just trust that it was the best." (11P/N LW)

c) The third form of acceptance was when women were confused and puzzled by an autonomous decision made by a caregiver but remained quiet and accepted the decision. This is illustrated by a comment from a woman who gave birth in the delivery suite and who had undergone epidural analgesia, fetal blood sampling and eventually Caesarean:

"...at the time I thought oh, it is worse time of my life, it is so mixture of scary and sort of just things going wrong and people not listening to you and then having problem afterwards as well having all the tests...." (8 P/N LW)

9.3.3. Assumed consent

Assumed consent was a pattern of decision making where a decision was made by the caregiver but it went unchallenged by the woman. Even though in these situations women might have agreed and followed the decision, they did not actively participate in the decision making itself. Some may have been concerned that they might put the safety of their baby at risk by challenging the decision; others may simply have felt unable to challenge the professional's view. The use of continuous electronic fetal monitoring was an area of autonomous professional decision making with assumed consent, which then confined a woman to bed and restricted her movement. Using the procedure was criticized in one postnatal interview:

"They came in and said that they were going to check the baby's heartbeat and they put the straps round me, so therefore I couldn't move, and I asked if I could move around at all and they said 'no because I had the straps on' and then the pain just got worse and worse because I wasn't allowed. I felt that I wanted sort of to turn over, like on hands and knees, and because I wasn't allowed to I felt that I was becoming more susceptible to the pain and things; it was all getting much, much worse. Even though it does I felt that I could cope with it much better if I was allowed to do that but they wouldn't let me, so just lying on your back just basically concentrate on the pain so I had to ask for an epidural." (5 P/N LW)

The above quote reflects the role of professionals in giving an impression of safety as justification for the technological interventions. A study by Stapleton and Kirkham (2002) to examine the use of evidence based leaflets on informed choice in maternity services found that a lot of professionals did not offer the information to women and were very resistant to doing this. The study included non-participant observation of 886 antenatal consultations and 383 in depth interviews with women using maternity services and health professionals providing antenatal care. The setting included women's homes and antenatal and ultrasound clinics in 13 maternity units in Wales. The results showed that factors such as competing demands within the clinical environment, time pressures and limited discussions undermined the effective use of the leaflets. In the governing hierarchical structure, the obstetricians defined the norm of practice and the possible choices. The content of the leaflets was rarely discussed by the midwives nor was the leaflet introduced to women. As a result,

women's compliance with the defined choices was guaranteed by their trust in health professionals.

9.4. No active decision

In these cases, no active management decisions were made; the woman and her midwife evaluated the situation together and allowed the labour to progress. These joint control situations were common in data gathered from women who delivered in the birth centre.

9.4.1. Wait and see

When there was no need for immediate action, decision making through waiting was employed. No active decision is made in this category. A woman and her caregiver preferred to wait and see what happened. That was the case mostly for women in the early stage of labour. The early stage of the labour was handled as something under consideration and no active decision made until labour progressed. Endurance and comfort were apparent in this type of control.

9.4.2. Following the instinct

Another way of not making an active decision was to leave it to the body to take over and to follow the instinct. It was the case for all women who gave birth in the birth centre in the second stage of their labour, when they adopted the position that they found more comfortable and their body directed them to. In the relaxed environment the body takes over and the woman relies on her inner resources:

"... it is amazing how the whole thing was. I didn't make any decision consciously at all it, was my body completely took over and that was how, and that was how is going be, and I think it was very good way I felt the gravity definitely had a part to play." (24P/N BC)

9.5. Involvement in decision making

Involvement took place either by reason and explanation offered by the midwife to the woman, or a request made by a woman. In both ways the woman was involved in decision making and could make informed choices. Only one out of 11 women who had given birth in the delivery suite either in the first or second part of the study felt that she was involved in the decision making regarding her care; whereas all three

women who delivered in the birth centre felt involved in the decision making even in those cases where they only complied with the midwife's suggestions.

9.5.1. Informed decision

Based on my data, I found that when shared decision making happened following a good reason, the women stated that their feelings were heard and expressed more positive emotional responses. Where information was given, women in general dynamically and freely took part in discussion and decision making, even with decisions that were initially planned by the caregivers. Joint decisions based on shared information and reasoning were well evaluated by the women. Despite giving birth by Caesarean section, one woman remained highly satisfied with her birth experience because she was actively involved in the decision making and felt that she had been given enough time to have the natural birth. She stated her experience as a positive event:

"The Caesarean it was fine and I had to say the doctor was fantastic, the midwives were lovely so it was very nice experience; it wasn't unpleasant, I wasn't frightened, the staff were absolutely fantastic." (4 P/N LW)

9.5.2. Woman's wish

When the suggestion was made by either the woman or midwife, discussion developed and information was exchanged and as a result joint decision making occurred.

There are examples in the study that show how some caregivers gave the women adequate information to make informed decisions, and listened to them, honouring the women's opinions and requests. In most cases the women accepted the suggestions or requests and felt good about those decisions:

"When I was on the bean bag I think there was something that was basically making it, the baby, not come out as easily as it could. That was why midwife suggested standing up, let the gravity help." (32 P/N BC)

"It felt more comfortable, obviously you're very tired on your legs but it felt logical." (24 P/N BC)

"I think the baby came out quicker as I stood up, standing up was great." (33 P/N BC)

In all of these examples, control over the decision was shared with the women. Women's views were asked and taken into account, the caregivers listened and replied. In both forms shared decision making brought forth powerful and positive responses from the women:

"It was brilliant, I have to say. Obviously I am not saying it wasn't painful because it does hurt but the whole thing it just being lovely. I mean the staff there being lovely like I said the room was lovely."

"... J (Midwife), she was fantastic I have to say, just really, really calm and kind. She was very calm, really encouraging, genuinely, obviously love her work. I just felt I had a 100 per cent confidence in her." (32 P/N BC)

When women were not allowed to participate in decision making, they often reported feeling depressed, hurt, or annoyed. When given explanations and allowed simple choices women were more prepared to accept the intervention.

9.6. Conclusion

In general, data from my study shows that the more one-sided was the decision made by caregivers, the more negative were the emotions expressed by the women. On the other hand, the women expressed more positive emotions as decision making was gradually shared between the women and their caregivers. Women felt ruled out from taking part in decision making over their own bodies and births when caregiver control during labour expanded. When autonomous control was exercised by caregivers, a conflict situation developed in some cases.

To a great extent women were the receivers of caregivers' control, predominantly when routine procedures were implemented. It was women's desire to participate actively in decision making; although the skill and knowledge of the practitioners were needed by the women. During childbirth women wanted to be treated as partners with their views respected and included and involved in discussions and plans that would influence them, their experience of birth, and ultimately their babies. They expressed negative emotions when their views were not included, as was often the case. Evidence from my study suggests that there were direct relationships between the environment and how women felt emotionally. Positive emotions were expressed by those women who gave birth in the birth centre even in

the one case when the woman stayed in the birth centre for only a few hours during her first stage of labour.

A middle range theory was developed based on the typology. The evidence from my study suggests that where the disciplinary power is present in an institution and the birth environment, decisions are usually made by the caregivers regarding the movements and positions in labour which is usually followed by women's compliance. Caregiver's application of technology and routine procedure will limit women's active involvement in the decision on desired position. Women were aware and could sense the disciplinary power present in the institution, therefore women offered obedience and acceptance to avoid 'punishment' (death or harm to mother and baby). However, it might be seen as an assumed consent. In the presence of power and control the incidence of refusing a decision made by the caregiver was rare.

In a less hierarchical and more power balanced environment women's desires to participate actively in decision making were supported. Women were given choice to follow their instinct and adopt a position that was more comfortable. With the midwife's presence and guidance women felt more liberated to make a decision either to wait and see or to follow their instincts. Where women were supported and treated as partners with their views respected, they became actively involved in discussions and plans on how to adopt the desired position. Environment made a huge difference to women's involvement in decision making regarding the birth position. A less anxiety- and fear-induced environment invited women to express their wishes regarding the birth position. Having the midwife present and providing them with her support and the necessary information and explanation in a relaxing physical environment, empowered women to take an active participant role in decision making.

The next step at this stage would be to integrate the findings of the two stages of the study towards the development of a plan in order to create fundamental change in the belief and ideology of childbirth, an ideology that creates an environment that truly supports mobility and women's choice of birth position.

Chapter Ten

Discussion and Conclusion

10.1. Introduction

To examine the effect of different settings on women's choice, this research was conducted in two different settings. The first part of the study was conducted in a medically-dominated care setting (labour ward) and the second part in a midwifery-dominated care setting (birth centre). Little data were available on this subject and the findings of this study should provide a foundation for future research and practice development.

10.2. Review of the results

Four important themes were identified from data analysis.

10.2.1. Environment

In my study environment was the first theme to emerge from the data. The link between birth environment and women's emotional wellbeing and satisfaction with their birth experience has been acknowledged by the *National Service Framework for Children, Young People and Maternity Services* (DoH, 2004). Improving the birth environment has also been advocated by the Department of Health (DoH, 2004) and National Childbirth Trust (NCT, 2005), but environment was narrowly defined in both cases and improvements recommended in practice limited to the physical surroundings.

In my study four components with respect to the environment were developed from data analysis. The first component was the physical and social environment. For women in both parts of the study the availability of space, colour and homely decoration was desirable. In the second part of the study women who were giving birth to their baby in the birth centre were happy with the physical environment of

the rooms. Those who stayed in the birth centre managed to stay mobile during the labour and gave birth in an upright position. This finding was in line with the findings of Hodnett et al's. (2005) systematic review of the literature on birth environments. Their review showed that women who were looked after in home-like birth environments were more likely to be mobile during the first stage of labour and more likely to deliver in an upright or semi-recumbent position. In my study, women expressed their concerns about facilities in the birth centre. Some facilities were limited or not available, e.g. birth pool. The level of staffing was another area of disappointment. However, women gave a positive overview of the birth centre and expressed more satisfaction. Women who gave birth in the labour ward expressed less satisfaction. Disappointment and frustration were greater for those in the second part of the study, who were supposed to give birth in the birth centre but ended up in the labour ward. This could be attributed to three factors. First, the fact that during their pregnancy they envisaged a different setting to give birth; two of them had planned for a water birth. Second, the fact that they were supposed to give birth in the birth centre made them prepared for a natural birth. The final factor could be related to their antenatal education where they had not been prepared for the facilities available in the labour ward. The bed dominated the labour room and the surrounding equipment gave the room a mechanical shape that reflects the medical ideology about birth. This could powerfully influence woman towards submission and compliance with the existing power. Women's mobility was reduced in the medical environment of the labour ward. It is also notable that there was no medical reason why some women who were supposed to give birth in the birth centre ended up in the delivery suite. In two cases the reason was the shortage of birth centre staff. This could have added to their frustration. Another woman decided to go to the delivery suite due to the need for epidural analgesia. She also expressed her disappointment.

The second component of the environment derived from the study was the sense of freedom. Woman required an environment to give them a sense of freedom to move about and adopt the position they wanted. For those who delivered in the birth centre that need was fulfilled. The medical environment of the labour ward however, induced a sense of fear and anxiety for women and did not accomplish the liberated environment for them to adopt a comfortable position.

The third component emerging from the data regarding the environment was the element of safety and feeling safe. A labour ward room, despite the equipment and technology, instead of inducing a feeling of safety actually generated more tension. By contrast, women in the homely environment of the birth centre felt safer, and stayed calm and relaxed. In both parts of the study those who gave birth in the labour ward expressed a sense of ambiguity about their feelings. The fear that something might go wrong overshadowed their labour all along, to the extent that they were waiting for their body to stop functioning naturally and to be rescued by medical intervention. When subjected to interventions, they remained quiet and complied with it. However, in postnatal interviews women expressed their dissatisfaction and sorrow. Safety in the labour ward was symbolised through the equipment and medical atmosphere. But this environment produced anxiety in the women, which could have had adverse effects on the progress of labour. The more anxiety a woman expressed, the less satisfaction was reported with her birth experience. On the other hand, the homely atmosphere of the birth centre produced reported feelings of a sense of normality, reassurance and feeling relaxed and safe in the environment.

Another component to contribute to the environment was the midwife. Data from the study indicated three main things women expected from the midwife whether giving birth in the birth centre or in the labour ward. The first thing was the 'presence' of the midwife. This was identified as the core to a woman's relationship with her midwife in the Berg et al. (1996) study. Secondly, in my study women wanted the midwife to listen and support their wishes; and finally they wanted the midwife to be informative, offering them alternatives and helping them to maintain comfortable positions. Even in the cases when they did not find the midwife's suggestions very useful they still appreciated the fact that the midwife offered them suggestions and a choice.

Antenatal education was another factor influencing the birth environment. Women expressed their wishes to have realistic antenatal education that better prepared them and gave them the confidence to maintain their desired birth position. Women in both groups in the first and second parts of the study had good awareness of birth positions and knew certain advantages of the upright position. However, some women expressed that antenatal education did not prepare them and give them confidence to face difficult situations; therefore they accepted interventions readily

when they faced a problem. In this study information and education were not determining factors on choice of birth position as those who had good knowledge of birth positions did not necessarily practise them. This was particularly true for those women in the second part of the study who had excellent knowledge of birth position and were highly motivated, but when they ended up in the delivery suite did not put this knowledge into practice. Based on these findings it can be argued that information giving alone does not automatically provide choice for a woman. In Coppen's study (2005b) on birth positions most of the women welcomed information they were provided with on birth positions; however less than half of those who received the information gave birth in the desired position. Information and advice should be in line with available resources and with the ideology and culture of the birth environment. Antenatal education should be more realistic and reflect available resources otherwise it might lead to women's disappointment and feeling of loss of control, influence their mobility and chosen birth position and subsequently produce a negative birth experience The antenatal education also needs to be in parallel with, and backed up by, the actual practice in any unit.

Despite the fact that both groups had good knowledge of birth positions, women in the birth centre had reported higher determination for staying mobile and having a natural birth. Women in the first part of the study did not have the option of choosing the birth centre; they gave birth in hospital with no existing birth centre; whereas women in the second part of the study had a choice and chose to give birth in the birth centre. Therefore they knew they were going to give birth in an environment that promoted normality and were more determined to have a natural birth, staying mobile and being an active participant in their baby's birth.

10.2.2. Power

The issue of control that emerged from the data was driven from the power of the medical model of care. French philosopher Michel Foucault's view of historical evolution of power emerged to be relevant to my study and helped me to explore the wider sociological perspective of power in childbirth. Foucault (1991) utilised the phenomenon of "panopticonism" as a theory and a model to simplify understanding of how close watch is central to the exercise of power. Medical surveillance of childbearing women during hospital confinement was evident in my study.

Foucault's theory (1984) that modern disciplines encourage obedience through promising rewards for compliance and punishment for non-compliance, was also evident in my study. Offering absolutely safe and relatively pain-free birth was the reward that medicine promised to childbearing women.

Medical disciplinary power works without difficulty when it is invisible and hidden. It becomes visible only when resistance to the power occurs. That power can be exercised on women by the means of panopticonism and 'gaze' control, paternalism and institutional policy.

The culture of the gaze in the medical model of care is demonstrated through all the tests carried out from the start of the labour. The most common of all would be the CTG. These tests confine women to bed, which was identified in my study as a prohibiting factor influencing women to maintain an upright position. Medical surveillance in childbirth is possible by the means of technology. Technology has been used to promote obstetric intervention (Bates, 1997) and to assume control over the birth (Barclay and Jones, 1996). This control was exercised extensively over women in my study in a labour room setting. Women mostly subjected themselves to the dominant power in order to have a healthy child but remained unhappy afterwards and could not justify their acceptance and actions.

10.2.3. Paternalism

Technical procedure in capitalism is performed by division of hierarchy of workers and differently ranked practitioners. Such divisions of care influence the architectural style of hospitals.

Medical power in childbirth operates effectively with the co-operation of the midwife and submission of the woman. Medical power in the form of paternalism was evident in the data. Women expressed that their wishes had been overruled in the labour wards. Paternalism in the labour room setting made women feel inadequate and make decisions they later regretted. In this setting a number of women became fearful and disappointed, which subsequently led them to having an epidural and restricted movement. In the second part of the study, three women who gave birth in the labour ward were disappointed and indicated how they felt the environment and their fear

and anxiety slowed down the birth process, which ultimately led them to be subjected to oxytocin, epidural and subsequently ventouse delivery.

The underlying structure and ideology of the institutions would have a direct effect on women's choice and autonomy. It is evident from my study that women might go to hospital with a strong determination for natural birth and to avoid pain relief. However, when not supported by institutions, they do not use upright and mobile positions; they end up with medicated pain relief, and become subject to more interventions.

10.2.4. Support

Data from my study suggest that women would benefit from different forms of support. Social support, midwife, trust, technology and satisfaction all could play a part in the issue of support. Findings of my study indicate that for women who gave birth in the labour ward their wishes to maintain an upright position were not supported. On the contrary they were encouraged to stay in bed for the CTG or other procedures. Encouragement and support to help a woman to stay in an upright position were limited and did not appear to be effective. On the other hand, women who gave birth in the birth centre reported that they benefited immensely from the support received from midwives and their partners. The midwife was an important factor providing support for the woman to maintain an upright position. The physical presence of the midwife was appreciated in both settings. Continuous physical presence by the midwives and its association with improved prenatal outcome has also been supported by previous research (Lundgren, and Dahlberg, 1998; Berg et al., 1996).

The issue of trust was raised in women's comments when they were asked about their expectations of midwives. Women wanted to be heard by the midwife and be able to trust the midwife's expertise. One of the issues raised in the study was the fact that women wished to receive realistic advice during the antenatal period and not to develop a false sense of security. One woman was very unhappy with what she perceived to be unrealistic information regarding the support she would receive in the labour ward. She was disappointed when her expectations were not met. In the birth centre, the midwife's presence, reassurance, encouragement and information reduced women's anxiety and boosted their confidence in maintaining an upright

position. In women's views technology was not a substitute for the midwife's presence. Results from my study indicate that those who gave birth in the birth centre were able to maintain an upright position, had a positive view and were satisfied with their experience. Those who delivered in the delivery suite setting and gave birth with restricted movement and in a supine position were either very unhappy and disappointed with the adopted position or ambivalent about their feelings on their birth experience.

10.2.5. Decision making

Patterns of decision making were derived from the data gathered from my study from both study sites. However, they were not quite in the same direction and proportion in the two environments. The pattern in the labour ward data was more inclined towards caregiver's decision and assumed consent while in the birth centre shared decision making was more evident. If a decision was made by the caregiver (which was mostly the case in the delivery suite) the response from women was that either they accepted or refused it or remained silent. There was evidence from the study that showed women in labour usually complied with the decision made by the practitioner. Whether women accepted without questioning (but remained unhappy and questioned it in retrospect) or initially objected and eventually accepted the practitioner's decision, in both situations they remained unhappy throughout the labour. Total rejection by a woman of a decision made by a caregiver was rare. In one case where it happened, the woman remained extremely unhappy, and subsequently became hugely distressed. When a woman did not challenge a decision made by the caregiver, she was assumed to be giving her consent. In these cases women might have agreed and followed the decision but were not active participants in the decision-making process.

The other main scenario of decision making were the occasions on which no active decisions were made and the woman preferred to wait and see what would happen or decided to follow her instinct and left it to her body to take over. This required a relaxed environment that liberates the body to react to instinct. This was the common pattern in the birth centre.

The third scenario was when women were involved in the decision making. This happened in two cases in the first part of the study and in all cases in the birth centre

in the second part of the study. Involvement took place either by explanation given by the practitioner or at the practitioner's suggestion or the woman made the request. All of these cases were followed by a positive response from the woman, who felt that she was heard and felt good about the decision. In general, data from the study suggest that negative emotions are expressed by women when the decision was one-sided and made by the practitioner. Women, however, expressed more positive emotions when the decision was shared by the woman and the practitioner.

10.3. Future

10.3.1. Research

This was an exploratory study which has provided useful data regarding factors that influence choice of birth position. Building on this initial work, it would be useful to undertake a larger study to capture more of the factors that influence adoption of an upright position in birth and delivery, and its relation to dominant ideology in the medical and midwifery settings. This study could be repeated for those women who want to have an epidural in order to identify factors affecting their choice of birth position. Similar studies can be conducted emphasising the development of skills for midwives to support upright posture.

More research is needed in order to expand the existing body of knowledge and to develop research-based midwifery education and practice regarding the issue of influential factors on women's choice of birth position.

Future studies need to establish other factors that play a role in the use of birthing positions and also focus on the midwife's effect on women's adopted birth position.

This could have provided me with more knowledge, especially as I was not present in the labour ward myself.

Research needs to be carried out to explore how we can move towards a more liberated environment with less restrictive policy, while maintaining the woman's and baby's safety.

10.3.2. Environment

When talking about the environment we should take a holistic view; changing the labour room environment towards a clean, spacious and homely environment with the presence of supportive midwife. This is desirable but without the ideological changes the practice would not be altered. Systematic ideological changes are needed in order to provide more autonomy for the midwife and subsequently for the women. That is why even small autonomous units like birth centres face problems when they come in contact with other parts of the institution like the labour ward. Evidence from the study suggests that even in cases when women had to go from birth centre to labour ward for non-medical reasons (e.g. staff shortage) they would face problems and dilemmas, losing their autonomy and control.

Less hierarchy and a more power-balanced environment liberates women to make decisions regarding their birth position.

The structure of the delivery suite and its architecture should be designed to support women's autonomy and power to liberate and help them to stress their inner strength and ability to maintain an upright position while giving birth.

The foundation of the health care system should be re-examined in order for the caregiver to offer holistic care, a system in which women are encouraged to choose their own birthing positions.

The culture of normality should be widely emphasised in any labour room setting. Practitioners should be believers in normal physiological processes as a part of life and women should be encouraged to stay mobile and give birth in upright positions.

The culture of birth units should be improved in the way that they value evidence-based practice and support women in their choices.

10.3.3. Midwife

Institutional policy should be towards more empowering of midwives in order to enable them to support women in their choices regarding the birth position. Midwives also need to be empowered through expanding their knowledge and expertise.

Along with educating women antenatally regarding the advantages of different birth position, the continuous presence of midwives in the labour room is needed to give confidence to women to trust their body and to perform and maintain an upright position.

Antenatal education should be more realistic, making woman ready to face the reality of resources available to them in the delivery suite. Education should also make them ready to face the intensity of the pain without raising their fear and help them to adopt their own style of coping with pain and comfortable position.

The shared decision-making approach should be adopted between woman and practitioner. Women would like to be active participants in decision making but they would also need a midwife's expertise and support to guide them toward their decision in adopting an upright position.

10.4. Limitations and contribution to knowledge

A qualitative approach was the strength of the study which provided in-depth knowledge of a personal area of women's lives (their birth experiences).This approach made it possible to hear women's views directly, gaining inside knowledge of their birth experience, their desires regarding the birth position and the care they received. This was particularly important because the subject had not been well researched before. However, there were limitations to the study. One was the small scope of the study and the other was the absence of observation in the labour ward, which could have provided a valuable inside view of the scene. My study was carried out in a small geographical area although in different hospitals and the women were of similar socio-economic status. This study could have produced different results if conducted in geographically distanced centres with women from different cultural and socio-economic backgrounds. Research that included fathers could have added another dimension to the factors affecting women's choice of birth position from a support-giver's point of view.

The other limitation of the study could be the effect of the antenatal interviews on the awareness of women on the subject of mobility and birth position, and the environment which could subsequently affect the result of the study. As I mentioned in Chapter Two, I was aware of this and conscious of the need to minimise it,

therefore I created a setting that would encourage women in expressing their honest opinion and thoughts. I maintained this by trying to be neutral as far as possible and not to offer my opinion if asked for it.

This study adds to the body of knowledge that it is not only the physical environment that matters but ideology dominating the setting matters more in women's mobility and chosen birth position.

My study concludes that offering choice for women is not just about providing information. The information needs to be coupled with the provision of a realistic setting that allows the adoption of women's chosen birth position.

This study has also produced a decision-making typology that can be utilised by midwives as a device to improve their practice. It can be used as an aide to reflect on their practice and lead them to identify the type of decision making which is used in each particular case. This enables midwives to offer choice to women and to fulfil their needs. This knowledge is helpful for midwives wishing to evaluate their practice in relation to women's involvement in decision making regarding the choice of birth positions.

10.5. Application to practice

Applying the findings of my study to practice in order to encourage women's mobility requires careful measures such as:

Design of the Environment

- Environment has a direct effect on mobility of women in labour. Good standard of physical environment including space, colour, available facilities, cleanness, etc will encourage women's mobility in labour.
- Women's mobility was reduced and more fear was induced in the medical environment of the labour ward. The mechanical shape of the labour room, where a bed in the centre dominates the room, induces anxiety. Therefore careful planning has to be undertaken in order to rearrange the bed and equipment in an appropriate way.

- Woman required an environment to give them a sense of freedom to move about. This could be maintained in a more homely environment in the birth centre or labour ward.
- The structure of the delivery suite and its architecture should be designed to support women's autonomy and power to liberate and help them to rely on their inner strength and ability to maintain an upright position while giving birth.

Education

- To avoid any disappointment for women, antenatal education should be both positive and more realistic and should reflect available birthing environment facilities.

Support

- Women would benefit from different forms of support. Women's wishes to maintain an upright position should be supported. Good levels of staffing and midwives who are competent and experienced in supporting women in upright positions are needed in this regard.
- The midwife's presence, listening, reassurance, encouragement and being informative reduce women's anxiety and boost their confidence in maintaining upright positions.

Culture of Unit

- The culture of normality should be widely emphasised in any labour room setting. Practitioners should be educated in order to become believers in birth as being a normal physiological process and also to encourage women to stay mobile and give birth in upright positions. A wider plan would be educating the public by the means of media to initiate moving of this important life event from a medical field to a physiological and social ground.
- Less hierarchy and the more power-balanced environment liberate women to make decisions regarding their birth position.
- Ideological changes are needed in the labour ward setting in order to provide more autonomy for the midwife and subsequently for the women. This could be maintained through systematic educational plans for health care professionals.

- Medical power in the form of paternalism should be lessened by questioning underlying structure and ideology of the institutions which has a direct effect on women's choice and autonomy.
- Technology applied in the labour ward setting restricted women's movement. The application of the technology should be minimised to when it is clinically indicated.

Applying the Decision Typology to Practice

Women should be given the choice of having their delivery in a birth centre where they have better chance of staying mobile.

Practitioners should enable women to be involved in the decision-making process and provide their expertise and support to guide women toward their decision in adopting an upright position.

Where the caregivers make the decision on the position that the mother should adopt, the reason should be explained clearly and justified to the mother; otherwise the woman will be left puzzled and remain unhappy even though she may comply with the practitioner's decision. Should a woman refuse to adopt a specific position, her wishes have to be respected. The main point is that women should feel comfortable with their adopted position.

In situations where a decision is made by caregivers and women do not actively participate, it must be realised that this cannot be interpreted as consent, even though women do not challenge and follow the decision. Women should be clearly asked whether they are comfortable with the position and be given the choice of remaining in that position or adopting an alternative position.

In some cases especially in early labour a woman may not want to make a specific decision on the birth position; instead she may prefer to be relaxing in any comfortable position until labour progresses further.

A relaxed environment should be provided to offer endurance and comfort and to allow women to rely on their inner resources and follow their bodily instinct. In this way they can adopt the position that they find more comfortable and to which their

body directs them. The mother's knowledge of her body should be valued and respected by not interfering in her decision.

Women should be offered involvement in making decisions by providing them with the necessary information and explanation. Discussion about different positions should be dynamic and women's views need to be heard and honoured; this results in a powerful and positive response from the women.

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Appendix I

Information sheet and consent form

Headed note paper

Written Information for Pregnant Women

Invitation to participate in a research study on:

Factors influencing women's choice of birth position

I am a student doing a PhD in midwifery practice under the supervision of Dr Christine McCourt at Thames Valley University. I am conducting a study that is original and directly relevant to midwifery practice. This topic is important but has not been well researched before. I would like to invite you to participate in the study. Participation is entirely optional. You should not take part in the study if you do not wish to do so.

This study will explore the factors influencing women's choice of birth position. Clarification of these factors may influence the provision of care by midwives and mothers' satisfaction regarding birth.

The study will be carried out in two parts. In the first part, a few weeks prior to your delivery, an interview will be arranged in a convenient time and place. The interview will focus on your expectations of birth and it should not last more than 30 minutes. The interview will be tape-recorded. You may withhold consent to my tape-recording and you may withdraw from taking part in the study at any stage. This will not affect your maternity care in any way.

The second part of the study will be carried out after the delivery. You will be contacted four weeks after the delivery to arrange a second interview about your expectation and birth experience. The interview will be arranged at a time and place convenient for you. The interview will be tape-recorded and should last about 30 minutes.

All the information will be confidential and I will not use your name or include any detail that might identify you in my final report. As this is a PhD study, your personal information will be shared with my supervisors at TVU. You are free to withdraw at any time without explanation. You may withdraw consent to tape-recording at any point in the interview and you may terminate the interview at any time.

If you agree to help me by taking part in my study, I would be grateful if you would complete the appropriate consent form. If you have any questions or concerns about the study, please contact me or my supervisor at the Centre for Midwifery Practice on 020 8280 5287.

Maryam Gholitabar

The Local Research Committee Has Approved the Above Statement

Participant Consent Form

Title of project: Factors influencing women's choice of birth position

The participant should complete the whole of this sheet him or herself.

(please tick each statement if it applies to you)

I have read the Information Sheet for Patients and Healthy Volunteers.

I have been given the opportunity to ask questions and discuss this study.

I have received satisfactory answers to all my questions.

I have received enough information about the study.

The study has been explained to me by:
Prof/Dr/Mr/Mrs/Ms_____

I freely consent to Maryam Gholitabar interviewing me for the above research purpose. I understand that I am free to withdraw from the study at any time, without having to give a reason for withdrawing and without affecting my future medical care. I also understand that I may withdraw consent to taping at any point during the interview and that I may terminate the interview at any time.

I agree to take part in this study.

Signed.....Date.....

(NAME IN BLOCK CAPITALS).....

Investigator's signature.....Date: .....

(NAME IN BLOCK CAPITALS).....

Appendix II

Antenatal and postnatal interview questions

Antenatal Interview

The antenatal interview will mainly be an introductory interview in which the women will be asked about their knowledge of alternative birth positions as well as their planned birth position.

Q1 Would you introduce yourself? How old are you and what is your ethnicity?

Q2 Is this your first baby?

Q3 Have you attended any parent craft classes?

Q4 Have you written any birth plan?

Q5 Have you had a tour to the labour room?

Q6 Would you tell me what was the first thing that you noticed upon entering the room?

Q7 How did you feel about the labour room?

Q8 How was your previous birth?

Q9 Which position did you adopt in the early stage of your previous labour?

Q10 Have you used pain relief?

Q11Do you intended to use it again?

Q12 What do you know about birth position in general?

Q13 What position do you intend to give birth in?

Q14 How did you learn about birth positions?

Q15 Would you tell me about your expectation from midwives?

Postnatal Interview

Q1 How did you come to use the birth centre?

Q2 Did you attend antenatal classes? How helpful did you find it?

Q3 Did you write a birth plan?

Q4 Did you have a normal delivery?

Q5 How did your labour start?

Q6 What was the first thing that you noticed entering the labour room for the first time?

Q7 Can you remember many details about your labour?

Q8 Were you walking about during the first stage of labour?

Q9 Did you request any specific position during your labour?

Q10 Which position did you choose during the birth? How do you feel about it?

Standing
Kneeling
Sitting
Squatting
Leaning forward
Lying on the other side of the bed
Lying on the bed on your back
Others

Q11 Did anything happen that made you to change your position during labour?

Q12 Describe the reason for your chosen position in labour?

Q13 Do you have any suggestion regarding position to adopt during the labour?

Q14 Would you choose the same position in the next labour?

Q15 What was the most helpful source of information that helped you to make a decision about labour position?

Q16 Did you know your midwife before the start of the labour?

Q17 Did your midwife provide a full support during the labour?

Q18 Did you ask your midwife to change the layout of the room in anyway?

Q19 What were the best and the worse things about your labour?

Q20 Would you mind drawing a picture of the labour room from what you remember?

Q21 IS there anything else that you want to add?

Appendix III

Demographic details of the study participants

The first part of the study

Participant's ID	Age	Ethnicity	Parity	Delivery
1	37	White-British	3	C/S
2	39	White-British	1	
3	28	Asian	1	
4	32	White-British	0	C/S
5	29	White-British	0	C/S
6	27	South American	0	
7	25	White-British	0	SVD
8	21	African	0	C/S
9	30	White-British	0	Ventouse
10	24	African	0	
11	33	White-British	1	SVD
12	28	White-British	1	
13	21	White-British	0	
14	19	Asian	2	
15	24	African-Caribbean	1	

16	26	White-British	0	
17	32	White-British	0	
18	28	White-British	0	SVD
19	29	White-British	0	
20	23	Asian	0	

The second part of the study

Participants ID	Age	Ethnicity	Parity	Delivery
21	25	British white	0	
22	28	British white	0	
23	27	European	0	Ventouse
24	29	Mixed race	1	SVD
25	30	British white	0	Ventouse
26	41	British white	1	
27	30	British white	0	Ventouse
28	34	British white	1	
29	28	British white	0	
30	29	Caribbean	0	
31	27	British white	0	
32	28	British white	0	SVD
33	36		1	SVD

Appendix IV

OSOP

Abbreviations for OSOP
no.: respondent ID, (no.) p/n: Postnatal, a/n: Antenatal, lw: Labour Ward, bc: Birth Centre, svd: Spontaneous Vaginal Delivery, c/s: Caesarean Section

20 A/N interviews
1st stage of study

A/N classes
1, 2, 3, 10, 17, 4, 5, 7, 18, 19, 12, 8, 13, 20- attended antenatal classes
15, 6- not attended antenatal classes
3, 10, 11 -attended external classes (NCT)

First impression of labour room from A/N tour:
1 - gas cylinders
3, 19 - monitoring equipment
7, 15, 2, 5, 6, 4, 10, 13, 14, 20 - bed
8, 9, 11, 12 - bed, bed table

Pain relief plans/expectations:

3, 6, 10, 17 - going to have epidural
9 - not sure about pain relief
13 - not going for epidural, going to have a natural birth
2 - going to have epidural if needed
1, 4, 5, 7, 15, 17, 18 - going to wait and see, then decide on pain relief

Birth position:

7, 1, 4, 5, 9, 10, 12, 14, 15, 16, 19 - going to adopt upright, comfortable positions including standing, birth chair, hands and knees and all fours
3, 17 - want to give birth on the bed
18 - going to be in semi-reclined position
13 - not sure
8 - Leaving it to body to take a lead

Expectation of midwife:

12, 10, 14, 2, 4 - Would like midwife to be experienced, help them to adopt upright positions
1, 7, 5, 6, 9 - want midwife to be informative, give advice
10, 16, 15,20,3 - want midwife listen to them, be present, be nice, be professional
7, 18 - birth plan written, the rest not written yet

13 A/N interviews
2nd part of study

A/N classes:

32, 33, 28, 27 - attended hospital a/n classes
31, 26, 25, 28 - attended hospital plus NCT a/n classes
23,25,28- attended hypno-birthing, NCT, hospital a/n classes

Impression of BC rooms:

32 - room was not like hospital, reassured, homely, colour, spare bed for partner, bean bag
21 - un-institutionalised, bean bag, relaxed, nice, clean
22 - quiet, mattress on the floor, staff smiling, cheery, relaxing
23 - nice atmosphere, not scary
24 - spacious, airy, light bean bag, 41 – 33-36-38 nice-comfortable clean, modern,
27, 32 - bean bag, less formal
26 - comfortable spacious 35-34 non medical
29 - pool
30 - not smelly, friendly staff, relax, quiet spacious

Pain relief:

27, 22 - going to have self hypnosis, visualisation, rather not to have epidural
27, 24 - TENS machine
27, 25, 28, 31 - TENS machine
29, 26, 32, 31 - strongly against epidural
33 - have epidural if it is necessary

Birth position:

33, 26 - going to give birth in standing position with the support
23, 24, 32, 30, 31 - bean bag, all fours, kneeling, squatting, sitting,
25, 32 - different position to find more comfortable one

Expectation from midwife:

21, 23, 24, 27, 31 - support
24, 31 - encouragement
31, 27 - trust
31, 26, 25, 23 - expertise
23, 31, 22, 24 - advice
27 - good relationships
22, 26, 21, 24 - helps with adopting upright position
33 - be professional
31, 26 - be informative

Birth plan 22, 23, 25 written, the rest not written

Abbreviations for OSOP
no.: respondent ID, (no.)p/n: Postnatal, a/n: Antenatal, lw: Labour ward, bc: Birth Centre, SVD: Spontaneous Vaginal Delivery, c/s: Caesarean Section

8 P/N interviews

1st stage of study

18/ 11, 7 - SVD

9- ventouse delivery

1, 5, 4, 8 - C/S

Position:
7, 11, 9 - giving birth legs on stirrups, flat on back,
9, 18 - given birth on bed, flat on back

Control:
4, 8 - felt not in control
5, 1 - felt powerless
18, 9 - felt no choice no option available

Midwife:
4 - Midwife was nice, positive
4, 18 - was experienced
11 - supported my choice, present
5, 9 - did not listen to me

Technology:
1, 5, 18, 11, 8, 9 - CTG, strap around me mostly all the time, epidural, syntocinon,
5 - breaking my water, FBS,

Pressure:
4, 9, 8 - Being pressurised to stay on my back,
1 - c/s was forced on me

Feeling:
4, 7, 9 – feeling ambiguous - mixed feeling
11 – happy
9, 8 - tired, powerless, regret not having normal delivery

6 P/N interviews
2nd stage of study

27, 25, 23 - ventouse Delivery Suite
24, 33, 32 - SVD Birth Centre

Facilities:
23, 25, 27 - BC was busy, short staff,
25 - disappointed with the BC

Position:
24, 32 - given birth in standing position,
27, 32 - mobile while at home exercise leaning, squatting
27 - legs in stirrups,
33 - I left body to take a lead

Technology:
27, 25, 23 - had epidural flat on bed not moving, CTG, syntocinon,
27 - FBS

Force:
27 - under pressure to get things going
23 - no right to make decision,
23 - NOT listening, no alternatives given, no choice given

Lw room:
23 - LW horrible, like operating room, not clean, felt ill,
27 - Labour Room small, crowded, no furniture,

BC room:
32 - spacious, mattress on the floor, private, personal lovely
24 - room spacious, music on, space for different position

Reflection on A/N classes:
25 - A/N education unrealistic,
23 - false sense of security,

Policy:
23 - unhappy about the intuitional policy, had to go from BC to LW for antibiotic cover

Midwife:
32 - midwife lovely, supportive, encouraging, kind,
33 - calm, experienced, trust in her, informative, sweet, excellent
24, 32, 25, 33 - midwife present all the time, helped with positions
23 - no advice given, not promoting normal delivery, not present, not supporting my choice.

Feeling about LW:
27 - feeling frustrated, hideous, bullied, frightened,
25 - unhappy
23 – traumatic, scared

BC:
32 - extremely happy, delighted
33 - felt great