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**Exploring Women's Experience of Fundal Pressure
During the Second Stage of Labour**

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**A research dissertation submitted in fulfilment of the requirements for the degree of
Masters in Nursing**

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Department of Nursing
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October, 2018

Declarations

I, Uchenna B. Okafor (201006014) hereby declare that I am fully aware of the University of Fort Hare's policy on plagiarism, and I have taken every precaution to comply with the regulations.

Signature: _____ Date: October 2018

I, Uchenna B. Okafor (201006014) hereby declare that I am fully aware of the University of Fort Hare's policy on research ethics, and I have taken every precaution to comply with these regulations. The University of Fort Hare's Research Ethics Clearance Certificate number is NIK041SOKA01. The proposal was also registered with The National Health Research Database (registration number: EC_2015RP40_306).

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I, Uchenna B. Okafor (201006014) hereby declare that this dissertation, titled **Exploring Women's Experience of Fundal Pressure During the Second Stage of Labour** is my own work and has not been submitted for a degree at any other university.

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Dedication

This work is dedicated to my late father, Mr Godfrey Ogbonanya Obasinta.
He was my best friend and best father.

Acknowledgements

To almighty God for his grace and love throughout this journey and for keeping me strong.

My deepest and sincere gratitude goes to my supervisor Prof. Dr. V.C Nikodem for her absolute support throughout this journey. This dissertation would not have been possible without her priceless supervision.

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Finally, I would like to thank the informants in this study for sharing their personal experiences with me.

Acronyms

BMI	Body Mass Index
CNS	Central Nervous System
CTG	Cardiotocograph
DVDHMOU	Duncan Village Day Hospital Midwives' Obstetric Units
EFM	Electronic Fetal Monitoring
FIGO	Federation of International Gynaecologists and Obstetricians
GAP	Gentle Assisted Pushing
HIE	Hypoxic Ischemic Encephalopathy
HIV	Human Immunodeficiency Virus
HU	Hermeneutic Unit
IPA	Interpretative Phenomenological Analysis
KM	Kristeller Manoeuvre
MOU	Midwives' Obstetric Units
NICE	National Institute for Health and Care Excellence
NICU	Neonatal Intensive Care Unit
PPH	Postpartum Haemorrhage
RCM	Royal College of Midwives
RCOG	Royal College of Obstetricians and Gynaecologists
RCT	Randomised Control Trial
SANC	South Africa Nursing Council
SEGO	Spanish Society of Gynaecology and Obstetrics
SUI	Stress Urinary Incontinence
TENS	Transcutaneous Electrical Nerve Stimulation
UFP	Uterine Fundal Pressure
VM	Valsalva Manoeuvre
WHO	World Health Organization

Abstract

Background and Aim

Despite the use of fundal pressure globally, there is a scarcity of information available on how women experience the application of uterine fundal pressure (UFP) during the second stage of labour. The aim of study was to explore the experiences of women concerning UFP application during the second stage of labour. Understanding women's perception about UFP is important in informing the generation of new ideas to improve on the application of UFP for better outcomes.

Methods

This was a qualitative, interpretive, and phenomenological analysis designed to explore the experiences of women regarding the application of UFP during the second stage of labour. Hermeneutics was applied to interpret the participants' descriptions of their experiences as they tried to make sense of their exposure to UFP; bearing this in mind, the participants' own interpretation was not distorted. The researcher immersed herself in each transcript, in order to make sense of each participant's experiences and to gain a sense of what the participant had experienced during UFP application. Each interview was transcribed and analysed independently; and the convergences and divergences of themes were identified without losing the original meaning of each participant's description before moving on to the subsequent interviews.

The target population was women who had had UFP during second stage of labour. A purposive sampling method was used to select three women who were admitted to the DVDHMOU during the research period and who met the inclusion criteria. Information was collected through individual face-to-face interviews and semi-structured interview guide. The principal question was framed as: "Can you please share with me how you felt when the midwives pushed on your tummy to get the baby out"? An audio tape was used to record the interviews, and a notepad was used to make notes of gestures such smiles or other facial expressions. After each interview, the recorded interview was transferred onto a laptop and a file was opened for the interviewee, identified by a pseudonym. The interviews were transcribed verbatim as Word documents.

Trustworthiness was maintained by applying the principles of credibility, transferability, dependability and conformability. Ethical approval was granted by the Ethical Committee of the University of Fort Hare. Permission to conduct the study was sought from the Eastern Cape Research Committee and Buffalo City Metropolitan Health District. Informed consent was obtained from the participants prior to data collection.

Each interview was analysed separately after completion. Data was analysed using thematic content analysis applicable to interpretative phenomenological analysis (IPA) studies using six steps: reading and re-reading; initial noting; developing emergent themes; searching for connections across the emergent themes; moving to the next case; and lastly, looking for patterns across cases

Findings

The findings of this study indicated that the informants had feelings of fear, loneliness, worry and tearfulness; but also happiness associated with UFP during second stage of labour. They were also worried and expressed fear and anxiety concerning their infants; and their ability to give birth increased as they get tired in the process of pushing during UFP application. However, seeing their infants for the first time took most of the worries away, and all informants expressed relief when the birthing process was over. They also felt that their birthing experience was a very painful event; and were left alone, and they had not been given anything to drink or eat during labour. Midwives threatened them that their inability to pushing appropriately, could cause the death of their infants, leaving them with feelings of guilt and despair when their babies did not cry directly after birth. The findings demonstrated that midwives did not properly inform women what to expect during the second stage of their labour, whilst the midwives expected birthing mothers to know what was happening to them and how to react. Women in labour therefore depended almost entirely on information received from family members, and went into labour with preconceived ideas about labour pain. Although women do experience pain during the second stage of labour, the application UFP increased their pain. Four main themes emerged from the analysis, which are: perceived severity of UFP pain, emotional/physical reaction to UFP pain, perceptions of UFP and perception of midwives care and treatment.

Conclusion

The uterine fundal pressure is not a pleasant experience for the women in the second stage of labour. Labouring women experienced pain, fear, and anxiety. However, they felt a sense of happiness after delivery. Before the application of UFP during the second stage of labour, midwives should explain to women the process of UFP application and what they can expect to happen; and where possible, and after explaining the procedure, midwives should get written permission before they apply the intervention during labour.

Key words: Uterine fundal pressure, Women Experiences, Second Stage of labour, Interpretive Phenomenological Analysis

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Chapter One

Orientation to the Study

1.1 Introduction

Samuel Kristeller (1820-1900), a German gynaecologist, is the originator of what is termed as “pushing out the foetus” or in today’s terminology, the application of uterine fundal pressure (UFP) (Waszyński, 2008:297). The main idea of the original procedure was to strengthen uterine contractions through abdominal massage and the application of force to the fundus of the uterus towards the long axis of the birth canal to assist in delivering the foetus (Habek, Bobić & Hrgović, 2008:183). Buhimschi et al. (2002:520) argued that the application of downward pressure on the upper part of the uterus by a birth attendant increased intrauterine pressure and promoted the bearing down efforts of women during parturition. Although several techniques of UFP application have been described in medical literature, the actual procedure to apply UFP is “one of obstetrics’ biggest secrets” and no detailed information can be found in obstetric or midwifery text books, nor is UFP taught to medical or nursing students during their studies (Livoti & Topp, 2009:227).

1.2 Background to the Study

The prevalence of the application of UFP during the second stage of labour varies between 4.6% and 84% (Schulz-Lobmeyr et al., 1999:558; de Leeuw et al., 2001:385; Moiety & Azzam, 2014:946). Uterine fundal pressure is often applied to reduce the duration of the second stage or to assist maternal bearing-down efforts when there is a prolonged second stage, or foetal distress (Hofmeyr et al., 2017).

The communication department of Haute Autorité de Santé in France formulated clinical guidelines for the use of UFP during the second stage of labour (Haute Autorité de Santé [HAS], 2007:2). The guidelines stipulate “[A] ccording to the expert panel, application of fundal pressure is a common practice, although how common is not known as no surveys of practice have been published in France” (HAS, 2007:2). One of the challenges of the application of UFP is that there is little evidence as to whether UFP does more good than harm. The use of UFP during the second stage of labour therefore remains controversial as the safety and efficacy of the procedure have not yet

been scientifically evaluated and endorsed (Simpson & Knox, 2001:64; Merhi & Awonuga, 2005:599).

1.3 Problem Statement

Uterine fundal pressure has been used globally. Kline-Kaye and Miller-Slade (1990:511) study involving 74 nurse-midwives in the United States of America (USA) indicated the global usage of UFP during the second stage of labour varies from 4.6% to 84%. Prevalence rates of UFP have been reported in Brazil: 37% (Leal et al., 2014:4); Japan: 10% (Shimada & Suzuki, 2013:13) and 5.9% (Matsuo et al., 2009:781); Switzerland: 10.5% (Furrer et al., 2015); and in Spain 26% (Wilmott, 2014). Despite the use of fundal pressure globally, there is a scarcity of information available on how women experience the application of UFP during the second stage of labour. A multicentre, randomised, control trial (RCT) is currently being undertaken in the Eastern Cape to investigate the effects of applying fundal pressure to shorten the second stage of labour. The RCT covers gentle assisted fundal pressure (GAP) in the upright posture; upright posture only; and routine recumbent/supine posture practice (Hofmeyr et al., 2015). The primary aim of the GAP study is to investigate whether UFP can decrease the mean time from randomisation to complete delivery; secondary outcomes include the impact on caesarean section, adverse neonatal and maternal events and maternal discomfort (Hofmeyr et al., 2015). This study, was designed to explore women's experiences of UFP during the second stage of labour.

1.4 Research Question

The overarching research question was 'What experiences do women have during the application of UFP during the second stage of labour?'

1.5 Aim and Objective

The aim of the study was to explore, analyse, and interpret the experiences of women concerning UFP application during the second stage of labour.

1.6 Significance of the Study

To date, scanty literature exists on the experiences of women subjected to UFP during the second stage of labour. This study highlights how women felt when they were exposed to procedures to which they had often not consented. Furthermore, procedures such as UFP, are often applied to labouring women during a very vulnerable time, namely the second stage of labour. The findings of this study will inform health care professionals concerning women experiences during the application of UFP. Additionally, the findings could contribute to the ethical foundation of the midwifery profession, highlighting the need not to abuse women in vulnerable situations by applying procedures that are neither based on evidence, nor properly authorised by the labouring women.

1.7 Conceptual Framework

Imogene King's interpersonal system framework builds on the Theory of Goal Attainment was used for the study. King refers to two individuals as dyads, signifying how the nurse interrelates with a patient in a nurse-patient relationship (King, 1981). Collaboration between Dyads (nurse-patient) is very crucial for the attainment of the goal; in this case, UFP. King applies some concepts from the interpersonal system to support the Theory of Goal Attainment. Those concepts include human interactions, perceptions, communications, role, stress, time, space and transactions. These interrelated concepts have been succinctly described by King that "nurse and client interactions are characterized by verbal and nonverbal communication, in which information is exchanged and interpreted; by transactions, in which values, needs, and wants of each member of the dyad are shared; by perceptions of nurse and client and the situation; by self in role of client and self in role of nurse; and by stressors influencing each and the situation in time and space' (King, 1981). Interpersonal systems involve individuals interacting with one another to achieve a goal. The framework has the following components:

1.7.1 Interaction

Interaction is a process of perception and communication between person and environment and between person and person represented by verbal and nonverbal behaviours that are goal-directed (King, 1981). It refers to how nurse interrelate with patients particularly in nurse-patient relationship. In this study, nurses are expected to

positively interact with the woman in the process of applying UFP in second stage of labour to achieve the goal of birth. The nurse in this process would verbally explain to the woman what to do (to bear down) and what not to do.

1.7.2 Communication

King perceived communication as a means of developing and maintaining human relations, which embodies interpersonal, verbal, and nonverbal communication. The midwife should be able to personally communicate with the woman especially during the second stage of labour. The nurses should be aware of the nonverbal cues during communication while they are busy with the patient. Before applying UFP, it is essential that the midwife communicate to the woman concerning the procedures, expectations and get her consent for full cooperation in the process of UFP to attain the goal. The factors which affect the attainment of goal are roles, stress, time and space.

1.7.3 Role

Role is a set of behaviours expected of a person occupying a position in a social system (King, 1981). Before applying UFP during the second stage of labour, the midwives should inform the expecting mother what she is expected to do during the UFP application. It is expected that the nurse should know the procedures and the challenges associated with UFP application. The women should be made aware of her role in the process of UFP application-pushing at the right time. If role expectations and role performance as perceived by nurse and client are congruent, transaction will occur.

1.7.4 Stress

Stress is a “dynamic state whereby a human being interacts with the environment to maintain balance for growth, development, and performance, which involves an exchange of energy and information between the person and the environment for regulation and control of stressors” (King, 1981). The setting where the midwives interact with labouring women for balance, UFP application is stressful to both the mother and midwives and as such, the midwives were to calm the labouring women by explaining UFP manoeuvre to the woman in order to control the level of panic and fear. The nurses should encourage and reassure the woman to remain calm. The stress here is in both ways. The nurse is stressed about the woman and her baby, and the

woman is stressed about the wellbeing of the baby. However, the nurses, also as role expectation, should try to control the stressful environment.

1.7.5 Time

Time is “a sequence of events moving onward to the future a continuous flow of events in successive order that implies a change, a past and a future... a duration between one event and another as uniquely experienced by each human being... the relation of one event to another” (King, 1981). The nurse is conscious of the time for the duration of the UFP application for the well-being of the baby and the woman. The nurse must take note of the time for the next action, and assess the situation to apply further intervention, if necessary.

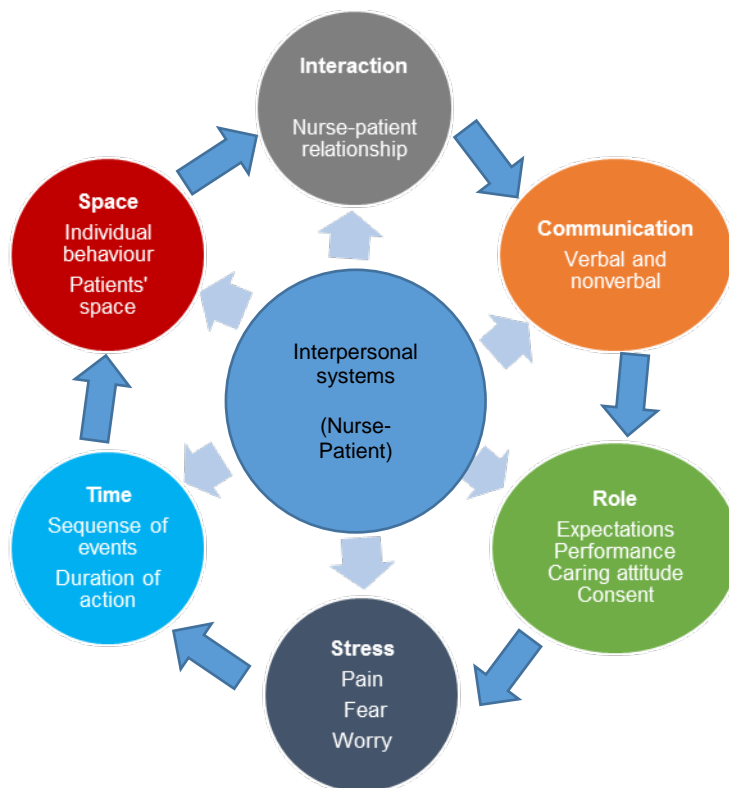


Fig 1.1: Conceptual Framework, adapted from King's (1981) Interpersonal System Goal Attainment

1.8 Definitions of Concepts

Bearing down efforts

Bearing down efforts refer to the labouring women urge to push by exercising full strength and strenuous attention to expel their infants. Women use different positions when bearing down, including, but not limited to, semi-supine, kneeling down, standing up, or squatting (Varney, Kriebs & Gegor, 2004:1233).

Discomfort or pain during the second stage of labour

Discomfort or pain during the second stage of labour describes the degree of pain women feel while having labour contractions during the second stage of labour. Labour pain is affected by many factors including physiological, psychological and emotional excitatory and inhibitory factors (Rudra, 2004:6).

Maternal Experience

Maternal experience in this study refers to the emotional, physical and psychological impact that the application of UFP has on women during the second stage of labour, and how it affects their birthing experience (Pillitteri, 2014:138).

Maternal, foetal and neonatal adverse events during labour

Maternal, foetal, and neonatal adverse events refer to any health-related problems that may arise after the application of UFP during the second stage of labour, which require medical attention (Ebirim, Buowari & Ghosh, 2012, 222).

Second Stage of Labour

The second stage of labour has been described as the time when the cervix is fully dilated, usually to ten centimetres, and endures until the infant is fully delivered. The mean duration of the second stage of labour is 40 minutes in primigravida and 20 minutes in multiparous women (Stephenson & O'Connor, 2000:241).

Uterine Fundal Pressure

Uterine fundal pressure (Kristeller Manoeuvre) refers to the procedure during the second stage of labour when someone, usually a health care professional, applies steady, gentle, manual pressure in the direction of the cervix to the uppermost part of the uterus (fundus) at a 30° to 40° angle to the maternal spine, in an attempt to assist spontaneous vaginal delivery of the infant and to avoid a prolonged second stage or the need for operative delivery (Shimada & Suzuki, 2013:10).

1.9 Outline of Chapters

The introduction and background to this study, the problem statement, the research questions, the aims and objectives, the significance of the study, the conceptual framework and definitions of concepts are presented and described in chapter one. The chapter also describes the division of the study.

Chapter two presents a review of the literature on the history, prevalence, indications, and contra-indications of UFP as well as the different techniques of UFP. It examines maternal, foetal, and infant benefits and adverse effects associated with the application of UFP. Chapter two also considers the existing policies on UFP.

Chapter three describes the research methodology of the study, the research design, the population, sample and sampling procedure, ethical considerations, the trustworthiness of the study, data collection and analysis.

Chapter four presents the findings of the study and discusses them, in line with the research questions.

Chapter five presents the summary, conclusions and recommendations of the study.

Chapter Two

Literature Review

2.1 Introduction

The main purpose of reviewing literature is to integrate evidence of what is known about the phenomenon under study (Creswell, 2014:61; Polit & Beck, 2014:142). Some qualitative researchers, especially grounded theory researchers, claim that reviewing literature may restrict inductive analysis and should be done after the information on the phenomenon has been collected (Polit & Beck, 2014:142). One of the main reasons for doing this phenomenological study is that very little research has been conducted on the application of UFP, and the researcher aims to explore the phenomenon in order to get a better understanding of women's experiences when UFP has been applied (Creswell, 2014:61). Polit and Beck (2014:142) and Creswell (2014:61) claim that phenomenologists should review literature prior to embarking their exploration, because a critical evaluation will enable the researcher to gather appropriate information, identify the gaps and clarify underlying principles that lead to the research question.

The investigator has done the extensive literature review includes journals articles, text books, reports, government paper, policy and legislation and published guidelines. To have a logical sequence and easy understanding, the review of literature has been organized and described under the following headings:

Chapter Two provides a review of relevant literature to establish what evidence is available on women's experience regarding the application of UFP during the second stage of labour. In addition, in order to frame the context of the study, the researcher reviewed literature which covered the history, prevalence, indications, and contra-indications of UFP as well as the different UFP techniques in use. Maternal, foetal, and infant benefits and adverse arising from the application of UFP, and finally existing policies on UFP were evaluated.

2.2 Second Stage of Labour

It is important for health care-givers to have a sound understanding of the concept of the second stage of labour to enable them to assist women giving birth. The definition of the second stage of labour differs slightly amongst experts, in that some authors maintain that the second stage of labour commences with full dilatation of the cervix and ends after the infant has been born (Daftary, 2011:254); whilst others incorporate the maternal bearing down effort, claiming that the onset of the second stage of labour starts with the commencement of maternal pushing, even in the presence of a rim of cervix, and ends after delivery of the infant (College of Midwives of British Columbia [CMBC] 2015).

The Federation of International Gynaecologists and Obstetricians (FIGO), Safe Motherhood and Newborn Health (SMNH) [FIGO/SMNH] (2012:112), highlighted that in primigravidae, the presenting part of the foetus may not be below the ischial spine when the cervix is fully dilated. In primigravidae, the passive phase of second stage is an ideal time to allow women to rest in preparation for pushing efforts at the appropriate time (Simpson & James, 2005:150). Edozien (2010:51) cautions against urging labouring women to bear down actively when the foetal head is still high and the mother has not experienced the urge to push, as this may lead to foetal distress and exhaustion of the mother's energy. In contrast to primigravidae, the expulsive phase of second stage of labour may be experienced by multigravidae, when the cervical dilatation is not yet complete; little or no harm is likely if multigravidae are allowed to use their instinctive urge to push even in the presence of a rim of cervix (CMBC, 2015). Permezel (2015:235) recommends that a vaginal examination should be done during the second stage of labour to ensure that the cervix is fully dilated and that the presenting part has descended.

Presumptive signs that may indicate full dilatation are the appearance of a show due to cervical bleed, pouting of the anus or vulva as the presenting part pushes on the anus, appearance of the Rhombus of Michaelis (backward pushing of the sacrum), and a purple or red line at the cleft of the buttocks (Department of Midwifery, 2011). Physiological signs may manifest themselves in vomiting, whilst psychological signs may be the labouring women expressed unwillingness to continue with the birth (Department of Midwifery, 2011). Uterine contractions may be less frequent but more intense during the second stage of labour Daftary (2011:254) states that uterine

contractions during the second stage of labour may occur every two to three minutes and last between 60 to 90 seconds.

Generally, two phases are recognised during the second stage of labour:

- Passive second stage of labour which commences with full dilatation of the cervix with or without involuntary expulsive contractions and;
- Active second stage of labour, which is when the cervix is fully dilated, and when the labouring woman experiences involuntary expulsive contractions, and when the presenting part is visible during bearing down efforts (Edozien, 2010:51; National Institute for Health and Care Excellence [NICE], 2014:56; CMBC, 2015).

Conversely, Aderhold and Roberts (1991:272) and Roberts (2002:5) argue that there are three phases of the second stage of labour:

- Phase one – latent phase – which refers to the period from full dilatation of the cervix until the urge to bear down;
- Phase two – the active expulsive phase – which starts with the rhythmic onset of bearing down efforts until crowning of the presenting part, i.e. when the presenting part no longer retreats after bearing down.
- Phase three – transition phase-which starts with the crowning of the presenting part until the birth of the entire body of the infant.

Cheng and Caughey (2015:227) assert that the ideal duration of the second stage of labour remains debatable, but stress that a prolonged duration increases risk of maternal morbidity, and possibly neonatal morbidity and mortality too. Royal College of Midwives (RCM) recognises that the duration of the second stage of labour differs between primiparous and multiparous women (Royal College of Midwives [RCM], 2012). The Federation of International Gynaecologists and Obstetricians recommends that the duration of active pushing during the second stage of labour should not exceed two hours for primiparous women and one hour for multiparous women, due to the possible, increased risk of birth asphyxia and maternal infection (FIGO, 2012:112). Furthermore, it has been reported that the likelihood of a vaginal delivery is 90.2% if the second stage of labour is shorter than two hours (Department of Midwifery, 2011). Leveno, Nelson and McIntire (2016:484) urge caution when dealing with the upper

limits for the second stage of labour - in nulliparous women without epidural this is not greater than three hours, and for multiparous women it is not greater than two hours - and suggest that in view of available evidence that second stage of labour lasted longer than three hours is unsafe for the foetus.

2.2.1 Management of the Second Stage of Labour

Midwives and obstetricians have an important obligation to protect lives and to provide competent healthcare to women during labour and birth, as is evident from the following quote;

“[a]s with all aspects of maternity care in accordance with a rights-based approach, the individual needs of the woman and her companion during the second stage of labour should be taken into consideration, tailoring care to an individual's needs while offering the highest quality, evidence-based care” (FIGO, 2012:112).

Monitoring maternal and foetal wellbeing is essential during the second stage of labour, but other physiological, psychological, emotional and social factors should also be managed. Department of Midwifery (2011) recommends labour support and encouragement, sufficient hydration, changing of position, specifically promoting upright postures, and ensuring an empty bladder. Effective communication plays an important role during the management of the second stage of labour, and health care providers should be sensitive to women's verbal and non-verbal communication, including expressed pain and discomfort (Department of Midwifery, 2011).

The Federation of International Gynaecologists and Obstetricians recommend the following:

- “During the second stage of labour, skilled attendants should:
- Continuously provide information, support, and encouragement to the woman and her companion.
- Encourage active pushing once the urge to bear down is present, with encouragement to adopt any position for pushing preferred by the woman, except lying supine which risks aortocaval compression and reduced uteroplacental perfusion.
- Listen frequently (every 5 minutes) to the foetal heart in between contractions to detect bradycardia.

- Check the maternal pulse and blood pressure, especially where there is a pre-existing problem of hypertension, severe anaemia, or cardiac disease.
- Observe progressive descent and rotation of the presenting part.
- This includes observing progressive distension of the perineum and visibility of the presenting part, and vaginal examination especially where progress appears to be slow.
- Conduct the delivery with support for the perineum to avoid tears, and use of episiotomy only where a tear is very likely.
- Be ready to augment contractions with an intravenous oxytocin infusion during the second stage where contractions have become infrequent and where the fetal heart rate remains normal, to avoid the need for instrumental vaginal delivery or transfer.
- Be ready to undertake instrumental vaginal delivery (vacuum or forceps) where indicated for fetal bradycardia or non-advanced of the presenting part” (FIGO, 2012:112).

Appropriate assessment of the second stage of labour is important before applying interventions such as the application of UFP should be applied. Dilatation of the cervix, presentation, station, moulding and caput of the foetus need to be determined as occasionally caput can be mistaken for station of the foetal head (National Institute for Health and Care Excellence [NICE], 2014:21). The application of UFP should not be applied if cephalopelvic disproportion is suspected as caesarean section is the appropriate intervention here, and UFP may cause impaction of the shoulders (NICE, 2014:21). It is critical to assess the progress of labour before performing UFP to minimise injuries that might occur especially in a situation where UFP is contra-indicated. Uterine fundal pressure should not be performed on any woman whose baby is presenting with occipito-posterior position as persistent occipito-posterior positions are related to complications; neither should UFP be applied where the foetus is diagnosed with 3+ caput succedaneum with or without moulding, as this could pose a threat to the foetus (Ponkey et al., 2003).

2.3 Women's Experiences During Second Stage of Labour

Dixon, Skinner and Foureur (2014:371) claim that there is very little research available on emotions experienced by women during labour and birth, because in a male dominated world women have been muzzled and deprived of an emotional voice throughout history. Moreover, no evidence could be found in the literature on how women experienced the application of fundal pressure during the second stage of labour, even though this method has been used over the last century.

The act of giving birth affects women emotionally, psychologically and physically, and leaves them with significant, life-long, vivid memories (Nieuwenhuijze et al., 2013:e109). A positive birthing experience enriches women's self-esteem and enhances their feelings of accomplishment, whilst a negative birth experience may have detrimental effects on the mother, her baby, their relationship, and her relationship with her partner (Nieuwenhuijze et al., 2013:e109). Effective communication has been shown to promote a positive experience of labour and reduces labour anxiety (Hennegan, Redshaw & Miller, 2014:97).

Redshaw et al. (2009:354) asserted that women's experience of pregnancy, labour and birth generally accompanied major physiological, psychological and social changes in their lives. Dixon et al. (2014:371) share this view and opine that the entire birth process, from labour through to delivery "is not just a physical entity but [is] also influenced by social, psychological, environmental, and cultural influences". Larkin et al. (2009) further state that women's birth experience during the second stage of labour is defined as an individual life event, combining interrelated subjective, psychological and physiological methods, which is influenced by social, environmental, organisational and policy situations.

Research shows that women described their birthing experience in terms of their emotions: while some women experienced a feeling of excitement at the onset of labour, others felt overwhelmed (Dixon et al., 2014:373). Some women felt that they were entering a "zone" of timelessness as the labour and birthing process intensified, whilst others reported a feeling of "letting go of control" and shutting off the external world (Dixon et al., 2014:371). Most women felt tired during the birthing process but, the moment the baby was born, they expressed a feeling of renewed strength and a return to a state of alertness and joy once they realised they now had a baby (Dixon et

al., 2014:374). Some women felt shock, disbelief or surprise at “how effectively their “body had worked and taken them through labour” (Dixon et al., 2014:371).

Green et al. (2003:753) asserted that one of the most common emotions experienced during pregnancy, labour and birth was worry, and cautioned that worry should be viewed as an emotion distinct from anxiety or fear of the birthing process. The reason is that society sees worry as a normal feature of everyday psychological wellbeing, whilst anxiety often carries a pathological, clinical label (Redshaw et al., 2009:355). Additionally, worry is predominantly a cognitive response to potential threats, activating positive stimuli to uphold the individual’s safety, whilst anxiety is a combination of cognitive, somatic, emotional, and behavioural components (Mortazavi & Akaberi, 2016). For instance, it is normal that worry embodies cognitive dimensions such as concern about foetal loss during the birthing process. Worry as an emotional experience during the birthing process may affect mechanisms such as the ability to cope with pain or discomfort, not being able to give birth normally, or simply being in pain for a long time (Redshaw et al, 2009:358). Lee, Dy and Azzam (2016: 850) asserted that women may experience fear, possibly of the unknown, or worry about things that may go wrong, and suggest that antenatal preparation may reduce fear.

Emotionally women prefer to feel in control of the birthing process as that enhances a “powerful, positive experience” (Dixon et al., 2014:374). Control has been shown to be a strong predictor of satisfaction of childbirth experience as well as physical and psychological well-being (Stevens, Wallston & Hamilton, 2011:21). Nieuwenhuijze et al. (2013: e109) have shown that some of the significant predictors that influence the sense of being in control of labour are: birthing expectations, pain during the second stage of labour, birthing posture and the use of interventions, antenatal preparation and women’s attitudes towards giving birth. The meaning of control during birth is complex and includes internal and external dimensions. An important consideration during childbirth is a woman’s empowerment: she needs to feel in control of herself and the birth process, in other words, “the empowerment of labouring women, not the management of childbirth by means of painkillers, interventions such as fundal pressure leads to satisfactory birth experiences” (Christiaens & Bracke, 2007). Feeling in control also means that women desire to be self-sufficient, confident of their own ability, and an integral part of the decision-making process during labour and birth (Nieuwenhuijze et al., 2013: e109). This feeling of empowerment or self-efficacy influences women’s satisfaction and birth experience and lowers the impact of pain

experienced during the second stage of labour (Christiaens & Bracke, 2007; Stevens et al., 2011:21).

Furthermore, Sapkota, Kobayashi and Takase (2011:427) stated that support from a partner also enhanced women's feelings of being in control. In their study, Sapkota et al. (2011:427) reported that the presence of a partner alleviated emotional distress in labouring women, the support made them feel cared for, encouraged their self-confidence, and improved communication during the birthing process. Women also reported that being supported by their partners improved their self-confidence and gave them inner strength to tolerate pain during the birthing process (Sapkota et al., 2011:427). Hodnett et al. (2013:1) have shown that continuous support during labour in addition to routine care has clinically significant benefits for women. Women who received continuous support during labour were more likely to have a spontaneous vaginal birth (Hodnett et al., 2013:1; Green & Hotelling, 2014:195). Chalmers and Dzakpasu (2015:374) assert that women's overall satisfaction with the labour and birth experience was significantly improved when they had spontaneous vaginal births and fewer intrapartum interventions.

2.3.1 Maternal Experience of Position and Bearing-Down Techniques

Nieuwenhuijze et al. (2013: e109) stated that freedom of movement and birthing position during the second stage of labour were related to self-control and a feeling of empowerment, which affected women's experiences. Ragnar et al. (2005:167) reported that when women gave birth in a kneeling position, they experienced less pain. Chang et al. (2011:829) reported that women who birthed in an upright position using an exhaling pushing technique experienced less pain and lower feelings of fatigue than women who used a supine position with a Valsalva pushing technique during the second stage of labour.

Lemos et al. (2017) in a Cochrane systematic review, reported that findings on whether spontaneous pushing or directed pushing coaching methods were better, were inconclusive concerning the duration of second stage and maternal and neonatal outcomes. The authors did not report on maternal experiences related to a chosen bearing down technique, but recommended that until "further high-quality studies [were] available, women should be encouraged to push and bear down according to their comfort and preference" (Lemos et al., 2017). Maternal bearing down techniques used during the second stage of labour contributed significantly to the spontaneous

expulsive force of the contracting uterus (Lemos et al., 2017). Bearing-down efforts are usually brief from four to six seconds, with infrequent or short periods of breath-holding (Hanson, 2009:31). Bearing down efforts increase in intensity and duration as the second stage progresses; however, there is no information to support a policy of directed maternal pushing (Simpson & James, 2005:150).

Generally, there are two types of bearing down techniques: closed-glottis (Valsalva) or open-glottis (slow exhalation) (Barasinski & Vendittelli, 2016). Closed-glottis involves a process of taking a deep breath and holding it, whilst bearing down, for approximately ten seconds. The woman is asked to try and keep the foetal head down whilst taking a short breath. This technique is repeated up to four or five times during a single contraction (Hanson, 2009:31; Borders et al., 2013). Open-glottis pushing involves exhaling whilst bearing down, relying on the pressure exerted on the abdomen by the diaphragm to assist in downward pressure (Barasinski & Vendittelli, 2016).

Several physiological findings oppose the use of the Valsalva manoeuvre (VM) as this type of directed pushing can negatively affect foetal outcome, Apgar scores, cerebral oxygenation and foetal hypoxia (Haseeb et al., 2014:105; Barasinski & Vendittelli, 2016:2). Simpson and James (2005:150) opined that maternal breath-holding resulted in maternal apnoea and negative maternal haemodynamic changes that could lead to decreased blood flow to the placenta and, ultimately, negative consequences for the foetus. The combination of involuntary intrauterine contractions and voluntary expulsive effort, may help to expedite delivery of the foetus (Beck & Huffman, 2015). Literature has highlighted adverse maternal and foetal effect associated with VM; yet, it remains common practice worldwide, most probably because there is little scientific evidence supporting slow-exhalation breathing control for the expulsive stage (Simpson & James, 2005:150).

The open-glottis method involves muscular mechanisms which are channelled towards the production of expulsive reflexes during slow-exhalation breathing. During the open-glottis technique, both the transverse and oblique muscles abdominal muscles are voluntarily contracted and thus constrict the uterus, thereby forcing the descent of the fundus of the uterus into the birth canal (Barasinski & Vendittelli, 2016). For the duration of the pushing activity, the woman is not holding her breath and her diaphragm is not subjected to high pressure (Barasinski & Vendittelli, 2016). Physiologically, the open-glottis method is the more natural option for women during the second stage of labour but very little has been written on maternal experience in relation to bearing

down techniques. Hanson (2009:31) suggests that there are benefits to allowing women to use their own control to implement a physiological bearing technique during the second stage of labour.

2.3.2 Maternal Experience and Pain During the Second Stage

Moayed and Davis (2013:5) state that in 1986 The International Association for the Study of Pain defined pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of tissue damage, or both”. Labour pain is an emotional experience and presents a psychological challenge for many labouring women (Labor & Maguire, 2008:12; Linton & Shaw, 2011:700; Jones et al., 2012:10). Women’s experiences of the severity of pain during the second stage of labour differ; whilst some women claim that they feel little pain, others find pain extremely disturbing and intolerable (Labor & Maguire, 2008:12; Jones et al., 2012:15). Rudra (2004:6) avers that pain experienced during labour occurs as a result of numerous physiological, psychological, and emotional composite interactions, whilst Labor and Maguire (2008:13) report that several factors affect women’s perception of pain and that the experience of labour pain is complex and subjective.

Charlton (2005:26) as well as Labor and Maguire (2008:13) claim that primiparous and multiparous women experience pain differently. Charlton (2005:36) further claims that fear, anxiety, attitude, age and education also play a role in how women experience labour pain. Linton and Shaw (2011:700) confirm that pain is an individual, emotional experience which is affected by psychological factors such as past experiences, beliefs about pain, fear, or anxiety. Despite labour pain being ranked as severe on a pain rating scale, the memory of labour pain is short-lived (Labor & Maguire, 2008:13).

Labor and Maguire (2008:14) believe that labour and birth pain have two components: the visceral component, occurring during both the first and second stages of labour, due mostly to the uterine contractions that cause the presenting part to descent; and a somatic component, which applies pressure to the cervix, causing stretching and distension as well as activation of the excitatory nociceptive afferents which innervate the endocervix (Nilsen et al., 2011:558). Due to the crossover of the roots at the level of the dorsal horn of the spinal cord the pain is usually poorly localised and dull and the labouring woman cannot pinpoint exactly where the pain is, although it is usually experienced in the lower abdomen, sacrum and back (Labor & Maguire, 2008:14).

Talbot (2012:317) acknowledges that pain during labour and birth is an individual experience affected by several physical and psycho-social factors. Women reported that pushing pain was different from that caused by labour contractions (Dixon et al., 2014:374). Pushing pain is a sharp, stinging, burning pain; some women felt that pushing pain was easier than labour contractions, while others felt that the pushing pain was worse than labour contractions (Dixon et al., 2014:374). Pushing pain is mainly somatic pain and “arises due to afferents that innervate the vaginal surface of the cervix, perineum, and vagina, and occurs as a result of stretching, distension, ischaemia, and injury (tearing or iatrogenic) of the pelvic floor, perineum, and vagina” (Labor & Maguire, 2008:12; Nilsen et al., 2011:558). During the expulsive phase of the second stage of labour, somatic pain is more intense “because of the distension and traction of the pelvic structures surrounding the vaginal cupula and the distension of the pelvic floor and perineum” (Nilsen et al., 2011:558).

2.3.3 Maternal Experiences of Care During the Second Stage of Labour

Disrespect, mistreatment, and abuse of women during childbirth in health facilities is of growing concern (Bohren et al., 2015; Sheferaw et al., 2017). Disrespect, mistreatment and abuse during childbirth can be defined as the “interactions or facility conditions that local consensus deem to be humiliating or undignified, and those interactions or conditions that are experienced as, or intended to be, humiliating or undignified” (Freedman & Kruk, 2014). Disrespect, mistreatment and abuse furthermore disempowers women and assists the use of violence against vulnerable during childbirth (Jewkes & Penn-Kekana, 2015).

Abuyi et al. (2015) reported that women experienced a feeling of humiliation during childbirth. Sheferaw et al. (2017) claim that abandonment or being left alone and verbal abuse are two of the most prevalent mistreatments that labouring women reported. Women also verbalised that they are seldom given the opportunity to choose an alternative position for delivery. There is no reason that any women should ever be left alone as many studies have shown that a birth companion improves clinical outcomes and women’s birthing experience (Hodnett et al, 2013). Ishola, Owolabi and Filippi (2017) assert that respectful care during labour and birth is a universal human right and people responsible for the wellbeing of women during childbirth should promote respectful care which will improve maternal and infant morbidity.

2.3.4 Women's Sense of Power in the Labour Experience

A satisfying childbirth experience is influenced by women's self-control, labour pain perception, expectations, and health care support (Gizzo et al., 2014:4). The possibility to change the position in labour might positively influence childbirth experience, and the good course and outcome of labour (Gizzo et al., 2014:4). For most primiparous women, childbirth was a new experience and therefore, was dependent on searching for knowledge before the onset of labour such as childbirth classes, internet use and childbirth preparation books (Dixon, 2013:15). These knowledge sources supported the women to have the sense of power during labour (Dixon, 2013:15). Therefore, women who were supported throughout their labour usually have a more positive recollection of their birth experience (Cook & Loomis, 2012:165).

2.3.5 The Role of Support During Labour

Support during labour has been viewed as beneficial, and as such described as crucial to women (Karlsdottir, Halldorsdottir & Lundgren, 2014:315). Birth companions provide physical, emotional and spiritual support to women during labour and delivery; and thus, have a positive impact on the women and improved birth outcomes (WHO, 2016:51). Women are allowed and encouraged to choose a companion to be present during labour and childbirth. For instance, the companion can be their mother, partners or peers (Karlsdottir et al., 2014:315). The companion is oriented in supporting the woman during labour and childbirth, and both the woman and the companion are encouraged to participate actively in the woman's care (WHO, 2016:51).

2.3.6 The Role of Oxytocin and Endorphins During the Second Stage of Labour

Oxytocin, a natural hormone produced by the body, has widespread effects on the brain and body (Buckley, 2015:148). Central oxytocin, when released into the maternal bloodstream, produces rhythmic uterine contractions and levels peak at birth through stimulation of stretch receptors in a woman's lower vagina as the baby descends (Buckley, 2015:148). Good levels of oxytocin will also protect against postpartum haemorrhage by ensuring good uterine contractions (Buckley, 2015:148).

Beta-endorphins are endogenous opioids that give analgesic and adaptive responses to stress and pain. Beta-endorphins also activate brain reward and pleasure centres, motivating and rewarding reproductive and social behaviours, and support immune

function, physical activity, and psychological well-being (Buckley, 2014:149). In labour, high levels will inhibit oxytocin release. Therefore, when pain or stress levels are very high, contractions will slow, thus, “rationing labour according to both physiological and psychological stress” (Buckley, 2014:150).

2.4 Pain Theories

Pain is an indicator of the nervous system’s automatic reaction to physical, emotional, mental or spiritual threats (Levine & Philips, 2012:3). Several theories have been postulated to try to explain the physiological basis and mechanisms underlying the perception of pain. Sadly, not one theory explains all the aspects of pain perception completely (Moayedi & Davis, 2013:5). Some of the most common pain theories are Intensive Theory, Specificity Theory, Strong’s Theory, Pattern Theory, Central Summation Theory, The Fourth Theory of Pain, Sensory Interaction Theory, Gate Control Theory and Biopsychosocial Model of Pain Theory. These theories explain and interpret pain, including labour pain (Moayedi & Davis, 2013:5). The four most influential pain theories are discussed in the next few paragraphs. Von Frey (1895) argued that dedicated pathways existed for the perception of pain and assert that the central principle of the Specificity Theory was that each somatosensory modality had a devoted pathway with a specific receptor and associated sensory fibre sensitive to one specific stimulus (Moayedi & Davis, 2013:5). A shortcoming of this theory is that it could not explain how psychological factors affected the perception of pain.

The Intensive Theory of Pain is an emotion that is elicited when a stimulus is stronger than usual and someone is subjected to repeated tactile stimulation, noting that repeated subthreshold stimulation or suprathreshold hyper-intensive stimulation could cause pain, but this theory has lost support in light of more recent research (Moayedi & Davis, 2013:8).

The Pattern Theory refuted many of the Intensive Theory’s findings, particularly with regard to specialised free nerve endings but held, instead, that certain patterns of neural activity occurred after intense stimulation. In other words, the nerve impulse pattern for pain is produced by intense stimulation of nonspecific receptors because it is believed that there are no fibres with specific end receptors (Moayidi & Davis, 2013:9). The theory held that bodily sensations resulted from a specific and particular pattern of neural firing and that the spatial and temporal profile of firing of the peripheral nerves determined the type and intensity of the stimulus (Moayidi & Davis, 2013:9).

Ronald Melzack and Patrick Wall proposed the Gate Control Theory in 1965, which is probably the most accepted theory of pain (Moayidi & Davis, 2013:9). This theory is based on the concept that there is a “gate” or control system situated in the dorsal horn of the spinal cord (Moayidi & Davis, 2013:10). Information concerning pain from all over the body must run through this gate before reaching the brain (Moayidi & Davis, 2013:10). The dorsal horn in the spinal cord controls the “traffic” and if the gate is open, pain is felt; conversely, when the gate is closed, less pain is experienced (Centre for Integrated Healthcare [CIH], 2013; Moayidi & Davis, 2013:10). The more open the gates, the greater the number of pain messages pass through to the brain, and the higher the level of pain one is likely to experience. If the gates are closed or if there are many different stimuli, fewer messages get through, causing less pain (Moayidi & Davis, 2013:10). By extension, rubbing an affected area so as to “close” the gate, will result in diminished pain (Wlassoff, 2014).

2.4.1 Pain Management during the second stage of labour

The experience of pushing pain is affected by behaviour, mood and cultural and genetic constitution (Nilsen, 2011:588). For example, some women expect to have a pain-free labour due to the availability of a variety of pain management methods (Sayers, 2011:10). There are different ways and techniques of managing pain during the second stage of labour which can be classified as non-pharmacological and pharmacological interventions.

Non-pharmacological interventions include:

- Water-birthing pool;
- Transcutaneous electrical nerve stimulation (TENS);
- Contemporary therapies (acupuncture/acupressure, aromatherapy, hypnosis, massage and relaxation);
- Position during second stage.

Pharmacological interventions include:

- Inhaled analgesia;
- Opioids and non-opioids;
- Epidural (including combined spinal epidural);
- Local analgesia.

The issue of pain relief and management is flexible and women should be evaluated independently as each woman perceives pain differently (FIGO, 2012:114).

2.5 Uterine Fundal Pressure Manoeuvre

Simpson and Knox (2001:65) as well as Moiety and Azzam (2014:947) describe the manoeuvre of UFP as a gentle downward manual pressure on the uppermost part of uterus at a 30° to 45° angle to the maternal spine. The applied pressure is often referred to as gentle, firm and steady pressure, but the degree of pressure is difficult to quantify (Leféber & Voorhoeve, 1998:27; Simpson & Knox, 2001:68). The reason for stipulating 30° to 45° degrees is to avoid maternal hypotension resulting from pressure exerted on the abdominal aorta (Simpson & Knox, 2001:66; Peyman, Shishegar & Abbasi, 2011:1930).

Buhimschi et al. (2002:524) performed a controlled study measuring intrauterine pressure (whilst external UFP was exerted) and concluded that the application of UFP contributed to overall bearing down efforts, and that the efficacy of the application of UFP varied from woman to woman: Factors such as the thickness of the myometrium and application of the VM also played a role in increasing uterine UFP during bearing down (Buhimschi et al., 2002:524).

Different techniques have been used to apply UFP, including:

- One hand
- Two hands;
- Fists;
- Forearm;
- A combination of above (Moiety & Azzam, 2014:947; Willmot, 2014) or
- An inflatable belt (Kang et al., 2009:952).

Uterine fundal pressure can be applied in conjunction with a stable pushing by adding steady and moderate pressure to the uterus during the second stage of labour, using one open hand, two hands, two fists or an elbow on the uterine fundus at an angle of 30° to 40° to the maternal spine pointing in the direction of birth canal, in order to support vaginal delivery through increasing the intrauterine strength (Merhi & Awonuga, 2005:602; Peyman et al., 2011:1930).

Uterine fundal pressure should be performed at the same time as the labouring woman is having a contraction in order to add to the pressure expelling the foetus (Merhi & Awonuga, 2005:602). To intensify the UFP, some health workers use two hands or two fists by sitting on the top of the bed and bending over the labouring woman while pushing on the fundus of the uterus (Willmot, 2014; Hofmeyr et al., 2017).

In a prospective, randomised, controlled trial, Kang et al. (2009:953) showed that women who had an inflatable obstetric belt applied to exert UFP during the second stage of labour showed a significant (0.001) decrease in the duration of their labour averaging 41.55 minutes as opposed to the group without the belt who averaged 62.11 minutes. The women who wore the inflatable belts were on continuous external monitoring for observation of foetal wellbeing and for early detection of any adverse effect (Kang et al., 2009:952).

2.5.1 Créde Manoeuvre vs Uterine Fundal Pressure

Créde manoeuvre is a technique which is used to void urine from the bladder especially from ill individual who cannot void by themselves; and remains a useful manoeuvre (Willihnganz, 2017:641). The manoeuvre is performed by exerting manual pressure on the abdomen at the location of the bladder especially in a paralysed bladder to facilitate the emptying of the bladder (Hargrove-Huttel & Colgrove, 2014:160; Willihnganz, 2017:641). While Créde manoeuvre maybe performed to push the urine out of the bladder (Willihnganz, 2017:641); UFP is the application of pressure on the uppermost part of the woman's abdomen in order to fasten or accelerate birth; often applied to reduce the duration of second stage when there is a prolonged second stage or when maternal efforts appear to be weak or when there are contra-indications for prolonged bearing down (Verheijen, Raven & Hofmeyr, 2009). For Créde manoeuvre to be effective when applying it, the abdominal wall must be relaxed, although long-term use of Créde manoeuvre may result into ureteral reflux (Cifu, 2016:436); while UFP may also results into perineal laceration, stress urinary incontinence, postpartum haemorrhage (Shimada & Suzuki, 2013:11; Moiety and Azzam, 2014:949; Acmaz et al., 2015:33).

2.6 History of UFP

The practice of UFP can be traced back to 1867 but has probably been practised for centuries by traditional birth attendants, midwives and other medical personnel (David, Antolic & Schäfer, 2005:1; Tukur et al., 2007:194). Uterine fundal pressure, also referred to as the Kristeller manoeuvre (KM), was first documented by a German obstetrician named Samuel Kristeller (Habek et al., 2008:183). He applied the manoeuvre in an attempt to increase the intra-abdominal pressure to aid weak uterine contractions (Habek et al., 2008:183). David et al. (2005:895) described Samuel Kristeller technique, in the application of UFP while assisting a Polish woman to deliver her infant thus:

“I continue to compress, each compression promotes the exit, the uterus becomes smaller and firmer. I push the compressions even closer together and work downwards, the uterus contracted excellently.”

2.7 Prevalence of UFP

In Kline-Kaye and Miller-Slade (1990:511) study conducted involving 74 nurse-midwives in the United States of America (USA) indicated that the global usage of UFP during the second stage of labour varies from 4.6% to 84%. A national hospital-based survey done between 2011 and 2012 in Brazil indicated that the occurrence of UFP in Brazil was 37% amongst low risk women (Leal et al., 2014:4). Shimada and Suzuki (2013:13) cross-sectional study reported a rate of 10% in Japan; whilst Matsuo et al. (2009:781) found a lower rate of 5.9% in Osaka, Japan. Furrer et al. (2015) reported an overall 10.5% in singleton term deliveries with cephalic presentations between the years 2004 – 2013 in Switzerland. Willmott (2014) report on the campaign data of 373 births, reported that in 2010, at least 26% of women received UFP during the second stage of labour in Spain.

An earlier study by Leféber and Voorhoeve (1998:26) claim that in African countries such as Kenya, Nigeria, Zambia, Zimbabwe and some places in Asia and Latin America, midwives usually massage and push the abdomens of women in labour in an attempt to facilitate the birth. In 2010, the Ministry of Health and Spanish Society of Gynaecology and Obstetrics (SEGO) campaigned against the use of UFP in Spanish hospitals on grounds that there was insufficient information to support or refute the practice (Willmott, 2014).

2.8 Indication for the use of UFP

The indication and scientific justification for the use of UFP is unclear and minimal evidence is attainable on the success and the safety for the mother, foetus, and the neonate (Merhi & Awonuga, 2005:601; Tukur et al., 2007:194; Acmaz et al., 2015:34). Uterine fundal pressure is applied to shorten the duration of the second stage of labour, especially where foetal distress is evident or where a cardiotocograph (CTG) recording prompts the medical attendant to suspect foetal hypoxia (Merhi & Awonuga, 2005:599; Habek et al., 2008:185; Hofmeyr et al., 2017). Authors have reported the application of UFP where the second stage of labour was delayed, whilst further studies reveal that UFP was applied to prevent a prolonged second stage (Moiety & Azzam, 2014:949).

Peyman et al. (2011:1931) conducted a prospective randomised controlled trial comparing the duration of second stage between nulliparous and multiparous among 2631 pregnant women in Iran. The application of UFP was a secondary outcome, although the trials reported a significant ($p=0.001$; CI; 20.9-25.1) reduction in the duration of second stage of labour for both primiparous (from 54 to 31 minutes) and multiparous women (from 18 to 7 minutes) when UFP was applied. Moiety and Azzam (2014:949) in a prospective, observational, comparative study involving 8097 women in labour between 37-42 gestational weeks with a singleton cephalic presentation reported a significant decrease ($p=0.0001$) in UFP in the second stage of labour in primiparous women (from 24.32 to 21.64 minutes); however, there was an insignificant ($p=0.077$) decrease among the multiparous women (from 15.03 to 14.81 minutes). In Api et al. (2009:323) prospective randomised controlled trial monitoring UFP as an intervention among 197 pregnant women between 37-42 gestational weeks in singleton cephalic presentations in Istanbul, Turkey, reported that the application of UFP shortened the second stage of labour from 23.1 min to 18.6 min in nulliparous women ($p=0.08$, CI; -0.534-9.55); however, the difference in duration (14.5 min to 13.9 minutes) in multiparous women was not significant ($p=0.617$; CI-2.827-4.007). Both Sartore et al. (2012:1137) and Furrer et al. (2015) demonstrated that UFP was applied to decrease the duration of the second stage of labour where this was prolonged.

Habek et al. (2008:185) asserted that midwives applied UFP to facilitate delivery when they perceived poor maternal bearing-down efforts. Simpson and Knox (2001:65) affirmed that UFP was frequently applied prior to the delivery of the foetal head and where maternal bearing-down efforts seems inadequate. Hence, Habek et al. (2008:185) as well as Hofmeyr et al. (2017) reasoned that secondary uterine inertia

was one of the indicators for UFP to assist in the vaginal birth when labour failed to progress. Conversely, Hofmeyr et al. (2017) argued that UFP should not be applied when the power of the uterine contractions had diminished, as this could result in maternal or foetal distress.

Studies have shown that body mass index (BMI) does not cause a significant increase in the need to use UFP, although women who gained 11.16 kg or more during pregnancy were at a greater risk to receive UFP during the second stage of labour (Matsuo et al., 2009:783; Sartore et al., 2012:1137). Acmaz et al. (2015:32) study reported insignificant ($p = 0.068$) difference in BMIs between women who received UFP and those who did not. Neonatal weight may be an indicator for the use of UFP. Results from retrospective studies have demonstrated that infants born to women who received UFP weighed slightly more than those who did not (Matsuo et al., 2009:784; Sartore et al., 2012:1137; Shamada & Suzuki, 2013:11). However, Acmaz et al. (2015:32) reported no difference between the birthweight of infants in women who had UFP applied and those who did not.

Uterine fundal pressure may be indicated for primiparous women, as Furrer et al. (2015) in a retrospective cohort study involving 9743 singleton deliveries with cephalic presentation reported that primiparous (81.8%) women were significantly ($p < 0.01$) more at risk in receiving UFP than multiparous women (18.2%). In a prospective observational study conducted by Moiety and Azzam (2014:948), indicated UFP shortens the duration of the second stage of labour, there was significant difference ($p = 0.001$) among primiparous women (90.8%) compared to the multiparous group (9.2%). Matsuo et al. (2009:783) in a retrospective study of 661 vaginal deliveries in Osaka Rosai Hospital, Japan, reported a significant increase in the use of UFP in primiparous women (76.9% vs 53.3%) ($p = 0.004$; Odds ratio; 2.92(CI=1.36-6.25)); and concluded that primiparity predisposed the risk of receiving UFP during the second stage of labour. Shimada and Suzuki (2013:11) also reported a higher rate of UFP among nulliparous women, highlighting that UFP was mostly associated with nulliparous women. In a prospective, randomised, controlled study, Acmaz et al (2015:32) showed a significant increase in the use of UFP in younger women and in the proportion of women who gave birth for the first time (56.6% vs 30%). Shimada and Suzuki (2013:11) study conducted on 6317 vertex singleton pregnant women in Japan, reported that maternal age (≥ 35 years) significantly ($p = 0.026$) and have the likelihood (Crude OR=1.21) of receiving UFP compared to women below the age of 35 years.

Health care providers apply UFP where there are no forceps or vacuum extractors to help labouring women (HAS, 2007; Habek et al., 2008:185). Although the application of UFP is not an alternative to instrumental delivery or a caesarean section, it may be useful when delivering an infant when vacuum or forceps are not available. A critical problem is that the application of UFP may lead to indecisiveness, delaying timeous referral of the labouring woman to a place where an instrumental delivery or caesarean section could save the life of the baby or limit complications with the birth (HAS, 2007; Habek et al., 2008:185).

Uterine fundal pressure is occasionally used for reasons other than to expedite the second stage of labour. These specific procedures include the application of UFP, together with “suprapubic pressure and McRoberts’ position to alleviate shoulder dystocia” (HAS, 2007:2). Uterine fundal pressure can assist in preventing a prolapsed cord where the station of the foetal head is high and artificial rupture of the membranes is required (AROM) (Simpson & Knox, 2001:65; Habek et al., 2008:185). In the case of a breech presentation, UFP is applied to release the trapped head; it can also be applied during caesarean sections to release the head, or in some cases, for placental expulsion (HAS, 2007:2).

2.9 Contra-indications of UFP

Untimely UFP is a major risk factor for the occurrence of foetal shoulder dystocia: it is contra-indicated when shoulder dystocia is identified, as the pressure will further impact on the shoulder (Simpson & Knox, 2001:65; Wei & Chen, 2006:171; Habek et al., 2008:185). Shoulder dystocia is associated with poor foetal expulsion and UFP should not be applied if shoulder dystocia is anticipated (Kallianidis, Smit & van Roosmalen, 2016:204). The use of UFP may increase the likelihood of brachial plexus stretching and may place unnecessary force on bony parts, resulting in neurological and orthopaedic injuries to the foetus (Simpson & Knox, 2001:65).

Matsuo et al. (2009:784) reported one case of shoulder dystocia in the group that received UFP compared with none in the non-UFP group. Moiety and Azzam (2014:949) reported a marginal significant increase in the shoulder dystocia ($p=0.579$) in multiparous women (0.55% vs 0.31%) to whom UFP was applied. The infants of primiparous women had a significant difference in the prevalence (0.89% vs 0.53%; $p=0.241$) of shoulder dystocia. Although shoulder dystocia is rare, Furrer et al. (2015)

reported its occurrence in both spontaneous and assisted vaginal deliveries when UFP was applied. Shimada and Suzuki (2013:11) noted two cases of shoulder dystocia in the group who did not receive UFP, whilst there was no evidence of shoulder dystocia amongst the UFP group. Habek et al. (2008:185) also noted vaginal delivery after a previous caesarean section.

2.10 Maternal Adverse Events of UFP

Considering the number of adverse events arising from the application of UFP during the second stage of labour recorded in literature, the routine use of UFP remains controversial as the safety of the procedure has not yet been established (Simpson & Knox, 2001:64; Merhi & Awonuga, 2005:602). Moiety and Azzam (2014:949) documented that women who received UFP were at a significantly higher risk ($p=0.001$) of having severe perineal lacerations (10.9%) than women who did not receive it UFP (7.2%). Similar findings were reported by Matsuo et al. (2009:784) indicating a significant increase of second degree perineal lacerations in women who had UFP (28.1% vs 3.7%) ($p<0.001$; Odds ratio; 3.33–18.3).

In Acmaz et al. (2015:33) prospective, randomised, controlled trial on the effect of UFP on maternal and infant outcomes, UFP increased cervical lacerations significantly (6.9% vs 1.4%) ($p=0.022$); although the findings did not demonstrate a significant difference ($p=0.435$) in vaginal lacerations (20.0% vs 16.4%) between the UFP group and the control group. Shimada and Suzuki (2013:11) also reported a significant ($p=0.022$) increase in cervical lacerations (5.2% vs 1.3%) amongst women exposed to UFP during the second stage of labour.

Episiotomies are most commonly given when women experience a prolonged second stage of labour (International Childbirth Education Association [ICEA], 2015). Api et al. (2009:323) in a randomised trial on the application of UFP, showed a trend in the increase of episiotomies in the UFP group but the difference between the two groups (59.5% vs 49.5%) was not significant. Acmaz et al. (2015:33) reported a significant increase of episiotomies in the group of women that received UFP (73.8%) as against 53.6% in the control group ($p<0.001$).

In de Leeuw et al. (2001:384) population-based observational study involving 284,783 vaginal deliveries in the Dutch National Obstetric Database argued that the application of UFP increased the risk of acquiring a third degree tear, reporting an incidence of

2.08% in third degree tears amongst women who received UFP. Shimada and Suzuki (2013:11) reported a significant difference of third and fourth degree perineal lacerations in women where UFP was performed (5.4% and 1.4%) respectively, compared with women who did not receive UFP (1.4% and 0.2%). Hofmeyr et al. (2017) showed in a systematic review that the use of UFP created an increased risk of anal sphincter damage. Contrastingly, Madendru et al. (2010:295) in a retrospective review based on 209 vaginal deliveries' record, showed no difference in perineal lacerations or episiotomies between women who received UFP and those who did not; neither did Furrer et al. (2015) report any significant difference in third and fourth degree perineal lacerations between women who delivered spontaneously (0.8%) and women who received UFP (1.4%) ($p=0.12$).

Research has confirmed that women who received UFP also experienced a greater need for an assisted delivery. Furrer et al. (2015) reported a significant increase between primiparous women who received UFP and an assisted delivery (85.3%), and multiparous women (14.7%). Women who received UFP had a significant increase in the application of vacuum extraction (41% vs 3.8%) ($p<0.001$; Odds ratio; 8.51 (CI=4.21–17.2)) during the second stage of labour (Matsuo et al., 2009:784). Forceps delivery showed a slight increase (3.96%) where manual pressure was applied compared with 1.85% where there was no application of UFP (Mahendru et al., 2010:295). Mahendru et al. (2010:295) further reported that 3.96% of women had vacuum assisted deliveries with UFP compared to 1.85% of those without UFP. Shimada and Suzuki (2013:11) reported a significant difference in vacuum assisted vaginal birth amongst women who received UFP (53.4%) and of those without UFP (5.1%) ($p<0.001$; Crude OR 22.2).

Uterine rupture is a rare obstetric emergency and a life-threatening event to both labouring women and their infants (Pan et al., 2002:1044). Uterine rupture may occur at the fundus as well as at the cervico-uterine isthmus during the application of UFP (Habek et al., 2008:183). Wei and Chen (2006:171) as well as Hofmeyr et al. (2017) stated that the application of UFP during the second stage of labour might have a potential risk and could lead to uterine rupture. Immediate care, such as using sonographic investigation, was therefore paramount in investigating possible uterine rupture after the application of UFP (Wei & Chen, 2006:171; Nahum, 2016).

Moiety and Azzam (2014:950) showed a significant increase in the occurrence of uterine rupture amongst multiparous women who received UFP (2.7% vs 0.5%)

($p=0.01$). Habek et al. (2008:183) also reported on five cases of uterine rupture after the application of UFP. Hasegawa et al. (2015:785) reported on six cases of uterine rupture associated with the application of UFP. Shimada and Suzuki (2013:11) in a retrospective study reported a significant increase of blood loss (more than 1 000 millilitres) in the group who received UFP (12.8%) compared with the non-UFP group (6.1%). Matsuo et al. (2009:784), on the other hand, did not show any difference in the estimated blood loss between women who received UFP and those who did not (10.3% vs 9.2%). In a case study reported by Tukur et al. (2007:1950), a 28-year-old gravida five, para four woman presented with a prolapsed uterus when healthcare givers applied UFP during the first stage of labour.

Ajobo et al. (2015:53) maintained that uterine inversion after the application of UFP was an unusual obstetric emergency and the reasons for uterine inversions were unclear. Profuse bleeding, absence of uterine fundus, as well as evidence of shock with severe hypotension were some of the visible signs of uterine inversion after the application of UFP during the second stage of labour (Hostetler & Bosworth, 2000:120). Although, uterine inversion occurs rarely during UFP, it is a dangerous complication as it can lead to severe haemorrhaging and shock, and possibly even maternal death (Gupta, Sahu & Huria, 2014; Leal et al., 2014).

Sartore et al. (2012:1137) found that there was no significant difference in stress urinary incontinence (SUI) when UFP was applied, with slightly more women in the control group suffering from SUI (10.8% vs 14.7%). Interesting though, Moiety and Azzam (2014:949) reported that significantly ($p=0.001$) more women (8.1% vs 4.5%) suffered from SUI six to twelve months after UFP had been applied.

Dyspareunia was also reported to be significantly more prevalent among women (10.4% vs 4.4%) ($p=0.013$) who had experienced UFP (Sartore et al., 2012:1136). Likewise, Moiety and Azzam (2014:949) reported a significant difference in dyspareunia between women who received UFP compared with those without UFP (15.3% vs 6.3%) ($p=xxx$). Sartore et al. (2012:1137) showed a greater incidence of perineal pain amongst women (6.1% vs 2.2%) ($p=0.05$) who received UFP during labour.

Kouritas et al. (2009) maintained that there were numerous complications that could arise from UFP manoeuvres: one of these is maternal rib fracture, described by Habek et al. (2008:184) as a unilateral rib fracture involving the tenth and eleventh ribs. Other

adverse events of UFP include persistent abdominal pain, respiratory distress and liver rupture (Simpson & Knox, 2001:66). Adverse effects are not limited to labouring women: healthcare professionals performing UFP have also experienced negative issues. Simpson and Knox (2001:65) reported incidents where midwives claimed workman's compensation because of back, shoulder and wrist injuries sustained after applying UFP.

2.11 Foetal and Neonatal Complications

In a study conducted by Furrer et al. (2015) involving 9743 women with singleton term deliveries and cephalic presentation in University Hospital of Zürich, Switzerland foetal acidosis (pH <7.2) significantly ($p < 0.001$) increased (31.5%) in the neonates of mothers who received UFP compared with neonates (15.1%) born to those who delivered without UFP. Shimada and Suzuki (2013:11) reported that significantly ($p < 0.001$) more infants were born with an umbilical arterial pH of <7.1 in women who received UFP (4.3%) than the control group (1.5%). Api et al. (2009:323) reported no significant difference ($p = 0.139$) in the mean umbilical arterial pH in infants whose mother were exposed to UFP or not. However, Api et al. (2009:323) study showed significant difference ($p = 0.001$) in umbilical pO_2 and pCO_2 , with a lower mean pO_2 in the UFP group (17.9 mmHg as against 22.15 mmHg in the control group) and a higher mean pCO_2 in the UFP group (53.20 mmHg) than the control group (47.24 mmHg). The authors suggested that this difference may be due to "umbilical cord compression or functional alterations in the placental intervillous space increasing risk of fetal hypoxemia and asphyxia" (Api et al., 2009:323).

More infants had Apgar scores of less than 7/10 at five and ten minutes after birth if their mothers received UFP during the second stage of labour (Furrer et al., 2015). Even though the reported differences are not significantly higher, poor Apgar scores raise concern, as there is an established link to birth asphyxia which is a causal pathway to cerebral palsy (Ellenberg & Nelson, 2012: 214). Peyman et al. (2011:1932) showed a significant ($p = 0.001$) increase in the proportion of infants born with Apgar scores below 7/10 at one minute in the UFP group (30.1% vs 1.9%). This difference remained significant after five minutes, where 6.2% of the infants in the UFP group returned an Apgar score of less than seven compared with 0.4% in the control group. Mahendru et al. (2010:295) found no Apgar scores below seven at one and five minutes, and there was also no difference in the Apgar scores between women who received UFP and those who did not. Similarly, Buhimschi et al. (2002:521) reported

that median Apgar score at 5 minutes of eight out of ten for infants whose mothers had received controlled UFP. Shimada and Suzuki (2013:11) found a significant difference in one-minute Apgar scores below 7/10 between women who had received UFP and those who had not (3.2% vs 1.0%), but not at five minutes with scores 0.2% vs 0.1%. Acmaz et al. (2015:32) showed no difference in the mean Apgar score at one and five minutes between the groups that received UFP and the control group. The literature is thus ambivalent and this call for large randomised studies to determine the effect of UFP on neonatal outcomes.

Traumatic unilateral adrenal haemorrhage was diagnosed in an infant after the labouring woman had received UFP (Habek et al., 2008:184). Hofmeyr et al. (2017) raised concern that the application of UFP could increase blood transfusion between mother and infant which could, in turn, transfer antibodies to the infant in the case of Rhesus factor incompatibility or increase the transmission risk of the human immunodeficiency virus (HIV), hepatitis B or any other viral disease. Shimada and Suzuki (2013:11) reported a significant ($p=0.0053$) increase in neonates admitted to the neonatal intensive care unit (NICU) from mothers who had received UFP. In contrast to Shimada and Suzuki (2013:11) findings, Matsuo et al. (2009:784) did not find an increase in neonatal admissions to the NICU when women had UFP applied during the second stage of labour.

2.12 Policies on UFP

Berghella, Baxter and Chauhan (2008:452) as well as Baba et al. (2016) caution against the routine use of UFP in managing the second stage of labour; and recommends that its use be studied in controlled environments to determine the safety and effectiveness of the procedure. Berghella et al. (2008:452) stated that insufficient evidence was available to implement the routine use of UFP; and women who had received UFP during the second stage of labour were less satisfied with their birthing experience.

Habek et al. (2008:185) stated that an obstetrician who decided to apply UFP, should do so strictly in line with a professional code of conduct. Moreover, UFP should only be applied with gentle pressure at the end of the second stage of labour simultaneously with a uterine contraction. Carrera (2007:279) advocated that UFP could be considered during the second stage of labour only when the foetal head was below the ischial spines and immediate delivery of the infant was imperative, e.g. in the presence

of foetal distress, or thick meconium stained liquor. Ali and Norwitz (2009:6) and Baba et al. (2016) stressed that the routine practice of UFP on women should not prevent the use of instrumental delivery or a caesarean section. HAS (2007) further emphasised that the routine use of UFP might delay a possible decision to perform an instrumental delivery or caesarean section.

Simpson and Knox (2001:65) highlighted that the Maryland State Board of Nursing [MSBON] (1999) and the Mississippi Board of Nursing [MBN] (2004) had published a declaratory statement cautioning nurses in Maryland against applying UFP during the second stage of labour. Simpson and Knox (2001:68) further stated that the MSBON (1999) recommends each institution's performance risk management review process should include the recording of procedures, such as UFP, applied during the second stage of labour. Hofmeyr et al. (2017) in a Cochrane systematic review concluded that there was insufficient evidence to conclude whether the benefits outweigh the harmful effects of manual UFP to the mother, foetus or neonate and suggested that there was an urgent need for good randomised clinical controlled trials to establish the safety and efficacy of the procedure in order to formulate appropriate guidelines. It is discernible that very few policies, guidelines or statements on the use of UFP during the second stage of labour could be found in the literature.

2.13 Summary Chapter Two

Chapter Two discussed maternal experiences during the second stage of labour and reviewed the history and prevalence of UFP. The indications, contra indications, and adverse events of UFP were also discussed. The use of UFP remains a controversial practice which helps to explain why only few guidelines on its application could be found in available literature.

Chapter Three

Research Methodology

3.1 Introduction

This chapter presents the philosophical assumptions, research strategy, methods and techniques which were used to achieve the research objectives of the study. The chapter describes the research design, the population, the sample and sampling technique, ethical considerations, the trustworthiness of the study, data collection and analysis.

3.2 Research Methodology

Research methodology and research methods are two terms which are often confused or used interchangeably, in the erroneous belief that they are the same thing (Kumar, 2008:4; McGregor & Murnane, 2010:420). Research methodology deals with the logic of the scientific enquiry so it is important to state the methodology clearly when planning to embark on research (Kumar, 2008:5; Grix, 2010:32; Brink, van der Walt & van Rensburg, 2012:2). Several authors demonstrated that research methodology encompassed research methods (McGregor & Murnane, 2010:420; Vagle, 2016:50). Research methodology is important as it frames the research questions that need to be asked, whilst research methods become the means through which research questions are answered (Delgado, 2006:163).

McGregor and Murnane (2010:420) explain that the word methodology is made up of two words which are: “*method*” and “*ology*”, the latter denoting a “branch of knowledge”; therefore, methodology is a branch of knowledge that is associated with the general principles or methods of creating new knowledge. Methodology forms the principal base on which natural, social or human science studies are built. Methodology deals with ways through which logic, reality and values influence research (McGregor & Murnane, 2010:420).

As an academic activity, research methodology is a scientific and systematic way to solve a research problem, so it focuses on the research flow and incorporates the kinds of tools and procedures to be used for data collection (Bhattacharyya, 2006:17; Supino,

2012:2; Rajasekar, Philominathan & Chinnathambi, 2013:5). Kumar (2008:5) states that researchers do not only need to know the tools and procedures used for data collection; they need to progress further and acquaint themselves with certain indices, such as how to calculate and apply the chosen research techniques most appropriate to the chosen design.

Wisker (2008:67) reported that research methodology was the foundation and logical basis essential to a particular study rather than a collection of methods. It is underpinned by epistemological and ontological assumptions, but the method itself is free from these assumptions and is guided by the research question, objectives or hypothesis (Grix, 2010:67). Kasi (2009:93), Wisker (2008:67) and Creswell (2014:45) holds an opposite view that research methods were simply tools that an investigator employed to collect data or information, and analyse and interpret the study findings. For this reason, the research methodology section not only reports on the research approach to answering the questions and objectives, but also gives a detailed explanation of the research strategy that was followed as well as the instruments that were used to gather the information (Wisker, 2008:66; Grix, 2010:31).

3.2.1 Ontology and Epistemology

Brink et al. (2012:24) termed paradigm as a “set of assumptions” about the basic kinds of entities in the world, how these entities worked together, and what the paramount means were for creating and testing these entities. All paradigms came from the researcher’s own ontological and epistemological background and therefore researchers needed to make these assumptions known (Scotland, 2012:9). Fundamentally, different paradigms have assumptions of reality and knowledge which support the particular research approach, as is apparent in the research methodology (Guba & Lincoln, 1994:109). It should be noted that any approach (quantitative, qualitative or mixed-method) is supported by a research paradigm about what exists or the nature of reality (ontology), values (axiology), and ways through which knowledge is acquired (epistemology) (Maxwell, 2011:10). It then follows that, methodology concerns itself with why, what, from where, when and how information or data is collected and analysed (Scotland, 2012:9).

Ontological Assumptions

Both qualitative and quantitative research are founded on the fundamental assumptions about what is “valid” and which research methods are best suited to respond to the research question (Nieuwenhuis, 2007:52). The fundamental assumptions are based on these four basic questions:

- What is the truth/reality (ontology)?
- What is the nature of phenomena (Objects)?
- How can we know (epistemology)?
- What is the relationship between the knower and the known? (Nieuwenhuis, 2007:52).

Ontology is primarily concerned with how women experience the application of UFP (Nieuwenhuis, 2007:53). Identification of ontology from the beginning of a research process is very important as it determines the choice of the research design (Ritchie & Lewis, 2003:1). The following ontological assumptions have been made:

- Uterine fundal pressure is a personal experience and every experience is unique;
- Exploring labouring women’s experience of the application of UFP will give greater insight into the experiences where UFP was applied.

This study uses interpretative phenomenology which seeks to explore and interpret the experiences of women who received UFP during the second stage of labour (Scotland, 2012:11; Thanh & Thanh, 2015:26).

Epistemology

Epistemology communicates how things can be known – how truths or facts can be discovered or disclosed if they exist (Nieuwenhuis, 2007:55). Therefore, epistemology looks at means through which one knows the reality - the method of knowing the nature of reality (Nieuwenhuis, 2007:55). Cohen, Manion and Morrison (2007:7) claim that epistemology is concerned with the nature and form of interpretations and meanings assigned to the lived experiences of the women who had UFP performed on them during the second stage of labour. Epistemological traditions are interested in how knowledge can be created, acquired and communicated, and what it means to know (Cohen et al., 2007:7; Scotland, 2012:9). Nieuwenhuis (2007:55) maintained that epistemology usually asked the question about what the nature of the relationship was

between the investigator and the participant and how the investigator assigned meaning to the phenomenon under study.

In this study, the investigator searches for the truth about the participant's experience through the application of interpretative phenomenological inquiry. The main reason for employing IPA in the study was to interpret and assign meaning to experiences of the participants (Pietkiewicz & Smith, 2014:8). Nieuwenhuis (2007:55) argues that because knowledge can be acquired by means of scientific methods, it then follows that reality is a continuously changing, dynamic process and therefore the experiences of women may be different between individuals. Moreover, because the event is situation-bound the same individual may report her experiences differently depending on the contextual situation and time.

3.3 Research Approach

Selection of the research approach is influenced by the nature of the study and how well the chosen approach will answer the research questions (Jackson, 2013:52). There are three main approaches to research, being the quantitative, qualitative and mixed methods (Creswell, 2014:32). Quantitative research requires participants to provide summarised numerical responses, and usually uses statistical procedures which allow the researchers to determine whether the variable under study is true for the population. These variables can also be measured with instruments and data obtained from statistical procedures, and presented using numbers (Hancock, Windridge & Ockleford, 2009:6; Creswell, 2014:32; Saunders, Lewis & Thornhill, 2016:168). Quantitative research focuses on calculations, because through them, comparisons between the study and control groups can be reduced to numbers (Saunders et al., 2016:275). The mixed method approach is a type of inquiry that combines elements from both qualitative and quantitative forms of research (Creswell, 2014:32).

The qualitative research approach requires participants to provide detailed explanations of the nature of the problems being studied (Anderson, 2010:2). It explores and seeks to understand the meaning people assign to a research problem and the process involved in developing an appropriate line of questioning, which is then narratively analysed and presented through emerging themes (Creswell, 2014:3). Myers (2009:8) believes that the qualitative approach was developed in the social sciences to enable researchers to study social and cultural phenomena.

3.4 Strategy of Inquiry (Design)

Literature describes several strategies of inquiry that can be used for qualitative research, some of which are ethnography, grounded theory, phenomenology (descriptive and interpretative), discourse analysis, conversation analysis, and content analysis, to mention but a few (Hancock et al., 2009:10; Pietkiewicz & Smith, 2014:2).

Phenomenology is an inductive qualitative research approach rooted in 20th century philosophical traditions which was a dominant influence in Europe philosophy during that period (Groenewald, 2004:3). Descriptive phenomenology was introduced by Edmund Husserl (1859-1938), whilst Martin Heidegger pioneered interpretive phenomenology (Polit & Beck, 2014:270; Pietkiewicz & Smith, 2014:8). Husserl's descriptive method involves a three-step approach which involves the following: (1) the assumption of a transcendental phenomenological attitude, (2) bringing to consciousness an example of the phenomenon to be explored; and (3) careful description of the essence that has been discovered (Giorgi, 2007:64). For Husserl, the main step in research was the first step which was to assume the transcendental attitude. Essentially this meant two things: performing the epoché (or "bracketing") and the reduction (Giorgi, 2007:64).

Husserl's descriptive phenomenology held that experience, as perceived by human consciousness, had value and should be an object of scientific study because human actions were influenced by what people perceived to be real (Lopez & Willis, 2004:727). In descriptive phenomenology, the investigator sets aside or brackets a preconceived opinion or personal knowledge about the phenomenon under investigation (Lopez & Willis, 2004:727; Reiners, 2012:1).

Abiding by the principles of bracketing and transcendental subjectivity (Smith et al., 2009:13) stipulates that the researcher have to be aware of allowing own knowledge, experiences and perceptions of the phenomenon to guard against the intrusion of these, so as to prevent bias. Therefore, each interview was analysed and described individually and conclusions and opinions drawn from it. The researcher was conscious of allowing her analysis to influence subsequent interviews and analysis.

Martin Heidegger (1889-1976) introduced interpretive phenomenology or hermeneutical phenomenology and refuted the concepts of saturation, bracketing, member checking and secondary analysis by a second person because each informant experienced the

phenomenon idealistically (Lopez & Willis, 2004:728; Brink et al., 2012:122; Polit & Beck, 2014:271). For Heidegger, enquiry into participants' experiences embraced hermeneutics: the study was not just a description but rather an interpretation of participants' experiences (Reiners, 2012:2; Pietkiewicz & Smith, 2014:9).

This study used a qualitative, interpretive, phenomenological research design to explore, describe and analyse the experiences of women regarding the application of UFP during the second stage of labour. According to Smith, Flowers & Larkin (2009:11) an IPA research design is characterised by the philosophical underpinnings of phenomenology, hermeneutics and idiography, and affords the all participants an opportunity to describe and interpret their experiences during the phenomenon under investigation. The women's' individual experiences of UFP during second stage of labour demonstrated the diverse experiences of the same phenomenon which are the reflective, interpretative and idiographic premises of IPA.

The researcher applied hermeneutics in the interpretation of participants' descriptions of their experiences as they tried to make sense of their exposure to UFP (Smith et al., 2009:3). The researcher was conscious the participants' own interpretation was not distorted. The researcher examined the transcripts trying to analyse data and interpreting participants' experiences of the UFP application during second stage of labour as each one perceived it. The researcher examined the transcript several times, each time discovering new meanings; thus, revealing the dynamic nature of hermeneutics.

In this study, the research guard against altering the participants' subjective experiences by describing the women's experiences with UFP during second stage of labour. To optimise the reflective process, the experiences were viewed at a deeper level, other than just face value. With this approach, it was necessary to probe responses, so as to understand the meanings attached to the phenomenon under investigation (Smith et al., 2009:33).

The principle of idiography warrants an in-depth analysis of the experiences of each woman provided by the small sample size. Given that idiography is concerned with the particular (Smith et al., 2009:29), the use of single-case studies and small sizes (Larkin, Watts & Clifton, 2006:103) in this case by applying IPA become relevant. Idiographically, each interview was transcribed and analysed independently. With this approach, the convergences and divergences of themes were identified without losing

the original meaning of each participant's description before moving on to the subsequent interviews (Smith et al., 2009:166). A phenomenological interpretative inquiry ensured that no assumptions were imposed on the informant's experience of UFP as the purpose was to give idiographic meaning of informants' experiences of UFP as opposed to the informants' perception (descriptive phenomenology) (Reiners, 2012; Pietkiewicz & Smith, 2014).

This method of analysis was in line with the interpretative phenomenological inquiry process as the researcher sought to gain in-depth knowledge of experiences of women who had had UFP applied during the second stage of labour. Grove, Burns and Gray (2013:23) as well as Polit and Beck (2014:271) believe that interpretive phenomenology seeks to explore and interpret which particular experiences and events have for an individual who experienced them.

3.5 Research Setting

A research setting refers to the place or location where the data are being collected for the study. In this study, data were collected from Duncan Village Day Hospital-Midwives' Obstetric Units (DVDHMOU). The DVDHMOU is situated at Frere Maternity Complex along Amalinda Road, in East London. East London is a city located on the southeast coast of South Africa in Buffalo City Metropolitan Municipality of the Eastern Cape Province (Frith, 2011).

Duncan Village Day Hospital-Midwives' Obstetric Units is a dedicated unit serving low risk patients and labouring women who are likely to have a normal vaginal delivery. Because it is a public facility that renders its services at no charge, it is used mainly by women falling into the low income category, who cannot afford the cost of private hospitals. The interviews were held in the post-natal ward and the operational manager's office, both of which were free from distractions and noise for the safety and quality of the audio recordings (Smith et al., 2009:63; Saunders et al., 2016:371).

3.6 Population, Sample, and Sampling Procedure

The target population were women who had UFP during second stage of labour. Sampling frame refers to the totality of people that are in the population from which the study sample was taken (Fowler 2009:20; Brink et al., 2012:132). Smith et al. (2009:51) suggested a sample size of three to six participants for the novice IPA

researcher, while Englander (2012:21) and Creswell (2014:239) recommended at least three to ten participants. A purposive sampling method was used to select three women who were admitted to the DVDHMOU during the research period and who met the inclusion criteria. A small sample size was chosen as it was important to get in-depth accounts from the women; and to allow for homogeneity in order to identify convergence and divergence in responses (Smith et al., 2009:3). Interpretative phenomenological analysis does not have a specific answer to the question of sample size because it concerns itself with the richness of a person's detailed account of experience (Smith et al., 2009:51). Furthermore, the small sample size enabled the researcher to conduct an in-depth interview and gain a proper understanding of the phenomenon rather than making general claims (Rohleder, 2012:186). Interpretative phenomenological analysis is more focused on in-depth analysis of cases than generalisations (Smith & Osborn, 2007:55). The three women provided a small sample size for the researcher to conduct a deep analysis.

Inclusion Criteria Include:

- Primigravidae;
- Full-term Singleton pregnancy with cephalic presentation;
- Women who had vaginal birth where UFP had been applied during the second stage of labour to assist spontaneous delivery of the infant;
- Women who could speak English language;
- Women at least 18 years old.

3.7 Research Instrument

Information collection tools vary depending on the chosen type of inquiry (design). The research instruments for using a phenomenological strategy of inquiry are usually semi-structured or unstructured in-depth interviews (Nieuwenhuis, 2007:87; Saunders et al., 2016:390). An open-ended interview takes the form of a conversation in which the investigator explores the views and opinions of the informants (Nieuwenhuis, 2007:87; Creswell, 2014:239). Semi-structured interviews require informants to answer certain predetermined questions and allows opportunity for probing and clarification of answers (Nieuwenhuis, 2007:87; Saunders et al., 2016:391). Hancock et al. (2007:16) as well as Smith and Osborn (2007:58) asserted that this form of interview should have open-ended questions which are guided by the interview schedule rather than by the conversation. Guiding questions should be included in the interview schedule to

ensure that all aspects necessary to respond to the research question are covered (Polit & Beck, 2014:290).

The use of an interview schedule was suitable for this study as the investigator sought a complete description of the experience that an informant had lived through; this could only be achieved through probing and clarification of answers (Englander, 2012:26; Nieuwenhuis, 2007:87). In the study, participants were asked one principal question, accompanied by several other probing questions (Saunders et al., 2016:391). The investigator collected data by means of an in-depth interview guide which was developed by the investigator and was approved by the ethical committee. This interview schedule served as a tool for obtaining more information on the women's experiences of the application of UFP. The participants spoke freely without interference about the phenomenon under study and external noise was minimised throughout the interview periods, giving the participants the opportunity to articulate their thoughts clearly (Smith & Osborn, 2007:57; McConnell-Henry et al., 2011:36).

The interview schedule was divided into two sections: Section A consisted of the participant's biographical data; and Section B comprised principal and supplementary, probing questions. In line with the procedural suggestions of advocates of IPA, participants were given an opportunity to review the questions in the interview schedule before the commencement of the interview (Smith et al., 2009:63). Additionally, the informed consent form explained the aim and objectives of the study in sufficient detail to ensure that participants were aware of what was expected of them during the interview session.

- The principal question was framed as: "Can you please share with me how you felt when the midwives pushed on your tummy to get the baby out"?

Smith et al. (2009:60) and McConnell-Henry et al. (2011:34) stressed the need to apply probing questions for deeper understanding by choosing questions that were open-ended rather than closed, which did not make assumptions about the participant's experiences and could not be construed as leading questions.

The investigator asked the following probing questions:

- Can you share with me the kind of thoughts that went through your mind when the midwives pushed on your tummy to get the baby out?

- What kind of experience did you had during the time the midwives were pushing on your tummy?
- Can you tell me what procedure(s) or rather what happened prior to when the midwives were pushing on your tummy?
- Can you share with me any issues that may have impacted on you or the baby?
- Can you share with me how you felt when the birth was over?
- Is there anything else you would like to tell me concerning the application of UFP during your birth?

McConnell-Henry et al. (2011:35) suggested that it was appropriate to conclude an interview with a broad question like “is there anything else you would like to add before we finish?” By asking informants this question, it signalled that the interview session was coming to an end and simultaneously brought the participant back to the present (McConnell-Henry et al., 2011:35).

3.8 Information Collection Process

Information was collected through individual face-to-face interviews and semi-structured interview guide. Interviews were conducted at the Operational manager’s office at DVDHMOU for privacy. Each interview session lasted between 30-45 minutes. To ensure a reciprocal trusting relationship, each interview was commenced by asking them about their babies before enquiring about their experiences of UFP during the second stage of labour. An audio tape was used to record the interviews, and a notepad was used to make notes of gestures such as smiles or other facial expressions. After each interview, the recorded interview was transferred onto a laptop and a file was opened for the interviewee, identified by a pseudonym. The interviews were transcribed verbatim as Word documents.

3.9 Trustworthiness

Trustworthiness covers the concepts of credibility, transferability, dependability and confirmability (Elo et al., 2014:1). There should be confidence in the truth or reality of the information (credibility); the information should be transferable to situations in a similar context, and other researchers should be able to be confirm the findings in the same setting and context (Shenton, 2004:69). Credibility and consistency were maintained throughout the study. Credibility of the findings was determined by taking the research findings to an independent coder for data validation. The independent

coder and the researcher discussed and verified the analysis. Transferability was ensured by keeping a thick data base that could be accessed, followed and used by others. Dependability was maintained by narrating a detailed description of the research design and the steps taken in data collection. For conformability, the researcher ensured that there was enough data to support the findings and conclusions. In this regards, audit trail was used to check the steps of the research process, as outlined by Lietz, Langer and Furman (2006:449) and Shenton (2004:72). The transcripts and steps applied in the data analysis were printed and hard copies kept in a box for future auditing and reference. An external person knowledgeable in IPA research was requested to cross-check the research process.

3.10 Pilot study

van Teijlingen and Hundley (2002) state that a pilot study is a small version of a full-scale study, as well as opportunity to pre-test a specific research instrument, such as a questionnaire or interview schedule. A pilot study was initiated to enable the researcher to acquaint herself with the process of interviewing (van Teijlingen & Hundley, 2002). The researcher sought out one participant from DVDHMOU for the pilot study in order to determine the appropriateness of the interview schedule; careful attention to this study allow the researcher to develop listening skills as well as interviewing techniques, and to ask probing questions (Thabane et al., 2015).

The pilot interview was recorded, interpreted, and analysed, which provided the opportunity to understand the principles of applying IPA and software package designed for it (Hancock et al., 2007:27). Changes were made to primary questions and probing questions were refined to ensure that no leading questions were asked to the participants. Practical lessons learned from the pilot study included attentive listening, which in turn allowed informants to express themselves freely without fear of interference. The interview lasted for 27 minutes and 21 seconds and was then transferred to the researcher's laptop. The researcher listened to the interview thrice. The interview was transcribed verbatim and data was analysed following the five steps of interpretative phenomenological analysis (Smith et al., 2009:82). The pilot study was not included in the final sample.

3.11 Ethical considerations

Research ethics embraces a set of acceptable norms, rules, and regulations which are crucial to the research process (Neuman, 2014:452), and govern the relationship between researchers and the study objects. As stated by Neuman (2014:452), certain professional bodies have decreed that ethics should cover issues such as collective relationships among researchers, mentoring relationships, intellectual property, fabrication of data and plagiarism. During the study, the investigator studiously avoided unethical practices which would have affected the trustworthiness and reliability of this study.

Ethical approval and permission to conduct interviews were sought from the Ethical Committee of the University of Fort Hare (Appendix A). Permission to conduct the study was sought from the Eastern Cape Research Committee and Buffalo City Metro Health District; such permission was granted on the provision that the investigator submitted a copy of her South African Nursing Council (SANC) receipt to sub-district office before data collection (Appendix B).

The participants were informed of the right to refuse to participate and to withdraw from the study at any given time without any prejudice or penalty. The nature and aim of the study was explained to the participants, prior to data collection. Prior to the interview, each informant completed an informed consent form with a clear explanation (Appendix C). The participants had the right to ask any question(s) during and after the interviews.

The participants' right to privacy was upheld and all information and responses received were treated as confidential; all tape recordings were deleted after analysis, as promised. The ethical issues considered included informed consent, autonomy, confidentiality, counselling, freedom and privacy (Grove et al., 2013:76).

Finally, sources cited in the research were acknowledged in order to avoid plagiarism or other unethical practices in the research process. Informants did not receive transcripts of their interviews but they were notified that they could contact the principal investigator one year later when the results were made available to the public. In accordance with informants' rights to privacy and confidentiality, no names appeared in the manuscript that could link them to the study; and the interview was assumed not to cause any harm. The original data sheets will only be accessible to the researcher and research supervisors and all data obtained will be password protected. Both the original

data sheets and electronic data will be destroyed following publication or three years after collection.

3.12 Capturing of Information

Interpretative phenomenological analysis is one of the approaches frequently employed to analyse research findings within the qualitative research approach and is usually presented in narrative form (Pietkiewicz & Smith, 2014:2). Interviews were recorded and notes taken during the interviews, whilst the interviewer ensured that she kept a reflective diary to take notes during the sessions. On completion of the interview, the recordings were transcribed and information was coded according to themes that arose in the interview (Guest, MacQueen & Namey, 2012:161). The audio recordings provided a detailed and verbatim account which allowed the investigator to use informants' own words when analysing data (Hennink, 2014:85; Nieuwenhuis, 2007:92). Themes and patterns were put into context and results were presented in detailed narratives (Guest et al., 2012:161).

Reid, Flowers and Larkin (2005:20) maintained that IPA is primarily concerned with the participants' experience at an idiographic level. In other words, IPA researchers are particularly interested in the individual's understanding of the happenings; the investigator is therefore trying to make sense of the informants' personal experiences (Smith & Osborn, 2007:53). Interpretative phenomenological analysis employs a qualitative research approach which is different from the quantitative approach methodology; the latter focuses on the applicability of general laws in response to individual's health facts. Hence, Smith, Jarman and Osborn (1999:218) state that the aim of IPA is to elicit in detail the informant's view of the topic under investigation. Interpretative phenomenological analysis concerns itself with detailed interpretation, and what is happening to participants. In this regards, IPA is idiographic (particular) and that the investigator is required to examine each person's interview individually and separately (hermeneutics) (Reid et al., 2005:20).

The interviewer listened to the audio recordings several times to ensure that she understood fully what had been said by the informants before transcribing the interviews using Microsoft Word Processor. The transcription of the communications covered the entire interview, including verbal and non-verbal utterances words, periods of silence, and any other sounds made. The completed transcription was then imported into ATLAS.Ti version 7.5.9, a qualitative scientific software programme used

for coding. Each interview was analysed separately after completion. Once all the interviews had been analysed and coded, connections were made between themes arising from the individual cases (Smith & Osborn, 2007:70). Interpretative phenomenological analysis furnished one with flexible guidelines, which allows alignment with the research objectives mentioned in Chapter One (Pietkiewicz & Smith, 2014:11).

3.13 Data Analysis

In the process of data analysis, the researcher immersed herself in each transcript, in order to make sense of each participant's experiences and to gain a sense of what the participant had experienced during UFP application. The following six steps were used during the analysis of the transcripts as outlined by Smith et al. (2009:79):

- Step 1: Reading and re-reading
- Step 2: Initial noting
- Step 3: Developing emergent themes
- Step 4: Searching for connections across the emergent themes
- Step 5: Moving to the next case
- Step 6: Looking for patterns across cases

3.13.1 Reading and Re-reading

The principal phase of IPA included immersing oneself in the data collected by listening and re-listening to the raw data (Smith et al., 2009:83). The researcher listens to the interview many times, and this affords her the opportunity to categorise the pertinent observations from the recordings (Smith et al., 2009:82). The initial transcript recorded everything, including noticeable mumbling, laughs, silence, and emotional expressions. The transcript which was then typed, read and re-read in conjunction with the recorded data to ensure that raw data and transcript matched exactly (Smith et al., 2009:82; Pietkiewicz & Smith, 2014:12). Any parts of the transcription that did not make sense were clarified by moving back and forth on the recording.

3.13.2 Initial Noting

Initial noting is the analysis of the content's meaning and language at the exploratory level and involves the application of descriptive, linguistic and conceptual comments to every line or phrase (Smith et al., 2009:83). There are no general rules or requirements on how comments should be made; for instance, the investigator divided the text into meaningful units and commented on each unit (Smith & Osborn, 2007:67). Descriptive comments were recorded exactly as verbalised by the informant, whilst linguistic comments focused on the particular use of language by participants, such as repetition, emotion or use of jargon, which stressed the importance of the event (Smith et al., 2009:80). Descriptive comments were mostly based on women terminology, which relates to the procedures undertaken for the application of UFP during second stage of labour. The emotions that the women experienced and the language used during the interviews gave meaning to the comments. Conceptual comments were based on the overt meaning that the women gave to their experiences. The conceptual comments required intense involvement with the text as the researcher tried not to lose the meaning of the participant's own experience. Table 3.1 displays an example of the transcript, with exploratory comments:

Table 3.1: Sample transcript of the interview for initial comments

Original Transcript	Exploratory Comments
1. I: I hear you talked about pain? And that you felt pain, how was the pain?	
2. R: Yhooo!!! It was so strong. I don't know how to say it, I cannot even describe how painful it was when I was pressed on my tummy, I couldn't breathe well, but I had to be strong and keeping pushing when the midwives asked me to.	Finding it difficult to describe how she felt. Pain was indescribable (Conceptual).
3. I: I hear you mentioned that the pain you felt you cannot describe it, tell me which pain was stronger, the pain from the contraction or when the midwives pushed on your tummy?	
4. R: Mhhh!! Both are strong but I think when they pushed on my tummy, the pain was stronger and I could not breathe well. it was very very painful, especially when they are pushing on my tummy	Trying to differentiate UFP pain from contraction pain. Repetitive use of 'very' may indicate how painful she felt UFP application (Descriptive).
5. I: When the midwives pushed on your tummy, what goes through your mind, what were you thinking?	
6. R: My Baby, I was thinking about my baby throughout because what if something happens to her, that will be my fault because I was not pushing well, that's what the midwives told me, they say that I should push hard, do you know sisi, I even requested for an operation.	Worrying about the outcome (Descriptive) Taking blame for what was going on (Descriptive). Opted for alternative solution (Descriptive).

7. I: I hear you mention about wanting to have operation, why will you request for an operation?	
8. R: I requested for operation because of the pain I was feeling, it was burning. Then with all that pain, the midwives said that I was not pushing well, yhooh! Sister told me that because I was pushing before the time, that is why I do not have energy to push now hard now, I was afraid. Then the sister then push me so hard on my tummy.	Wanting for alternative because she was terrified about the outcome. Blaming self for poor maternal effort. (Descriptive).
9. I: Did the midwives told you why they pushed on your tummy?	
10. R: Mmhhh!! Not really, the sisters now see that I was not pushing well, then one sister climbed on the bed and pushed on my tummy, yhooh!!! It was painful.	Not sure why she was pushed on the tummy. UFP application was painful (Descriptive)

3.13.3 Developing Emergent Themes

The third step during analysis and interpretation was developing emergent themes. Here, the researcher made sense of each participant's experiences. Using a three-sectioned Word document and the left margin to jot down emerging themes, the researcher tried to interpret the exploratory comments, paying no attention to the original transcript; recognising that the interpretation of the exploratory comments is not the polar opposite of the original transcript. This mirrors the principle of hermeneutics IPA. From the three transcripts, a total of 384 emergent themes were developed. The completed transcription was then imported into ATLAS.Ti version 7.5.9, was used to show the interrelationships and network of emergent themes of each transcript (Smith et al., 2009:91).

3.13.4 Searching for Connections Across Themes

This stage involved drawing connections between emerging themes within the transcript and putting them together with a descriptive label (Pietkiewicz & Smith, 2014:12). The investigator gathered the themes together and looked for the connections and clusters into which some of the themes would fall (Pietkiewicz & Smith, 2014:12). To identify connections between themes, the font for themes was increased to 48, and each was cut out as a clipping. The clippings were pasted onto an A4-sized sheet of paper, arranged according to their similarities. This process involves pasting, removing and re-pasting in a bid to establish correct ordinate connections between themes. Likewise, abstraction was applied to cluster themes, as each superordinate theme was identified. The superordinate themes were mostly linked to the research objectives; while some differences were identified in other

clusters, signifying polarization. Also, numeration was noted as certain words were repeated by participants. Below is the diagram showing clusters of one interview.

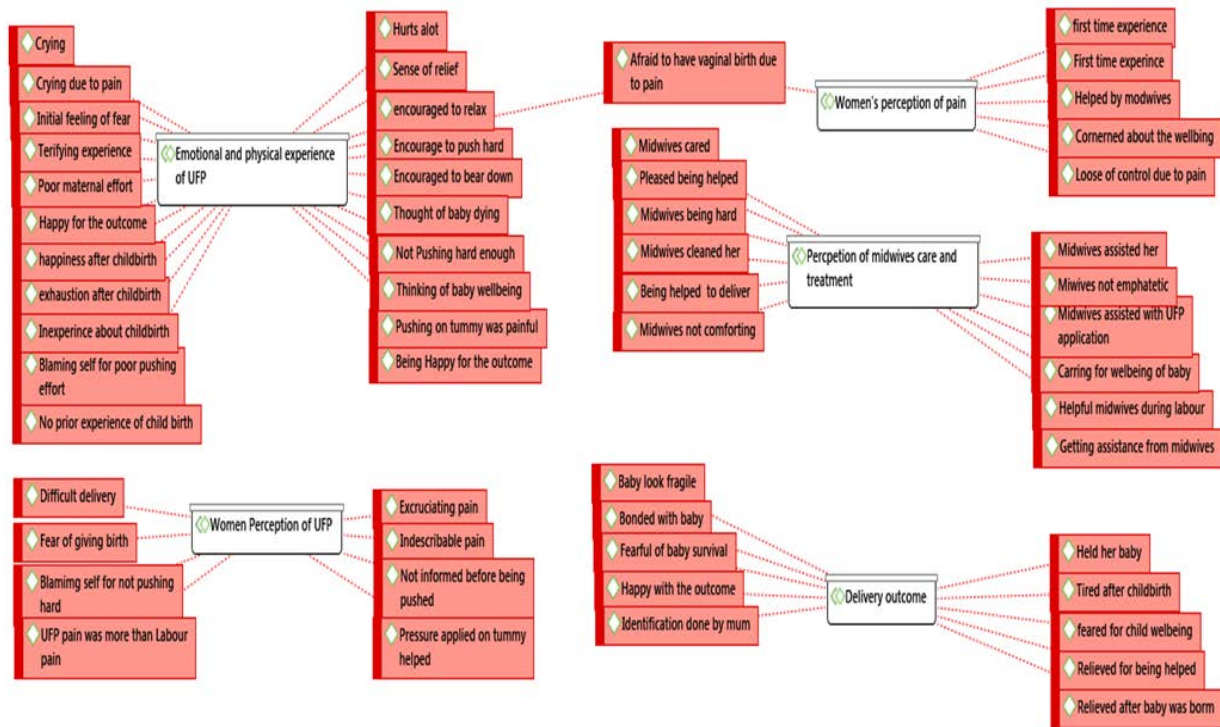


Figure 3.1: Clustering of emergent themes

3.13.5 Moving to the next case

This stage involved moving to the next participant's case, following the same steps from step one to step four. Each interview was transcribed and analysed separately to allow new themes to emerge, in line with idiosyncrasies peculiar to IPA (Smith et al., 2009:100). Being conscious of her own experience with the subject matter that could potentially influence her analysis, the researcher tried to bracket all knowledge and opinions relating to the research project. Each interview was analysed separately, and treated on its own merit and regarded as first time information.

3.13.6 Looking for Patterns Across Cases

This was the final stage in identifying the patterns across the cases. The themes of the three participants were clustered together to identify for commonalities, differences and idiosyncrasies. Common themes and idiosyncrasies among the participants were noted. The process entails going back and forth between transcripts, labelling and re-labelling themes and superordinate themes. An Excel spreadsheet was used to show

the superordinate themes across all participants. Chapter Four presents the detailed description of the superordinate themes.

Chapter Four

Findings, Interpretations and Discussion

4.1 Introduction

Chapter four presents the women's experiences of UFP during second stage of labour. The data derived from the in-depth interviews of three women were analysed and all identifying information removed and pseudonyms used to protect the confidentiality of the informants. The three participants were referred to as Anna, Betty and Carol (not their real name). The obtained data was subjected to content and thematic analysis. Four main themes emerged from the analysis, which are: perceived severity of UFP pain, emotional/physical reaction to UFP pain, perceptions of UFP and perception of midwives care and treatment. The thematic representation of the analysis, as presented in Figure 4.1, shows the emerging themes and sub-themes from the in-depth interviews. Women's experiences of UFP and their narration of the events indicate emotional experience of anguish and pain, which leads to physical expressions and ending in a positive expression of relief and joy of child birth.

These themes are interlinked and are discussed in this chapter.

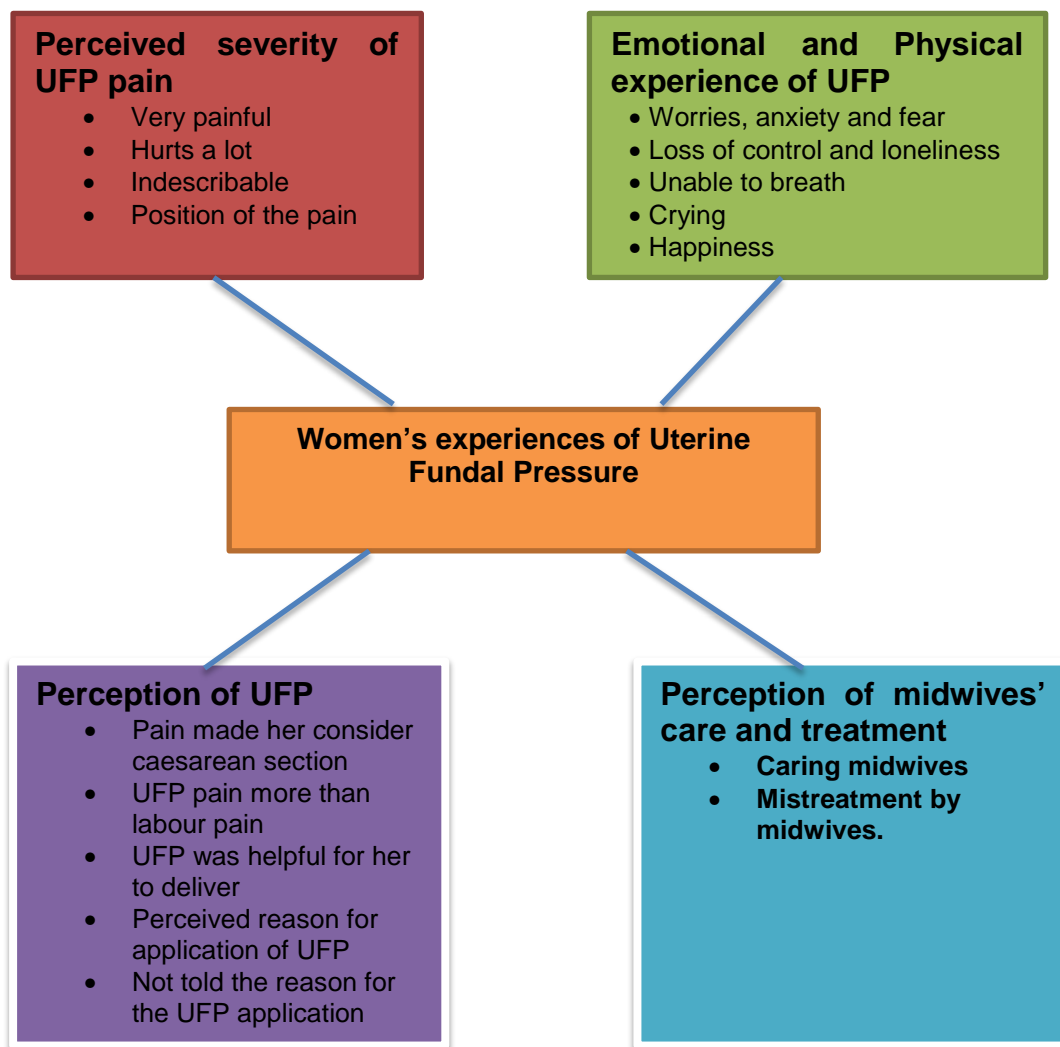


Figure 4.1: Themes, Subordinate Themes and Clusters

4.2 Perceived severity of UFP pain

The first emerging theme from the analysis is perceived severity of UFP pain. This theme is discussed under two main sub-themes as follows.

4.2.1 Painful and hurts a lot

Women who experienced UFP at the second stage of labour were asked to describe their experience and the responses indicate that UFP is associated with deep pain. All participants intimated that the pain from UFP was hurtful. The narratives of Betty supports this view:

"...I felt more pain when they [midwives] pushed on my tummy. It was very, very painful, especially when they were pushing on my tummy. When they pushed on my

tummy, the pain was stronger...then she midwife climbed on the bed and pushed on my tummy, yhoohoo! It was painful... [Betty]

4.2.2 Indescribable pain

The pain associated with UFP was indescribable. By indescribable, participants simply mean that they have never experienced anything related or similar to such pain, as such, it is incomprehensible for them to even put it into words. This is consistent with Shimada and Suzuki (2013:11) who maintained that women who experienced the application of UFP are not only exposed to abdominal discomfort and perineal lacerations but to a more severe pain, which sometimes may be difficult to describe its severity, hence they generalise the pain. When asked to describe the pain Carol replied:

“yhoohoo!!! It was so strong, i don’t know how to describe it.” (Carol).

Participants maintained that UFP pain was excruciating. The informants felt that the application of UFP increased their pain during the second stage of labour. They indicated that the pain during the application of UFP was “intense” and “unbearable” when the midwives pushed on their tummy.

4.2.3 UFP pain position

Participants were asked to describe where they felt the pain and their responses indicated that it was a “general body pain experience” - an experienced of pain all over a person’s body. Specifically, they expressed having abdominal pain. Women also indicated a feeling of discomfort associated with UFP application. In describing the position of UFP pain, Betty stated:

“Not really, I was feeling the pain at my back under the lower abdominal and under my tummy. The type of pain I received during UFP is so such that I cannot explain how I felt because the pain was all over and was very painful”. [Betty]

Carol was even more specific by pointing towards her back, legs and stomach. She stated:

“I felt the pain under my stomach and at my back and even on my leg; it was so painful after I was pushed on my tummy.” [Carol]

Yet, Anna believed that the labour pain was worsened by the application of UFP. To Anna, the experience was an excruciating, and lingering all over her body:

"...The pain I felt when I was giving birth was such an excruciating one, the pain was so much that it radiate from my back, to my waist and all over my body. The pain became worse when the midwife pushed me on my tummy. I could not hold back the pain than to cry on top of my voice ...I almost fought with the nurse pushing on top of my tummy".
[Anna]

4.3 Emotional/physical reactions to UFP pain

The second theme emanating from the analysis is emotional and physical reactions to UFP pain. Aside the experience of pain, the researcher was interested in the "state of mind" of the women during the second stage of labour, especially when UFP was applied. The theme is discussed on emerging sub-themes as follows.

4.3.1 Fear, worry and anxiety

The feelings and reactions to UFP pain are described under this theme. In describing their experiences about the UFP application during second stage of labour, the women described their emotional state of mind. They described their emotional state of mind as being in an ecstasy of "fear", "worry" and "anxiety". They were anxious about the UFP process and what the experience would look; and what might happened to their infant. The responses of Betty and Carol explain women's state of mind during the application of UFP:

"I was worried about my baby...I keep thinking about my baby and was saying in my mind 'God please save my baby'...I was thinking if my baby is alive or not...I was worried ...since the nurse told me that I was pushing before the time. I don't want anything to happen to my baby...what I want was for the baby to be ok."[Betty]

"I was thinking of my child, the baby...maybe you know, maybe if my baby wasn't going to be alive...If she is going to die or be alive...I have not done this before, so I was worried about how I was going to do to push because I have no idea about pushing baby out; so that was my worry...I was thinking...is my baby going to be alive or not because I have not done that before and I have no idea about how the baby is coming out." [Carol]

The anxiety about the condition of the baby may not necessarily be as a result of the UFP application but rather from their guilt feeling about their inability to push, which they think could have jeopardised the health of their babies. All the women blamed themselves for their inability to push further, which warrants the application of UFP. The response of Carol emphasise this:

“It hurt a lot and that makes me so fearful. The fear was about my baby and myself because I don’t know if my baby was fine, I mean if my baby is going to be fine.” [Carol]

By encouraging women to push, midwives were simply ensuring that women have safe delivery. However, by stating that “you are going to kill your baby if you don’t push hard”, implies midwives might have unintentionally heightened their anxiety. Thus, their expression of a deep state of emotional anxiety. This view is corroborated by the response of Anna:

“The nurses keep saying push sisi! push, you are going to kill your baby if you don’t push, by then i was tired but I keep pushing and the nurses keep saying push, push harder sisi, you are not pushing. And by then I was worried about my baby.” [Anna]

Beyond the anxiety about the condition of their babies, women were also worried about their own conditions. They felt UFP cause them not to breathe well during the application of UFP. This is corroborated by the response of Anna:

“I think when they pushed on my tummy, the pain was stronger and I could not breathe well.” [Anna]

4.3.2 Crying

In addition to fear and anxiety women experienced during the application of UFP, other emotional reaction to the pain was crying. The women revealed that they had cried during UFP because of pain.

“I was also crying too...It was painful and I was crying...” [Anna].

“I cried...because is my first time I even cried,” [Betty].

“I was crying, oh it was painful...I was crying and they [midwives] said I must not cry, I must close my mouth and it was difficult because I wanted to cry, and they said I must close my mouth.” [Carol].

4.3.3 Control and Loneliness

Some women may perceive the loss of control during childbirth as an important factor which may later lead to postnatal depression (Westall & Liamputtong, 2011:54). The loss of control is said to be related to being left alone during labour as well as to a lack of information on the progress of labour. Women want to be looked after during labour, and want to be informed about their progress (Westall & Liamputtong, 2011:54). All informants in this study expressed the desire of being looked at during the process of UFP. To them, the feeling of pain and someone being around to communicate the pain to, itself, is fulfilling and can ease the tension and nervousness surrounding labour pain during UFP application. They advocated for championship during the process. They maintained:

"I couldn't control the pain and couldn't breathe...." [Anna]

"I was alone and that make me felt very scared. I also felt being neglected during UFP experience. The midwifery nurses would only casually come around to give me instructions to push. I was crying. I wish any of my family members would have be standing by me, and holding my hand. This never happened. I was like the whole world is closing on me."[Betty].

4.3.4 Happiness

Although painful and worrying, all informants expressed happiness after the birth of their babies despite the UFP pain. They maintained that they have forgotten the distressful situation and that their pain has all gone. They felt a feeling of joy, happiness and accomplishment. This was expressed thus:

"Yhooo mam, I felt relieved that finally my baby was out." [Anna].

"I feel better and happy when I delivered the baby...happy, I feel happy...they [Midwives] showed to me and said, "Sisi, see the sex," then they take the baby out. I am happy because they said that my baby was fine." [Betty].

"I was happy and tired but by the time the doctor cleaned me. I was fine. I felt so happy, mam, because there was that feeling I had holding my child. I was filled with joy." [Carol].

4.4 Perceptions of UFP application

The researcher probed participants on their perspective on UFP application during second stage of labour. This was done in order to understand women's opinion about UFP, to test their comprehension of the process and their views on why UFP was applied. Even though all participants maintained that they were not asked for permission before applying UFP nor pre-informed about UFP, they were all satisfied with UFP application. Generally, all women affirmed that the application of UFP was crucial for them being able to deliver their babies. In other words, they believed that without the application UFP, something wrong would have happened to their babies. Put differently, they all have positive perception of UFP, despite the excruciating pain associated with UFP. In explaining how helpful UFP was, Anna stated:

"No I was not asked permission nor told about UFP, they saw that I was struggling with pushing then they helped me." [Anna].

Even though UFP is associated with pain as explained by the women, their general feeling about UFP application was that it was very helpful and brought relief. Some women even believed that the UFP was less painful compared to them pushing alone. This view is corroborated by Anna's response:

"I feel relieved mam when they helped me. I didn't feel the pain like the time I was pushing on myself and when they helped me, I feel better, ya I feel better. The pain when I was pushing by myself, it was hard, and I can't push on my own self and then they helped me at the time, it was much better because they were pressing on my tummy and it becomes so easy when they were doing that." [Anna].

In contrast, others believed that UFP pain was more painful compared to second stage labour pain; and both pains were severe, however, the inability to breathe normally as a result of UFP application is the main distinguishing factor between UFP pain and second stage labour pain. The inability to breathe, they believed, further exacerbated the pain they were experiencing. Betty and Carol described this in their responses:

"mhhh!! Both are strong but I think when they pushed on my tummy, the pain was stronger and I could not breathe well." [Betty].

"mmhh!! No they are the same but I feel more pain when they pushed on my tummy because I could not breathe well." [Carol].

Overall, there was consensus among the women that UFP was necessary due to their inability to push as instructed by midwives. Betty explained her thought on why fundal pressure was applied by stating:

“Yes they helped me push the baby out because I was unable to push on my own very well.” [Betty].

Carol believes they needed to apply the fundal pressure because her baby was tired due to her inability to push. She was not told about fundal pressure, nor asked for permission before applying fundal pressure. She maintained:

“No, but I think that they helped me because I could not push and the baby is tired by that time.” [Carol].

4.5 Perceptions of midwives care and treatment

Respectful care during childbirth in a health setting would definitely improves the quality of care and encourage women to utilise labour healthcare services. This theme was discussed under two sub-themes, namely: caring midwife, mistreatment and fear of midwives.

4.5.1 Caring Midwife

The interpersonal aspects of midwife care are a key to women’s childbirth experience. Women expect to be treated with respect and dignity in a humane environment; they expect midwives to be tolerant of their behaviour, particularly in view of the levels of pain they are experiencing; and they expect midwives to reassure, guide and empower them. The three informants affirmed that the midwives exhibited a caring attitude towards them during the UFP application. This was echoed by one of the informants thus:

“The midwife showed me the baby then put the baby on my breast and then wipe her, and then took her away...to the bed on the other side and I followed them.” [Carol].

Yet, another informant stated: *“I was talked to nicely by the midwife. She helped me to position myself; and would asked how I’m feeling. I really felt happy with her caring attitude and concern.”* [Betty].

4.5.2 Mistreatment and Fear of Midwives

Every woman has the right to receive respectful and dignified care during childbirth. Women in labour not only expect respectful care but they yearn to receive step-by-step guidance from attendant midwives. The informants were not informed nor the procedure of UFP explained to them prior to the application of the process during the second stage of labour. Their permission was not sought. They were mentally abused, treated in a non-dignified manner and felt abandoned. One participant was giving birth for the first time, so the stages of labour were unknown to her; however, no-one explained what would happen, and the comment she received, meant nothing to her. She stated:

“After they checked me when I called, they said that is not yet time. I was not briefed on anything procedural. Whether UFP was going to apply to me, I was not told.” [Anna]

Instead she was scared, and this was exacerbated by being abandoned as soon as her infant had been born:

“...they took the baby out and rushed to the other room... they took my baby away...the sister came back after resuscitating the infant in another room to tell me that my baby was not breathing well because he was tired. They told me that they will take the baby to the mmm...nursery because he is not crying. So, I was afraid.” [Anna]

Furthermore, she had to tell the midwives: *“I have not eaten since I was in labour....” [Anna]*

Other informants stated they were very tired when it was time to give birth. The UFP procedure was not explained to them either, nor do the midwives obtain their informed consent to apply it. They were just told being incompetent to push out the baby. They received various forms of mistreatment and commands from the midwifery nurses. They maintained:

“...by then I was tired but I keep pushing and the nurses keep saying push, push harder sis, you are not pushing. The sisters said I pushed before the time, and I do not have the energy to push, so I was afraid. ...then she climbed on the bed and pushed on my tummy, yhoo It was painful.” [Betty]

“The doctor came and asked why I’m lying on the bed. I said, no mam I can’t walk...and I was crying and the midwives said I must not cry...I must close my mouth

and closing my mouth was difficult because I wanted to cry, and they say I must close my mouth... [Carol]

“...the midwives said I should keep pushing before the time. I think that is why I could not push now...because the nurses were mad at me. Sister said that I was not pushing well that I must push harder but I couldn’t because I was so afraid. I could not push and the baby was tired at this time. I felt guilty; contemplating on whether my inability to push had caused the baby not to cry.”[Anna]

“The nurses keep saying push, sisi, push, you going to kill your baby if you don’t push...I was thinking that if anything happens to my baby, that it was all my fault.” [Betty]

The informants expressed a common fear of not meeting the midwives’ expectations; but, would in future, abide by midwives demands.

“I will do everything the sisters asked me to do. I will do the walkies. I will breathe in and out. I will try not to cry, ya that’s what I will do.” [Anna].

“I will do the walk the sisters asked me to so that I will deliver fine and I will not push before the time and I will not cry too.” [Betty]

“I am going to push well because I got the idea now after this experience now. I know now that it is good to push harder in order to deliver fine. Now, I know what I could have done better. I came in not knowing what to do because I was panicking but now, I know what I will do next when faced with another delivery.” [Carol]

The goal of nursing care during labour in the second stage of labour is to provide comfort and support to the expectant mother (Sengane, 2013:9). During the second stage of labour, it is very important that women are properly prepared, especially those who have never had any previous experience of giving birth. It is the midwives’ duty to inform and educate the women about what is expected of them, especially regarding the procedure and what women can do to assist during the different stages of labour.

Securing of an open line for high-risk women in labour is a best practice procedure, but it needs to be explained to the patient, and permission obtained. The three informants were unclear as to why they had had an intravenous line inserted.

“The sisters said that it was because I was tired, that it will help me....” [Anna].

"I thought that it was because I was tired." [Betty].

"They put it before I delivered...I asked them to remove that because it was painful, they say no that is going to help...." [Carol].

4.6 Discussion

The findings of this study will be discussed in relation to the purpose of the study, which was to explore, analyse and interpret the experiences of women during the application of UFP during second stage of labour.

4.6.1 Emotional/physical reactions to UFP pain

The findings of this study indicated that the informants had feelings of fear, loneliness, worry and tearfulness; but also happiness associated with UFP during second stage of labour. They were also worried and expressed fear and anxiety concerning their infants; and their ability to give birth increased as they get tired in the process of pushing during UFP application. However, seeing their infants for the first time took most of the worries away, and all informants expressed relief when the birthing process was over. Moiety and Azzam (2014:947) states that UFP involve the use of “manual pressure” on the upper part of the abdomen in order to lessen the duration of the second stage of labour. This process may cause certain adverse effects on both the baby and to the mother such as pain and discomfort, extreme pressure on the woman’s abdomen. Pregnant women often form expectations or preconceived ideas about how painful they think the birthing process might be (Lally et al., 2014); as such, the experiences of women in this present study cannot be an exception.

According to Butcher (2014:19), there is increasing evidence that more women suffer from tocophobia which is directly proportionate to the increase in non-medical caesarean sections. These women experience a severe fear of giving birth vaginally and others even fear pregnancy. McGrath (2012:79) maintained that some fear should be seen as a normal function of the emotional changes during pregnancy and childbirth, and midwives should be cognisant of this fear. Midwives should encourage women to discuss their fears and help them work through them (McGrath, 2012:79). Dixon, Skinner and Foureur (2014:373) stressed that women experienced emotional turmoil during childbirth such as fear, anxiety, worry and panic. Notably, during the application of UFP, many women usually sustained vaginal injury or lacerations because of the force coming from the push on the abdomen; some would sustain some degree of tear which in most cases may requires suturing (Matsuo et al., 2009:784), which leaves the woman worrying.

Some women may perceive the loss of control during childbirth as an important factor which may later lead to postnatal depression (Westall & Liamputtong, 2011:54). The

loss of control is related to being left alone during labour as well as lack of information on the progress of labour. Women want to be looked after during labour, and want to be informed about their progress (Westall & Liamputtong, 2011:54). Physiological responses to fatigue could prolong labour and might even make it more painful (Allen, 2008). Exhaustion or fatigue may lead to certain undesirable interventions especially among first nulliparous women (Declercq et al., 2006:54). The fear of foetal death is a major worry associated with labour (Mortazavi & Akaberi, 2016); and informants in this present study expressed concern about the wellbeing of their infants.

4.6.2 Perceived severity of UFP pain

The informants in this present study felt that their birthing experience was a very painful event. They maintained that pushing on their tummy was painful, unbearable and unimaginable. Pain is the most obvious determinant of the childbirth experience (Whitburn et al., 2014:1031); and there is a positive relationship among intrapartum pain, anxiety, and fatigue (Tzeng et al., 2017:65). Women's fear of labour pain (Eriksson et al., 2006:240) precipitates the use of labour interventions (van der Bussche et al., 2007:276), including caesarean sections (Dehghani et al., 2013:582). As a result of the pain experienced during UFP application by the informants in this study, they felt having a caesarean section would decrease their labour pain. However, Declercq et al. (2008:16) demonstrated that significant proportions of women who had a caesarean section or an assisted vaginal delivery, reported that postpartum pain persisted for an extended period after the delivery, compared to women who birthed vaginally. Pain due to perineal trauma is of shorter duration than postpartum pain associated with operative procedures such as caesarean section (Declercq et al., 2008:16). The application of UFP may cause pain and discomfort to women due to the extreme pressure on the woman's abdomen (Moiety & Azzam, 2014:947); and UFP may be associated with an increased subjective feeling of pain (Mahendru et al., 2010:295). Shimada and Suzuki (2013:11) demonstrated that women who experienced the application of UFP were not only exposed to abdominal discomfort but also experienced more severe pain, the intensity of which sometimes might be difficult for the women to describe. Consistent with the findings of this present study, it has been reported that women who experience UFP find the procedure extremely painful accompanied by persistent abdominal pain and respiratory distress (Simpson & Knox, 2001:65). The informants in this study experienced pain and could not hold back tears, because the pushing on their on their abdomen were painful and unbearable. Despite having had enormous pain when UFP

was applied on the participants during second stage of labour, participants in the study acknowledged the effort of the midwives care towards them given the circumstance.

Informants felt that they had been left alone, that companions were not allowed, and they had not been given anything to drink or eat during labour. Karlström, Nystedt and Hildingsson (2015) emphasised that midwives are “required to inform and encourage women, and to provide tools to overcome the challenge of birth.” Midwives are trained to educate women during the antenatal period about pain relief medication and breathing techniques as well as what can be expected during the birthing process. Ampofo and Caine (2015:90) stated that pregnant and labouring women had to depend on family members or friends to inform them about the birthing process as midwives did not teach them.

4.6.3 Perceptions of midwives care and treatment

Midwives threatened informants that they could cause the death of their infants by not pushing appropriately, leaving them with feelings of guilt and despair when their babies did not cry directly after birth. Every woman has the right to receive respectful and dignified care during childbirth. Bohren et al. (2015) stated that there was global concern about the increase in “neglectful, abusive, and disrespectful treatment of women during childbirth in health facilities”. Seven categories of disrespectful and abusive care during childbirth have been identified: physical abuse; non-consensual clinical care; non-confidential care; non-dignified care; discrimination; abandonment; and detention in health facilities (Bowser & Hill, 2010:9). D’Ambruso et al. (2005) assert that women who had appalling care during childbirth were scared of the midwives. Midwives took away the women’s empowerment and self-esteem and made them feel responsible for negative outcomes.

The findings demonstrated that midwives did not properly inform women what to expect during the second stage of their labour, whilst the midwives expected birthing mothers to know what was happening to them and how to react. Women in labour therefore depended almost entirely on information received from family members, and went into labour with preconceived ideas about labour pain. Although women do experience pain during the second stage of labour, the application UFP increased their pain. Ishola, Owolabi and Filippi (2017) state that the promotion of respectful care during childbirth improves the quality of care and encourages women to utilise public health services. Furthermore, proper care during childbirth can be seen as “a universal

human right that encompasses the principles of ethics and respect for women's feelings, dignity, choices and preferences (Ishola et al., 2017).

The main objective of nursing care in second stage of labour is to provide comfort and care to the expectant mother (Sengane, 2013:9). The midwives are expected to pre-inform and educate the women on what is expected of them in second stage of labour. However, this was the not case, with the informants in this present study. Thus, the findings of the study support the need to involve the labouring women throughout their journey till baby is delivered. During second stage of labour, the woman should be made to know that she will be pushed on the abdomen and the indication for UFP must be explained to her to reduce fear and anxiety associated with UFP. Providing quality of care for pregnant women is crucial for successive delivery. Women deserve to be treated with respect and dignity, and there should be effective communication between the healthcare provider and the woman, thus ensuring emotional support to the woman (Tunçalp et al., 2015:1046). Despite the participants verbalising that they were not pre-informed before UFP was performed on them, yet, the participants acknowledged the midwives efforts in ensuring that they delivered a live baby.

4.7 Summary of Chapter Four

The evidence from the participants was presented and analysed through thematic content analysis. Four main themes emerged which summarises the experiences of women with UFP. Each theme was discussed extensively using verbatim quotes to support the interpretations of data. The interpretation captured the opinions of all women that took part in the study. Not one of the participants was asked to give consent before UFP was applied, and all three found that the application of UFP increased their pain experience. Yet, they all considered UFP has helpful and important for them to deliver their babies. Finally, the discussion of the findings from the interviews are presented.

Chapter Five

Summary, Conclusion and Recommendations

5.1 Introduction

This chapter presents a summary of the study, conclusions, limitations and strength of the study, and makes recommendations based on the findings.

5.2 Summary

Uterine Fundal pressure (UFP) is the application of pressure on the uppermost part of the woman's abdomen in order to fasten or accelerate the birth of the birth (Habek et al., 2008:183). The prevalence of the application of fundal pressure during the second stage of labour varies between 4-8% (de Leew et al., 2001:387; Moiety & Azzam, 2014: 946). Uterine fundal pressure is often applied to reduce the duration of second stage when there is a prolonged second stage or when maternal efforts appear to be weak or when there are contra-indications for prolonged bearing down (Verheijen, Raven & Hofmeyr, 2009). The application of UFP during the second stage of labour remains controversial as safety and efficacy of the procedure has not yet been established (Simpson & Knox, 2001:64; Merhi & Awonuga, 2005:599).

Despite the use of UFP globally, there is a scarcity of information available on how women experience the application of UFP during the second stage of labour.

The overarching research question was 'What experiences do women have during the application of UFP during the second stage of labour?'

Specific research question was: What are the experiences of women who received the application of UFP during the second stage of labour?

The aim of the study was to explore, analyse, and interpret the experiences of women concerning UFP application during the second stage of labour.

Understanding women's perception about UFP is important in informing the generation of new ideas to improve on the application of UFP for better outcomes.

This was qualitative, interpretive, phenomenological research to explore, describe and analyse the experiences of women regarding the application of UFP during the second stage of labour. According to Smith et al. (2009:11) interpretive phenomenological

analysis is characterised by the philosophical underpinnings of phenomenology, hermeneutics and idiography, and affords the all participants an opportunity to describe and interpret their experiences during the phenomenon under investigation. The women's' individual experiences of UFP during second stage of labour demonstrated the diverse experiences of the same phenomenon which are the reflective, interpretative and idiographic premises of IPA.

Hermeneutics was applied to interpret the participants' descriptions of their experiences as they tried to make sense of their exposure to UFP (Smith et al., 2009:3). The researcher was conscious the participants' own interpretation was not distorted. The transcript were examined several times, each time discovering new meanings; thus, revealing the dynamic nature of hermeneutics. In the process of data analysis, the researcher immersed herself in each transcript, in order to make sense of each participant's experiences and to gain a sense of what the participant had experienced during UFP application.

The principle of idiography warrants an in-depth analysis of the experiences of each woman provided by the small sample size. Each interview was transcribed and analysed independently. With this approach, the convergences and divergences of themes were identified without losing the original meaning of each participant's description before moving on to the subsequent interviews.

The target population was women who had had UFP during second stage of labour. A purposive sampling method was used to select three women who were admitted to the DVDHMOU during the research period and who met the inclusion criteria. Inclusion criteria Include: Full-term women, primigravidae, women who had vaginal birth where UFP had been applied during the second stage of labour to assist spontaneous delivery of the infant, singleton pregnancy with cephalic presentation, women who could speak English language, and women at least 18 years old.

Information was collected through individual face-to-face interviews and semi-structured interview guide. The principal question was framed as: "Can you please share with me how you felt when the midwives pushed on your tummy to get the baby out"? Interviews were conducted at the Operational manager's office at DVDHMOU, for privacy. Each interview session lasted between 30-45 minutes. An audio tape was used to record the interviews, and a notepad was used to make notes of gestures such smiles or other facial expressions. After each interview, the recorded interview was

transferred onto a laptop and a file was opened for the interviewee, identified by a pseudonym. The interviews were transcribed verbatim as Word documents.

Trustworthiness was maintained by applying the principles of credibility, transferability, dependability and confirmability as outlined by Elo et al. (2014:1).

Ethical approval and permission to conduct interviews were sought from the Ethical Committee of the University of Fort Hare. Permission to conduct the study was sought from the Eastern Cape Research Committee and Buffalo City Metro Health District; such permission was granted on the provision that the investigator submitted a copy of her South African Nursing Council (SANC) receipt to sub-district office before data collection. The participants were informed of the right to refuse to participate and to withdraw from the study at any given time without any prejudice or penalty. The nature and aim of the study was explained to the participants, prior to data collection. Prior to the interview, each informant completed an informed consent form with a clear explanation. The participants had the right to ask any question(s) during and after the interviews.

Each interview was analysed separately after completion. Once all the interviews had been analysed and coded, connections were made between themes arising from the individual cases (Smith & Osborn, 2007:70). The six steps were used during the analysis of the transcripts as outlined by Smith et al. (2009:79).

5.3 Findings

- i. The informants had feelings of fear, loneliness, worry and tearfulness; but also happiness associated with UFP during second stage of labour. They were worried and expressed fear and anxiety concerning their infants and their ability to give birth increased as they get tired in the process of pushing during UFP application. However, seeing their infants for the first time took most of the worries away, and all informants expressed relief when the birthing process was over.
- ii. Participants felt that they had been left alone, that companions were not allowed, and they had not been given anything to drink or eat during labour.

- iii. Midwives threatened participants that they could cause the death of their infants by not pushing appropriately, leaving them with feelings of guilt and despair when their babies did not cry immediately after birth.
- iv. Participants appeared to be afraid of the midwives, and when they were asked what they would do differently next time, when in labour, they stated that they would do whatever the midwives told them to do.
- v. The findings demonstrated a conflict in dealing with labour and childbirth: midwives did not properly inform women what to expect during the second stage of their labour, whilst the midwives expected labouring women to know what was happening to them and how to react. Women in labour therefore depended almost entirely on information received from family members, and went into labour with preconceived ideas about labour pain. Although women do experience pain during the second stage of labour, the application UFP increased their pain.

5.4 Conclusions

Based on the findings of the study, the following conclusions were drawn:

- i. The application of UFP is not a pleasant experience for the women during second stage of labour. They experienced pain, fear, and anxiety. However, they felt a sense of happiness after delivery.
- ii. The participants felt their pain had increased during UFP application in second stage of labour.
- iii. Midwives also abused participants emotionally by telling them that they were killing their infants by not pushing hard enough. These negative comments could cause unnecessary fear and increased the mothers' anxiety during UFP application.
- iv. Women were not informed about possible procedures that they may endure during childbirth; they were not educated about the UFP process, and depended almost solely on information received from family and friends.

- v. The Participants felt scared and were left alone during labour, even though DVDHMOU routinely allows companions to be present during the labour. The mother has the right to choose a companion with her.

5.5 Recommendations

Based on the findings and conclusions of the study, the following recommendations were drawn:

- i. Most of the negative emotions experienced during the second stage of labour could be diminished by improving the quality of midwifery care.
- ii. Before the application of UFP during the second stage of labour, midwives should explain to women the process of UFP application and what they can expect to happen; and where possible, and after explaining the procedure, midwives should get written permission before they apply the intervention during labour.
- iii. Advocates for safe, dignified respectful births are unanimous in their contention that disrespectful and abusive interpersonal behaviour before, during, and after childbirth is inexcusable. Therefore, all women attending antenatal clinics should be provided with pictorial information brochures with text in a language that they understand, detailing women's basic rights during pregnancy, labour, and after birth.
- iv. After delivery, midwives should explain what is happening with the new-born, and offer any kind of assistance, if possible, before she is transferred to the postnatal ward.
- v. Additionally, educational posters should be made visible in antenatal clinics and labour wards to spread awareness of a woman's right to be treated with respect and dignity during labour, her right to be accompanied by a companion of her own choice, and her right to reject, and act upon, any type of abuse, be it verbal, physical or emotional.
- vi. The nature of the study was qualitative, with the aim to gain insight on the experiences of women regarding UFP, as opposed to generalisations. Therefore, future studies interested in this topic should consider a quantitative

exploration of the experiences of women regarding UFP; through self-report, which may have clinical maternal value.

References

- Acmaz, G., Albayrak, E., Oner, G., Baser, M., Aykut, G., Tekin, G. T., Zatarsiz, G. & Muderris, I.I. (2015). The effect of Kristeller maneuver on maternal and neonatal outcome. *Archives of Clinical Experimental Surgery*, 4(1): 29-35.
- Abuyi, T., Warren, C. E., Miller, N., Njuki, R., Ndwiga, C., Maranga, A., Mbehero, F., Njeru, A. & Bellow, B. (2015). Exploring the prevalence of disrespect and abuse during childbirth in Kenya. *PLOS One*, 10(4): e0123606.
- Aderhold, K.J. & Roberts, J.E. (1991). Phases of second stage labor: Four descriptive case studies. *Journal of Nurse-Midwifery*, 36(5): 267-275.
- Ajobo, A.O., Adesiyun, A.G., Ifenne, D.I., Hembar-Hilekan, S. & Umar, H. (2015). Acute uterine inversion: A case report and literature review. *Archives of International Surgery*, 5(1): 52-55.
- Ali, U.A. & Norwitz, E.R. (2009). Vacuum-assisted vaginal delivery. *Reviews in Obstetrics and Gynecology*, 2(1): 5-17.
- Allen, P.R. (2008). Chronic fatigue syndrome: Implications for women and their health care providers during the childbearing years. *Journal of Midwifery and Women's Health*, 53(4): 289-301.
- Ampofo, E.A. & Caine, V. (2015). A narrative inquiry into women's perception and experience of labour pain: A study in the western region of Ghana. *International Journal of Africa Nursing Sciences*, 3: 86-93.
- Anderson, C. (2010). Presenting and evaluating qualitative research. *American Journal of Pharmaceutical Education*, 74(8): 141.
- Baba, K., Kataoka, Y., Nakayama, K., Yaju, Y., Horiuchi, S. & Eto, H. (2016). A cross-sectional survey of policies guiding second stage labor in urban Japanese hospitals, clinics and midwifery birth centers. *BMC Pregnancy and Childbirth*, 16: 37.
- Api, O., Balcin, M.E., Uqurel, V., Api, M., Turan, C. & Unal, O. (2009). The effect of uterine fundal pressure on the duration of second stage of labor: A randomized controlled trial. *Acta Obstetrica et Gynecologica*, 88 (3): 320-324.
- Barasinski, C. & Vendittelli, F. (2016). Effect of the type of maternal pushing during the second stage of labour on obstetric and neonatal outcome: A multicentre randomised trial—the EOLE study protocol. *British Medical Journal Open*, 6(12): e012290.

- Beck, A.C. & Huffman J.W. (2015). *Parturition: Biology*. Encyclopædia Britannica, inc.
- Berghella, V., Baxter, J.K. & Chauhan, S.P. (2008). *Evidence-based labor and delivery management*. *American Journal of Obstetrics and Gynecology*, 199: 445-454.
- Bhattacharyya, D.K. (2006). *Research methodology*. 2nd ed. New Delhi: Anurag Jain for Excel Books.
- Bohren, M.A., Vogel, J.P., Hunter, E.C., Lutsiv, O., Makh, S.K., Souza, J.P., Aguiar, C., Coneglian, F.S., Diniz, A.L.A., Tuncalp, O., Javadi, D., Oladapo, O.T., Khosla, R., Hindin, M.J. (2015). The mistreatment of women during childbirth in health facilities globally: A mixed-methods systematic review. *PLOS Medicine*, 12(6): e1001847.
- Borders, N., Wendland, C., Haozous, E., Leeman, L. & Rogers, R. (2013). Midwives' verbal support of nulliparous women in second stage labor. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 42(3): 311-320.
- Bowser, D. & Hill, K. (2010). *Exploring evidence for disrespect and abuse in facility-based childbirth*, Washington DC: United States Agency for International Development (USAID).
- Brink, H., van der Walt, C. & van Rensburg, G. (2012). *Fundamentals of research methodology for healthcare professionals*. 3rd ed. Lansdowne: Juta & Company Ltd.
- Buckley, S.J. (2015). Executive summary of hormonal physiology of childbearing: Evidence and implications for women, babies, and maternity care. *The Journal of Perinatal Education*, 24(3): 145–153.
- Buhimschi, C.S., Buhimschi, I.A., Malinow, A.M., Kopelman, J.N., & Weiner, C.P. (2002). The effect of fundal pressure manoeuvre on intrauterine pressure in the second stage of labour. *British Journal of Obstetrics and Gynaecology*, 109(5): 520-526.
- Butcher, G. (2014). Fearful birth? So what's new?. *The Practising Midwife*, 17(4): 19-21.
- Carrera, J.M. (2007). *Recommendations and guidelines for perinatal medicine*, Barcelona: Matres Mundi. Available at: https://issuu.com/matres-mundi/docs/clinical_guidelines_for_maternity_h. Accessed 11th June 2016.
- Centre for Integrated Healthcare [CIH] (2013). *The gate control theory of pain*, Chesterfield: Health Psychology Service.
- Chalmers, B.E. & Dzakpasu, S. (2015). Interventions in labour and birth and satisfaction with care: The Canadian maternity experiences survey findings. *Journal of Reproductive and Infant Psychology*, 33(4): 374-387.

Chang, S., Chou, M., Lin, K., Lin, L., Lin, Y. & Kuo, S. (2011). Effects of a pushing intervention on pain, fatigue and birthing experiences among Taiwanese women during the second stage of labour. *Midwifery*, 27(6): 825-831.

Charlton, J.E. (2005). *Core curriculum for professional education in pain*. Seattle: IASP press.

Cheng, Y.W. & Caughey, A.B. (2015). Second stage of labor. *Clinical Obstetrics and Gynecology*, 58(2): 227-240.

Christiaens, W. & Bracke, P. (2007). Assessment of social psychological determinants of satisfaction with childbirth in a cross-national perspective. *BMC Pregnancy and Childbirth*, 7: 26.

Cifu, D.X. (2016). *Braddom's physical medicine & rehabilitation*. 5th ed. Philadelphia: Elsevier.

Cohen, L., Manion, L. & Morrison, K. (2007). *Research methods in education*. 6th ed. New York: Routledge.

College of Midwives of British Columbia [CMBC] (2015). Guideline for managing the second stage of labour.

Cook, K. & Loomis, C. (2012). The impact of choice and control on women's childbirth experiences. *The Journal of Perinatal Education*, 21(3):158-168.

Creswell, J.W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. 4th ed. Thousand Oaks: Sage Publication Inc.

D'Ambruoso, L., Abbey, M., & Hussein, J. Please understand when I cry out in pain: Women's accounts of maternity services during labour and delivery in Ghana. *BMC Public Health* 2005;5:140

Daftary, S.N. & Chakravarti, S. (2011). *Manual of obstetrics (3rd ed.)*. India: Elsevier.

David, M., Antolic, A. & Schäfer, M.T. (2005). "Sinn und unsinn des Kristeller'schen handgriffs". *Charité - University Medicine Berlin*.

de Leeuw, J.W., Struijk, P.C., Vierhout, M.E. & Wallenburg, H.C.S. (2001). Risk factors for third degree perineal ruptures during delivery. *British Journal of Obstetrics and Gynaecology*, 108(4): 383-387.

Declercq, E., Cunningham, D.K. & Johnson, C. (2008). Mothers' reports of postpartum pain associated with vaginal and cesarean Deliveries: Results of a national survey. *Birth*, 35(1): 16-24.

Declercq, E.R., Sakala, C., Corry, M.P. & Applebaum, S. (2006). *Listening to mothers II: Report of the second national U.S. survey of women's childbearing experiences*, New York: Childbirth Connection.

Dehghani, M., Sharpe, L. & Khatibi, A. (2014). Catastrophizing mediates the relationship between fear of pain and preference for elective caesarean section. *European Journal of Care*, 18: 582-589.

Delgado, M. (2006). *Designs and methods for youth-led research*. Thousand Oaks: Sage Publications Inc.

Department of Midwifery (2011). *Second Stage of Labour*. Providence Health Care.

Dixon, L., Skinner, J. & Foureur, M. (2014). The emotional journey of labour—Women's perspectives of the experience of labour moving towards birth. *Midwifery*, 30(3); 371–377.

Ebirim, L.N., Buowari, O.Y. & Ghosh, S. (2012). Physical and psychological aspects of pain in obstetrics. In: S. Ghosh, ed. *Pain in perspective*. InTech, 219-236.

Edozien, L.C. (2010). *The labour ward handbook*. (2nd ed.) United State of America: Taylor and Francis group, LLC.

Ellenberg, J.H. & Nelson, K.B. (2012). The association of cerebral palsy with birth asphyxia: A definitional quagmire. *Developmental Medicine & Child Neurology*, 55(3): 210-216.

Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K. & Kyngäs, H. (2014). Qualitative content analysis: A focus on trustworthiness. *Sage Open*, 1-14.

Englander, M. (2012). The interview: Data collection in descriptive phenomenological human scientific research. *Journal of Phenomenological Psychology*, 43(1):13-35.

Eriksson, C., & Jansson, L. & Hamberg, K. (2006) Women's experiences of intense fear related to childbirth investigated in a Swedish qualitative study. *Midwifery*, 22: 240-248.

FIGO Safe Motherhood and Newborn Health (SMNH) [FIGO] (2012). Management of second stage of labor. *International Journal of Gynecology and Obstetrics*, 119(2): 111-116.

Fowler, F.J. (2009). *Survey Research Methods*. 4th ed. Thousand Oaks: Sage Publication, Inc.

Freedman, L.P. & Kruk, M.E. (2014). Disrespect and abuse of women in childbirth: Challenging the global quality and accountability agendas. *The Lancet*, 384(9948): e42-e44.

Frith, A. (2011). *Buffalo City*. [Online] Available at: <https://census2011.adrianfrith.com/place/260> [Accessed 23 November 2016].

Furrer, R., Schäffer, L., Kimmich, N., Zimmermann, R. & Haslinger, C. (2016). Maternal and fetal outcomes after uterine fundal pressure in spontaneous and assisted vaginal deliveries. *Journal of Perinatal Medicine*, 44(7):767-772.

Giorgi, A. (2007). Concerning the phenomenological methods of Husserl and Heidegger and their application in psychology. *Collection du Cirp*, 1: 63-78.

Gizzo, S., Gangi, S.D., Noventa, M., Bacile, V., Zambon, A. & Nardelli, G.B. (2014). Women's choice of positions during labour: Return to the past or a modern way to give birth? A cohort study in Italy. *BioMed Research International*, 1-7.

Goodburn, E.A., Gazi, R. & Chowdhury, M. (1995). Beliefs and practices regarding delivery and postpartum maternal morbidity in rural Bangladesh. *Studies Family Planning*, 26(1): 22-32.

Green, J.M., Kafetsios, K., Statham, H.E. & Snowdon, C.M. (2003). Factor structure, validity and reliability of the Cambridge worry scale in a pregnant population. *Journal of Health Psychology*, 8(6): 753-764.

Green, J. & Hotelling, B.A. (2014). Healthy birth practice #3: Bring a loved one, friend, or doula for continuous support. *The Journal of Perinatal Education*, 23(4):194-197.

Grix, J. (2010). *The foundations of research*. 2nd ed. London: Palgrave MacMillan.

Groenewald, T. (2004). A phenomenological research design illustrated. *International Journal of Qualitative Methods*, 3(1): 1-27.

Grove, S.K., Burns, N. & Gray, J.R. (2013). *The practice of nursing research: Appraisal, synthesis and generation of evidence*. 7th ed. Philadelphia: Elsevier Saunders.

Guba, E.G. & Lincoln, Y.S. (1994). Competing paradigms in qualitative research. In: *Handbook of qualitative research*. Thousand Oaks: Sage Publications Inc, pp. 105-117.

Guest, G., MacQueen, K.M. & Namey, E.E. (2012). Applied thematic analysis. *Canadian Journal of Program Evaluation*, 29(1): 141-143.

Gupta, P., Sahu, R.L. & Huria, A. (2014). Acute uterine inversion: A simple modification of hydrostatic method of treatment. *Annals of Medical and Health Sciences Research*, 4(2): 264-267.

Habek, D., Bobić, M.V. & Hrgović, Z. (2008). Possible feto-maternal clinical risk of the Kisteller's expression. *Central European Journal of Medicine*, 3(2): 183-186.

Hancock, B., Ockleford, E. & Windridge, K. (2009). An introduction to qualitative research. *National Institute for Health Research*. The NIHR RDS EM / YH.

Hanson, L. (2009). Second-stage labor care challenges in spontaneous bearing down. *Journal of Perinatal & Neonatal Nursing*, 23(1): 31-39.

Hargrove-Huttel, R.A. & Colgrove, K.V. (2014). *Prioritization, Delegation & Management of Care for the NCLEX-RN Exams*. Philadelphia: F A Davis Company.

Haseeb, Y.A., Alkunaizi, A.N., Turki, H.A., Aljama, F. & Sobhy, S.I. (2014). The impact of valsalva's versus spontaneous pushing techniques during second stage of labor on postpartum maternal fatigue and neonatal outcome. *Saudi Journal of Medicine & Medical Sciences*, 2(2): 101-105.

Hasegawa, J., Sekizawa, A., Ishiwata, I., Ikeda, T. & Kinoshita, K. (2015). Uterine rupture after the uterine fundal pressure maneuver. *Journal of Perinatal Medicine*, 43(6): 785-788.

Haute Autorité de Santé [HAS] (2007). *Use of fundal pressure during the second stage of labour*, Cedex: HAS communication Department. Available at: https://www.has-sante.fr/portail/upload/docs/application/pdf/2008-06/ea-_recos_v_en_cp_to.pdf. Accessed 12th May 2016.

Hennegan, J., Redshaw, M. & Miller, Y. (2014). Born in another country: Women's experience of labour and birth in Queensland, Australia. *Women and Birth*, 27(2): 91-97.

Hennink, M.M. (2014). *Focus group discussion: Understanding qualitative research*. New York: Oxford University Press.

Hodnett, E.D., Gates, S., Hofmeyr, G.J. & Sakala, C. (2013). Continuous support for women during childbirth. *Cochrane Database of Review Art. No.: CD003766*.

Hofmeyr, G.J., Singata, M., Lawrie, T., Vogel, J.P., Landoulsi, S., Seuc, A.H. & Gülmezoglu, A.M. (2015). A multicentre randomized controlled trial of gentle assisted pushing in the upright posture (GAP) or upright posture alone compared with routine practice to reduce prolonged second stage of labour (the Gentle Assisted Pushing study): study protocol. *BMC Reproductive Health*, 12: 114.

Hofmeyr, G.J., Vogel, J.P., Cuthbert, A. & Singata, M. (2017). Fundal pressure during the second stage of labour. *Cochrane Database of Systematic Reviews Issue 3. Art. No: CD006067*.

Hostetler, D.R. & Bosworth, M.F. (2000). Uterine inversion: A life-threatening obstetric emergency. *Journal of the American Board of Family Practice*, 13(2): 120-123.

Ishola, F., Owolabi, O. & Filippi, V. (2017). Disrespect and abuse of women during childbirth: A systematic review. *PLoS One*, 12(3): 1-17.

Jackson, E. (2013). Choosing a methodology: Philosophical underpinning. *Practitioner Research in Higher Education Journal*, 7(1): October. Available at: <http://194.81.189.19/ojs/index.php/prhe> (Accessed 15 October 2013).

Jewkes, R. & Penn-Kekana, L. (2015). Mistreatment of women in childbirth: Time for action on this important dimension of violence against women. *PLOS Medicine*, 12(6): e1001849.

Jones, L., Othman, M., Dowswell, T., Alfirevic, Z., Gates, S., Newburn, M., Jordan, S., Lavender, T. & Neilson, J.P. (2012). Pain management for women in labour: An overview of systematic reviews. *Cochrane Database of Systematic Reviews Issue 3*. Art. No.: CD009234.

Kallianidis, A. F., Smit, M. & van Roosmalen, J. (2016). Shoulder dystocia in primary midwifery care in the Netherlands. *Acta Obstetrica et Gynecologica Scandinavica*, 95(2): 203-209.

Kang, J.H., Lee, G.H., Park, Y.B., Jun, H.S., Lee, K.J., Hahn, W.B., Park, S.W., Park, H.J. & Cha, D.H. (2009). The efficacy and safety of inflatable obstetric belts for management of the second stage of labor. *Journal of Korean Medical Science*, 24: 951-955.

Karlsdottir, S.I., Halldorsdottir, S. & Lundgren, I. (2014). The third paradigm in labour pain preparation and management: The childbearing woman's paradigm. *Scandinavia Journal of Caring Sciences*, 28(2): 315–327.

Karlström, A., Nystedt, A. & Hildingsson, I. (2015). The meaning of a very positive birth experience: Focus groups discussions with women. *BMC Pregnancy and Childbirth*, 15: 251.

Kasi, P.M. (2009). *Research: What, why and how?: A treatise from researchers to researchers*. United State of America: AuthorHouse.

King, I.M. (1981). *A theory of nursing: System, concept, process*. New York: John Wiley and Sons.

Kline-Kaye, V. & Miller-Slade, D. (1990). The use of fundal pressure during the second stage of labor. *Journal of Obstetrics Gynecology Neonatal Nursing*, 19(6): 511-517.

Kouritas, V.K., Baloyiannis, I., Desimonas, N., Daponte, A., Kouvaraki, M. & Hatzitheofilou, K. (2009). Rib fractures with hemothorax after labor: A case report. *Cases Journal*, 2: (8950): 1-3.

Kumar, C.R. (2008). *Research methodology*. New Delhi: APH Publishing Corporation.

Labor, S. & Maguire, S. (2008). The pain of labour. *Reviews in Pain*, 2(2): 15-19.

- Lally, J.E., Thomson, R.G., MacPhail, S. & Exley, C. (2014). Pain relief in labour: A qualitative study to determine how to support women to make decisions about pain relief in labour. *BMC Pregnancy and Childbirth*, 14: 6.
- Larkin, M., Watts, S. & Clifton, E. (2006). Giving voice and making sense in interpretative phenomenological analysis. *Qualitative Research in Psychology*, 3(2): 102-120.
- Larkin, P., Begley, C.M. & Devane, D. (2009). Women's experience of labour and birth: An evolutionary concept analysis. 25(2): e49-e59.
- Leal, M.C., Pereira, A.P., Domingues, R.S., Filha, M.M., Dias, M.A., Nakamura-Pereira, M., Bastos, M.H. & Gama, S.G. (2014). Obstetric interventions during labor and childbirth in Brazilian low-risk women. *Cad. Saúde Pública*, 30 Suppl 1: S1-16.
- Lee, L., Dy, J. & Azzam, H. (2016). Management of spontaneous labour at term in healthy women. *Journal of Obstetrics and Gynaecology Canada*, 38(9): 843-865.
- Leféber, Y. & Voorhoeve, H.W. (1998). *Indigenous customs in childbirth and child care*. Netherlands: Van Gorcum & Comp.
- Lemos, A., Amorim, M.M., Dornelas de Andrade, A., de Souza, A.I., Cabral Filho, J. E. & Correia, J.B. (2017). Pushing/bearing down methods for the second stage of labour. *Cochrane Database of Systematic Reviews*. Issue 3. Art. No.: CD009124.
- Leveno, K.J. & Nelson, D.B. (2016). Second-stage labor: How long is too. *American Journal of Obstetrics Gynecology*, 214(4): 484-489.
- Levine, P.A. & Phillips, M. (2012). *Freedom from pain: Discover your body's power to overcome physical pain*. Canada: Library of Congress Cataloging in Publication Data.
- Lietz, C.A., Langer, C.L. & Furman, R. (2006). Establishing trustworthiness in qualitative research in social: Implications from a study regarding spirituality. *Qualitative Social Work*, 5(4): 441-458.
- Linton, S.J. & Shaw, W.S. (2011). Impact of psychological factors in the experience of pain. *American Physical Therapy Association*, 91(5): 700-711.
- Livoti, C. & Topp, E. (2009). *The stress free pregnancy guide: A doctor tells you what to really expect*. New York: Library of Congress Cataloging-in-Publication Data.
- Lopez, K.A. & Willis, D.G. (2004). Descriptive versus interpretive phenomenology: Their contributions to nursing knowledge. *Qualitative Health Research*, 14(5): 726-735.
- Mahendru, R., Malik, S. & Anand, T. (2010). Age old practice of uterine fundal pressure in labor - more risky than beneficial. *Biomedical Research*, 21(3): 295-296.

Matsuo, K., Shiki, Y., Yamasaki, M. & Shimoya, K. (2009). Use of uterine fundal pressure maneuver at vaginal delivery and risk of severe perineal laceration. *Archives of Gynecology Obstetrics*, 280(5): 781-786.

Maxwell, J.A. (2011). Epistemological heuristics for qualitative research. In: *Epistemologies for qualitative research*. In: H. Soini, E. Kronquist & G.L. Huber (eds). Epistemologies for Qualitative Research. Tübingen: Center for Qualitative Psychology, 10-27.

McConnell-Henry, T., Chapman, Y. & Francis, K. (2011). Member checking and Heideggerian phenomenology: A redundant component. *Nurse Researcher*, 18(2): 28-37.

McGrath, K. (2012). Continuing education module the courage to birth. *The Journal of Perinatal Education*, 21(2): 72-78.

McGregor, S.L.T. & Murnane, J.A. (2010). Paradigm, methodology and method: Intellectual integrity in consumer scholarship. *International Journal of Consumer Studies*, 34(4): 419-427.

Merhi, Z.O. & Awonuga, A.O. (2005). The role of uterine fundal pressure in the management of the second stage of labor: A reappraisal. *Obstetrical and Gynecological Survey*, 60(9): 599-603.

Mississippi Board of Nursing [MBN] (2004). *Application of fundal and suprapubic pressure by the registered nurse*, Mississippi.

Moayedi, M. & Davis, K.D. (2013). Theories of pain: From specificity to gate theory. *Journal of Neurophysiology*, 109(1): 5-12.

Moiety, F.M. & Azzam, A.Z. (2014). Fundal pressure during the second stage of labor in a tertiary obstetric centre: A prospective analysis. *Journal of Obstetrics and Gynaecology Research*, 40(4): 946-953.

Mortazavi, F. & Akaberi, A. (2016). Worries of pregnant women: Testing the Farsi Cambridge worry scale. *Scientifica*, 1-10.

Myers, M.D. (2009). *Qualitative research in business and management*. Thousand Oaks: SAGE Publicationc Inc.

Nahum, G.G. (2016). *Uterine rupture in pregnancy*. [Online] Available at: <http://reference.medscape.com/article/275854-overview> [Accessed 11 July 2016].

National Institute for Health and Care Excellence [NICE] (2014). Intrapartum care for healthy women and babies: (CG190).

- Neuman, W.L. (2014). *Social research methods: Qualitative and quantitative approaches*. 7th ed. Edinburgh: Pearson Education Limited.
- Nieuwenhuijze, M.J., de Jonge, A., Korstjens, I. & Lagro-Janssen, L.M. (2013). Influence on birthing positions affects women's sense of control in second stage of labour. *Midwifery*, 29(11): e107–e114.
- Nieuwenhuis, J. (2007). Introducing qualitative research. In: K. Maree, ed. *First steps in research*. 1st ed. Pretoria: Van Schaik Publishers.
- Nilsen, E., Sabatino, H. & Baena de Moraes Lopes, M.H. (2011). The pain and behavior of women during labor and the different positions for childbirth. *Rev Esc Enferm USP*, 45(3): 557-564.
- Pan, H.S., Haung, L.W., Haung, J.L., Lee, C.Y., Tsai, Y.L. & Cheng, W.C. (2002). Uterine rupture in an unscarred uterus after the application of fundal pressure: A case report. *Journal of Reproductive Medicine*, 47(12): 1044-1046.
- Permezel, M. (2015). Management of normal labour. In: *Beischer & MacKay's obstetrics, gynaecology and the newborn*. 4th ed. Australia: 226-242.
- Peyman, A., Shishegar, F. & Abbasi, Z. (2011). Uterine fundal pressure on the duration of the second stage of labor in Iran: A randomized controlled trial. *Journal of Basic and Applied Scientific Research*, 1(11): 1930-1933.
- Pietkiewicz, I. & Smith, J.A. (2014). A practical guide to using interpretative phenomenological analysis in qualitative research psychology. *Psychological Journal*, 20(1): 7-14.
- Pillitteri, A. (2014). *Maternal & child health nursing: Care of the childbearing and childrearing family*. 7th ed. China: Library of Congress Cataloging-in-Publication Data.
- Polit, D.F. & Beck, C.T. (2014). *Essentials of nursing research: Appraising evidence for nursing practice*. 8th ed. New York: Library of Congress Cataloging-in-Publication Data.
- Ponkey, S.E., Cohen, A.P., Heffnar, L.J. & Lieberman, E. (2003). Persistent fetal occiput posterior position: Obstetric outcomes. *Obstetrics and Gynecology*, 101(5 Pt 1): 915-920.
- Ragnar, I., Altman, D., Tydén, T. & Olsson, S.E. (2006). Comparison of the maternal experience and duration of labour in two upright delivery positions—a randomised controlled trial. *British Journal of Obstetric and Gynecology*, 113(2): 165-170.
- Rajasekar, S., Philominathan, P. & Chinnathambi, V. (2013). *Research methodology*. Available at: <https://arxiv.org/pdf/physics/0601009.pdf>. Accessed 24th March 2015.

- Redshaw, M., Martin, C., Rowe, R. & Hockley, C. (2009). The Oxford Worries about Labour Scale: Women's experience and measurement characteristics of a measure of maternal concern about labour and birth. *Psychology, Health & Medicine*, 14(3): 354-366.
- Reid, K., Flowers, P. & Larkin, M. (2005). Exploring lived experience. *The Psychologist*, 18(1): 20-23.
- Reiners, G.M. (2012). Understanding the differences between Husserl's (descriptive) and Heidegger's (interpretive) phenomenological research. *Journal of Nursing Care*, 1: 119.
- Ritchie, J. & Lewis, J. (2003). *Qualitative research practice: A guide for social science students and researchers*. Thousand Oaks: Sage Publications Inc.
- Roberts, J.E. (2002). The "push" for evidence: Management of the second stage. *Journal of Midwifery & Women's Health*, 47(1): 2-15.
- Rohleder, P. (2012). *Critical issues in clinical & health psychology*. Thousand Oaks: Sage Publications Inc.
- Rudra, A. (2004). Pain relief in labour. *Update in Anaesthesia*, 18: 6-11.
- Sapkota, S., Kobayashi, T. & Takase, M. (2011). Women's experience of giving birth with their husband's support in Nepal. *British Journal of Midwifery*, 19(7): 426-432.
- Sartore, A., de Seta, F., Maso, G., Ricci, G., Alberico, S., Borelli, M. & Guaschino, S. (2012). The effects of uterine fundal pressure (Kristeller maneuver) on pelvic floor function after vaginal delivery. *Archives of Gynecology and Obstetrics*, 286(5): 1135-1139.
- Saunders, M., Lewis, P. & Thornhill, A. (2016). *Research methods for business students*. 7th ed. Edinburgh: Essex: Pearson Education Ltd.
- Sayers, J. (2011). *Drug-free pain relief. A woman's guide*. Christchurch: NatalCare NZ Limited.
- Schulz-Lobmeyr, I., Zeisler, H., Pateisky, N., Hussiein, P. & Joura, E.A. (1999). Fundal pressure during the second stage of labor: A prospective pilot study. *Geburtshilfe und Frauenheilkunde*, 59(11): 558-561.
- Scotland, J. (2012). Exploring the philosophical underpinnings of research: Relating ontology and epistemology to the methodology and methods of the scientific, interpretive, and critical research paradigms. *English Language Teaching*, 5(9): 9-16.
- Sengane, M. (2013). Mothers' expectations of midwives' care during labour in a public hospital in Gauteng. *Curationis*, 36(1): 1-9.

- Sheferaw, E.D., Bazant, E., Gibson, H., Fenta, H.B., Ayalew, F., Belay, T.B., Worku, M.M., Kebebu, A.E., Woldie, S.A., Kim, Y., van den Akker, T. & Stekelenburg, J. (2017). Respectful maternity care in Ethiopian public health facilities. *BMC Reproductive Health*, 14: 60.
- Shenton, A.K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22: 63-75.
- Shimada, M. & Suzuki, S. (2013). Clinical significance of deliveries with uterine fundal pressure maneuver at a single perinatal center in Japan. *Journal of Clinical Gynecology and Obstetrics*, 2(1): 10-14.
- Simpson, K.R. & James, D.C. (2005). Effects of immediate versus delayed pushing during second-stage labor on fetal well-being: A randomized clinical trial. *Nursing Research*, 54(3): 149-157.
- Simpson, K.R. & Knox, G.E. (2001). Fundal pressure during the second stage of labor: Clinical perspectives and risk management issues. *American Journal of Maternal/Child Nursing*, 26(2): 64-71.
- Smith, J.A., Flowers, P. & Larkin, M. (2009). *Interpretative phenomenological analysis: Theory, method and research*. Thousand Oaks: Sage Publications Inc.
- Smith, J.A., Jarman, M. & Osborn, M. (1999). Doing interpretative phenomenological analysis. In: *Qualitative health psychology: Theories & methods*. Thousand Oaks: Sage Publications Inc.
- Smith, J.A. & Osborn, M. (2007). *Interpretative phenomenological analysis*. Thousand Oaks: Sage Publications Inc.
- Stevens, N.R., Wallston, K.A. & Hamilton, N.A. (2011). Perceived control and maternal satisfaction with childbirth: A measure development study. *Journal of Psychosomatic Obstetrics & Gynecology*, 33(1):15-24.
- Supino, P.G. (2012). Overview of the research process. In: P. G. Supino & J. S. Borer, eds. *Principles of research methodology*. New York: Library of Congress Cataloging-in-Publication Data.
- Talbot, R. (2012). Self-efficacy: Women's experiences of pain in labour. *British Journal of Midwifery*, 20(5): 317-321.
- Thabane, L., Ma, J., Chu, R., Cheng, J., Ismaila, A., Rois, L.P., Robson, R., Thabane, M., Giangregorio, L. & Goldsmith, C.H. (2015). What you need to know about pilot studies: The what, why and how. *BMC Medical Research Methodology*, 10: 1.
- Thanh, N.C. & Thanh, T.T.L. (2015). The interconnection between interpretivist paradigm and qualitative methods in education. *American Journal of Educational Science*, 1(2): 24-27.

The Royal College of Midwives (2012). Evidences based guidelines for midwifery-led care in labour.

Tukur, J., Omale, A.O., Abdullahi, H. & Datti, Z. (2007). Uterine prolapse following fundal pressure in the first stage of labour: A case report. *Annals of African Medicine*, 6(4): 194-196.

Tuncalp Ö., Were, W.M., MacLennan, C., Oladapo, O.T., Gulmezoglu, A.M., Bahl, R., Daelmans, B., Mathai, M., Say, L., Kristensen, F., Temmerman, M. & Bustreo, F. (2015). Quality of care for pregnant women and newborns—The WHO vision. *The British Journal of Obstetric and Gynaecology (BJOG)*, 122: 1045-1049.

Tzeng, Y.L., Kuo, P.C., Lin, Y.C. & Chen, S.L. (2017). Pain, anxiety, and fatigue during labor: A prospective, repeated measures study. *The Journal of Nursing Research*, 25(1): 59-67.

Vagle, M.D. (2016). *Crafting phenomenological research*. New York: Routledge.

van der Bussche, E., Crombez, G., Eccleston, C. & Sullivan, M.J. (2007). Why women prefer epidural analgesia during childbirth: The role of beliefs about epidural analgesia and pain catastrophizing. *European Journal of Pain*, 11(3): 275-282.

van Teijlingen, E. & Hundley, V. (2002). The importance of pilot studies. *Nursing Standard*, 16(40): 33-36.

Varney, H., Kriebs, J.M. & Geger, C.L. (2004). *Varney's midwifery*. 4th ed. Canada: Jones and Barlett Publishers Inc.

Verheijen, E.C., Raven, J.H. & Hofmeyr, G.J. (2009). Fundal pressure during the second stage of labour. *Cochrane Database of Systematic Reviews Issue 4. Art. No.: CD006067*.

Waszyński, E. (2008). [Kristeller's procedure-Expressio fetus, its genesis and contemporary application]. *Ginekol Poland*, 79(4): 297-300.

Wei, S. & Chen, C. (2006). Uterine rupture due to traumatic assisted fundal pressure. *Taiwanese Journal of Obstetrics and Gynecology*, 45(2): 70-172.

Westall, C. & Liamputtong, P. (2011). *Motherhood and postnatal depression: Narratives of women and their partners*. New York: Springer Science+Business Media.

Whitburn, L.Y., Jones, L.E. & Davey, M. (2014). Women's experiences of labour pain and the role of the mind: An exploratory study. *Midwifery*, 30(9):1029–1035.

Willihnganz, C. (2017). *Basic Pharmacology for Nurses*. 17 ed. Missouri: Elsevier.

Willmott, L. (2014). "Stop Kristeller: A matter of gravity". [Online] Available at: <https://www.elpartoesnuestro.es/blog/2014/07/01/el-parto-es-nuestro-birth-ours-presents-final-report-campaign-stop-kristeller-matter-gravity>. [Accessed 05 October 2016].

Wisker, G. (2008). *The postgraduate research handbook*. 2nd ed. Hampshire: Palgrave Macmillan.

Wlassoff, V. (2014). *Gate control theory and pain management*. [Online] Available at: <http://brainblogger.com/2014/06/23/gate-control-theory-and-pain-management>. [Accessed 14 June 2016].

World Health Organization [WHO] (2016). Standards for improving quality of maternal and newborn care in health facilities. *WHO Library Cataloguing-in-Publication Data*.

Appendices

Appendix A



University of Fort Hare
Together in Excellence

ETHICAL CLEARANCE CERTIFICATE
REC-270710-028-RA Level 01

Certificate Reference Number: NIK041SOKA01

Project title: **Exploring Women's Experience of Fundal Pressure during the Second Stage of Labour in a Maternal Obstetric Unit in the Eastern Cape, South Africa**

Nature of Project: Masters

Principal Researcher: Uchenna Okafor

Supervisor: Prof V.C Nikodem
Co-supervisor: Dr M Singata-Madlike

On behalf of the University of Fort Hare's Research Ethics Committee (UREC) hereby give ethical approval in respect of the undertakings contained in the above-mentioned project and research instrument(s). Should any other instruments be used, these require separate authorization. The Researcher may therefore commence with the research as from the date of this certificate, using the reference number indicated above.

Please note that the UREC must be informed immediately of

- Any material change in the conditions or undertakings mentioned in the document
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research

The Principal Researcher must report to the UREC in the prescribed format, where applicable, annually, and at the end of the project, in respect of ethical compliance.

Special conditions: Research that includes children as per the official regulations of the act must take the following into account:

Note: The UREC is aware of the provisions of s71 of the National Health Act 61 of 2003 and that matters pertaining to obtaining the Minister's consent are under discussion and remain unresolved. Nonetheless, as was decided at a meeting between the National Health Research Ethics Committee and stakeholders on 6 June 2013, university ethics committees may continue to grant ethical clearance for research involving children without the Minister's consent, provided that the prescripts of the previous rules have been met. This certificate is granted in terms of this agreement.

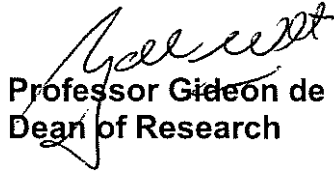
The UREC retains the right to

- Withdraw or amend this Ethical Clearance Certificate if
 - o Any unethical principal or practices are revealed or suspected of Relevant information has been withheld or misrepresented
 - o Regulatory changes of whatsoever nature so require
 - o The conditions contained in the Certificate have not been adhered to
- Request access to any information or data at any time during the course or after completion of the project.
- In addition to the need to comply with the highest level of ethical conduct principle investigators must report back annually as an evaluation and

monitoring mechanism on the progress being made by the research.
Such a report must be sent to the Dean of Research's office

The Ethics Committee wished you well in your research.

Yours sincerely



Professor Gideon de Wet
Dean of Research

30 June 2015

Appendix B: Ethics Research Confidentiality and Informed Consent Form



University of Fort Hare
Together in Excellence

Ethics Research Confidentiality and Informed Consent Form

I Uchenna Okafor (Student number 201006014) declare that I am a Master student enrolled at the University of Fort Hare, Department of Nursing. I am currently doing research on: **Exploring Women's Experience of Fundal Pressure during the Second Stage of Labour**. I will ask you a few questions on how you felt when midwives pushed on your stomach (applied fundal pressure) to help you to give birth to your baby (second stage of labour).

Please understand that you are not being forced to take part in this study. You can say no if you do not want to take part in the study. If you decide not to take part, it will not affect your treatment and care in anyway.

However, I would really appreciate it if you would be willing to share your thoughts with me. If you agree to participate, you may stop me at any time and tell me that you don't want to go on with the interview. If you wish to withdraw there will also be no penalties and you will NOT be treated differently from other patients in ANY way. The answers you give will be recorded and after I have written them down on the computer will I delete all the recorded messages. Only the supervisors of my research project, the translators and I will listen to the tapes, nobody else will have access to the recordings. Your answers will not be made known to the staff but will be included anonymously in an article (publication in an academic magazine) and the master dissertation (research book). Anonymously mean that nowhere will I write down your name. I will not be recording your name anywhere on the

questionnaire and no one will be able to link you to the answers you give. All the information (interviews and recordings) will be treated confidentially and kept in a safe place.

The interview will last around 30 minutes. I am going to interview between 3-10 women who had experience fundal pressure during second stage of labour. I will be asking you only a few questions and ask that you are as open and honest as possible in answering these questions. There is no right or wrong answers. The questions are about how you felt when you were giving birth to your baby. Some questions may be of a personal and/or sensitive nature. All that is ask from you is to answer the questions as best and as honest as you can. As this study only involves asking and answering a few questions do we not anticipate any risks or discomfort. If you feel emotionally upset by talking about what happened during labour can I refer you to a psychiatric nurse who can counsel you (discuss your emotional issues with her).

There is no cost involve for you to participate in the study. There may also be no direct benefit for you by participating in the study other that you may feel better if you had shared your experiences with me. The answers you share with me may help midwives and doctors in future on how to deal with experiences of women who had fundal pressure applied to them to help them to give birth.

My name is Uchenna Okafor (Student number 201006014) and you can contact me on 0710836536 if you have any questions related to the interview. You can also contact Prof G De Wet, Dean of Research at 043 704 7512, if you need confirmation of the ethical principles of the study. Please note that the University Research Ethical Committee has given permission to me to conduct the study and may also request access to any records if required. Research will be conducted according to Good clinical principles based on the Declaration of Helsinki

INFORMED CONSENT

I hereby agree to participate in research regarding **Exploring Women’s Experience of Fundal Pressure during the Second Stage of Labour in a Maternal Obstetric Unit in the Eastern Cape, South Africa.**

I understand that I am participating freely and without being forced in any way to do so. I also understand that I can stop this interview at any point should I not want to continue and that this decision will not in any way affect me negatively.

I understand that this is a research project whose purpose is not necessarily to benefit me personally.

I have received the telephone number of a person to contact should I need to speak about any issues which may arise in this interview.

I understand that this consent form will not be linked to the questionnaire, and that my answers will remain confidential.

I understand that if at all possible, feedback will be given to my community on the results of the completed research.

.....
Signature of participant

Date:.....

I hereby agree to the tape recording of my participation in the study

.....
Signature of participant

Date:.....

Appendix C: Ethical Permission from the Buffalo City Metro Health District



BUFFALO CITY METRO HEALTH DISTRICT

OFFICE OF THE SUB-DISTRICT MANAGER

9 Vincent Road • Vincent • East London • 5200, Eastern Cape
 Private Bag X 9015 • Main Post Office, East London • 5200 • Eastern Cape
 Tel: +27 (0)43 711 1100 • Fax: +27 (0)43 721 1972 • Website: www.ecdoh.gov.za

Enquiries: Ms NV Nelani

Okafor Uchenna B
 c/o University of Fort Hare
 East London

Dear Sir/Madam

PERMISSION TO CONDUCT ON EXPLORING WOMEN'S EXPERIENCE OF FUNDAL PRESSURE DURING THE SECOND STAGE OF LABOUR IN A PUBLIC HOSPITAL IN EASTERN CAPE, SOUTH AFRICA

Permission is herewith granted to you to do experiential learning in Buffalo City Sub District as requested. Kindly familiarize yourself with the conditions below before commencing with your study.

1. The learner will conduct research learning without compromising client's confidentiality and the smooth running of the service.
2. The researcher will not provide/publish any reports/statements without prior discussion with and permission of the sub district.
3. A copy of the South African Nursing Council (SANC) receipt must be submitted to the sub district office before commencing the study.
4. The sub district will not be held liable for any loss, damage or injury suffered by the researcher in the process of conducting the research.

I accept the conditions as stated in the abbreviated version of Department of Health Agreement Clause for researchers.

Uchenna B. Okafor

Full Name & Surname

[Signature]

Signature

29/10/15

Date

Nonpucuko Gaba

Witness Name & Surname

[Signature]

Signature

29/10/15

United in achieving quality health care for all

Fraud prevention line: 0800 701 701
 24 hour Call Centre: 0800 032 364
 Website: www.ecdoh.gov.za



Appendix D: Ethical Permission from the Eastern Cape Department of Health



Eastern Cape Department of Health

Enquiries: Zonwabele Merie

Tel No: 040 608 0830

Date: 26th August 2015

Fax No: 043 642 1409

e-mail address: zonwabele.merie@ehealth.gov.za

Dear Ms Uchenna Okafor

Re: Exploring women's experience of fundal pressure during the second stage of labour in maternal obstetrics unit in the Eastern Cape, South Africa (EC_2015RP40_306)

The Department of Health would like to inform you that your application for conducting a research on the abovementioned topic has been approved based on the following conditions:

1. During your study, you will follow the submitted protocol with ethical approval and can only deviate from it after having a written approval from the Department of Health in writing.
2. You are advised to ensure, observe and respect the rights and culture of your research participants and maintain confidentiality of their identities and shall remove or not collect any information which can be used to link the participants.
3. The Department of Health expects you to provide a progress on your study every 3 months (from date you received this letter) in writing.
4. At the end of your study, you will be expected to send a full written report with your findings and implementable recommendations to the Epidemiological Research & Surveillance Management. You may be invited to the department to come and present your research findings with your implementable recommendations.
5. Your results on the Eastern Cape will not be presented anywhere unless you have shared them with the Department of Health as indicated above.

Your compliance in this regard will be highly appreciated.

SECRETARIAT: EASTERN CAPE HEALTH RESEARCH COMMITTEE



Isimiso eNqanambileyo!