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EXPERIENCES OF MIDWIVES REGARDING THE USE OF PHARMACOLOGICAL AND NON-PHARMACOLOGICAL LABOUR PAIN INTERVENTIONS IN LEJWELEPUTSWA DISTRICT IN FREE STATE

BY

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SUPERVISOR: DR DAPHNE MURRAY

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DECLARATION

I, Limakatso Parkies, hereby declare that the research, Experiences of Midwives On Pharmacological and Non-Pharmacological Labour Pain Management in Lejweleputswa District in Free State, in submission for the degree of Master of Public Health at the Fort Hare University, is my own work and all external sources used or quoted in this study have been recognised by a complete reference list.

L.E. Parkies Date: 3rd March 2022

CERTIFICATION

This mini-dissertation, titled Experiences of Midwives regarding the use of Pharmacological and Non-Pharmacological Labour Pain Management in Lejweleputswa District in Free State, meets the guidelines outlining the award of the postgraduate degree Master of Public Health at the Fort Hare University and is approved for contribution to scientific knowledge and literary presentation.

SUPERVISOR Dr Daphne Murray

SIGNATURE 

DATE : 7th March 2022

DEDICATION

To my younger daughter, Lebohang: I dedicate this academic work to you for being my personal assistant throughout the period of study, and for always making sure that my documents are up to standard. You are my pillar of strength. To my elder daughter, Masetjhaba, and my grandchildren, Mpho and Amohelang, thank you for your support and love.

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Further gratitude goes to the Free State Department of Health for allowing me to conduct my study in its institutions, the CEOs of the institutions where the study was done for allowing me entry into their workplaces, and the midwives in institutions where the study was conducted for their participation in the study.

ABSTRACT

Due to the disabling effects of severe labour pains, labour pain management remains an important topic in midwifery and needs to be reviewed more often. According to studies, various pain relief options, both pharmacological and non-pharmacological, are available to help women cope with pain, but midwives did not employ these techniques adequately because of various experiences. Studies further indicate that, though the limited number of these techniques were employed they were not effective on some women.

Thus, the purpose of this research study was to explore and describe midwives' experiences on pharmacological and non-pharmacological labour pain management in the Lejweleputswa District of the Free State Province. This study employed a qualitative, descriptive, explorative, and contextual design. A purposive sampling technique was used to select the participants. The target population was midwives who work in the maternity wards of the institutions under study with three to five years' experience in midwifery. Individual, face-face, semi-structured interviews were conducted; these were recorded for the researcher's reference purposes, so as not to overlook important information. In addition, the researcher made use of field notes, recording in them what was heard, observed, felt, experienced, and thought during the interview.

Ethical principles and trustworthiness were maintained throughout this study. Data analysis was done using Tesch's approach to open coding in qualitative research. Confidentiality and anonymity were ensured throughout the interviews. The nine themes and 19 sub-themes that emerged during data analysis were discussed comprehensively.

The findings indicate that midwives use both pharmacological and non-pharmacological methods in managing labour pain. Some methods are effective in relieving pain for certain mothers, while other methods proved ineffective. Midwives administer Pethidine and Phenergan as per doctors' prescription; non-pharmacological methods, such as back massage, deep breathing exercises, mobilisation, and warm baths or showers are also employed. Midwives provide pharmacological methods to all women in labour, and routinely employ non-

pharmacological methods. Although the midwives are willing to manage patients' pain, they face certain challenges, such as shortage of staff, increased workload, as well as inadequate resources. This leads to inadequate provision of non-pharmacological care.

In conclusion, the midwives' experiences were that both pharmacological and non-pharmacological techniques were used for all labouring women and they had relaxing and calming effects on some women, resulting to them giving birth with ease, although for some they were not effective. In addition, the pharmacological interventions caused drowsiness to some women and babies. The findings will provide evidence-based information to the Free State Department of Health in order to assist policymakers and stakeholders in initiating and developing appropriate policies, guidelines, and interventions that can improve labour pain management. The Free State Department of Health should consider using other opioids and non-opioids in managing labour pain to broaden the scope of pain relief methods available to the midwives.

Key words: experiences, midwife, labour and labour pain, pharmacological and non-pharmacological interventions

CHAPTER 1: OVERVIEW OF THE STUDY

1.1. INTRODUCTION AND BACKGROUND

Labour is a normal process that every pregnant woman undergoes for the baby to be born. A painful process, which is often accompanied by labouring women experiencing fear and anxiety, especially those who are giving birth for the first time. As Bergman et al., (2020) observe,

> *Pain is a major part of giving birth which is accepted as stated in the scripture that God told the woman, "I will surely multiply your pain in childbearing; in pain you shall bring forth children"*

Childbirth is a normal part of a woman's life; it is also very special, as she welcomes a new member. While it is a joyous occasion for parents, families, and communities, women in labour are often stressed and anxious due to pain and a lack of knowledge as to what to expect during labour (Czech et al., 2018; Wassihun & Zeleke, 2018).

The researchers concern regarding the use of pharmacological and non-pharmacological labour pain relief interventions in Lejweleputswa was that, although both these interventions were used to relieve labour pain, for some women they were not effective as they continued experiencing pain. In addition, it was observed that the midwives in Lejweleputswa had limited options of both these techniques unlike in other countries and this appeared to be a barrier in providing optimal care, hence the need to find out their experiences as explained by them.

The number of children the woman has, her mental stability and her experience of labour pain can impact negatively or positively on the present childbirth. In addition, religious and cultural beliefs, as well as how informed she is can either help the female to manage with labour discomfort or can hamper her coping abilities (Yadollahi et al.,2018). Labour pain is normal and physiological. It is due to various dynamics, such as reduced blood flow to the uterus during a contraction and stretching of the cervix in the initial phase, and widening of the vagina and the perineum and pressure on the pelvic floor in the second phase of labour (Mousa et al., 2018).

Labour pain has visceral and somatic stages. Visceral stage takes place in the initial stage of labour due to the pressure on the cervix and dilatation of the cervical os. The somatic stage takes place at the beginning of the second stage until the birth of the baby, and is due to the pressure on the vagina, and the perineum (Czech et al., 2018; Mwanza et al., 2018). This pain is said to be an individual feeling, and is complex, multidimensional, and subjective. Women often deal with it differently; some prefer caesarean section rather than natural birth. The individuality and subjectivity of the pain are seen where some of the women scream at the top of their voices while others do not (Boateng et al., 2019; Czech et al., 2018). Geltore et al., (2018). shares the same view on the subjectivity of pain.in that different women's tolerance of pain is not similar as some women may scream even with mild pain whereas other may be quiet even though they have severe pain.

Based on the above, midwives must involve individual women in planning their pain management during labour by offering palliative interventions according to women's requests and choices, provided there are no contraindications. It is therefore important that, during the antenatal period, women are educated about childbirth processes, including available labour pain relief options.

Studies globally emphasise that labouring mothers should be given effective analgesia to relieve pain and thus ensuring positive childbirth outcomes. The method of pain relief should depend on the woman's needs, relevant resources, and organisational guidelines, as long as it does not interfere with woman's mobility. Furthermore, analgesia should be provided timeously and equitably for all women in need thereof (WHO, 2015; McCauley et al., 2018). In the Netherlands, the labour pain management protocol allows midwives to give women pain medication per their request. In addition, during antenatal mothers must be informed of various pain interventions obtainable for them during birth (Klomp & Witteveen, 2017). Poor management of labour pain can have bad outcomes for the pregnant women, their significant others as well as for the health profession in general (Boateng et al., 2019).

Globally, midwives are vital in the management of the mother and baby throughout pregnancy as such, they require knowledge and skills in different aspects of obstetrics, including pain management during labour whilst ensuring safety for the mother and the baby. In South Africa, a midwife is a registered nurse who went through education

and training under the South African Nursing Council (SANC), a standard setting body which oversees the education and practice of the nursing profession. To qualify as a midwife, nurses should adhere, firstly, to regulation R425 (four-year programme), which sets out minimum requirements and approval for the education and training of a nurse for registration as a general nurse and midwife. Secondly, the prospective midwife should complete a one-year diploma (R254) (SANC, 2005).

Midwives in South Africa are the ones responsible for maternal and child healthcare services in primary healthcare centres and hospitals. Thus, they always have to apply their independent function of decision-making in the management of mothers and babies during childbirth. Midwives' characteristics, such as the number of years in the midwifery profession and the number of births the midwife has given to, can have a bearing on how the midwife distinguishes and manages the labour pain (Klomp et al., 2017).

Most health facilities have various pharmacological palliative options, such as nitrous oxide, Entonox, epidural analgesia, opioids and non-opioids available to labouring women. These are mostly preferred over non-pharmacological interventions, as they are believed to be effective; however, they can have untoward effects on labour as well as on the woman and her baby. On the other hand, non-pharmacological interventions are effective in their own way and have no harmful outcomes to the mother, foetus, or progress of labour (Boateng et al., 2019).

Midwives in Ghana and South Africa manage labour pain by using pain-relieving drugs, either on their own or per prescription by a doctor, combined with a variety of non-medicinal interventions like emotional support, rubbing of the back, and deep breathing exercises (Aziato et al., 2017; South African National Department of Health (SANDoH), 2016). In the Netherlands, on the other hand, around 82% of all women who have vaginal births in midwife-led institutions are not given medicinal pain relief; rather, midwives help women to deal with their labour pain. On the other hand, in obstetrician-led care institutions, women are routinely offered medicinal palliative options at an early stage of labour (Klomp et al., 2017).

The attitude towards pain relief may be due to an individual's upbringing, social beliefs and level of maturity (Ponnusamy et al., 2017). Thus, midwives should individualise

the assessment methods for labour pain as this will guide them on how a specific woman should be managed (Aziato et al., 2017). Furthermore, the stage of labour in which the woman is, her mental and physical wellbeing, as well as her birth preparation, should guide the midwives on managing labour pain (Department of Health and Wellbeing, Government of South Australia (DoHWSA), 2017).

Pharmacological pain interventions involve the use of different pain control drugs in the form of opioid and non-opioid pharmacological agents (Geltore et al., 2018). According to Seller et al., (2018:422), these are divided into systemic, inhalation, local analgesics, and regional anaesthesia. Systemic analgesics are administered intramuscularly or intravenously. These include sedatives, hypnosis, and tranquilisers; Pethidine and Phenergan are drugs of choice in most countries, including South Africa (Aziato et al., 2017; SANDoH, 2016), whilst some countries also use painkillers such as paracetamol and tramadol (Mousa et al., 2018).

Inhalation analgesics, such as Entonox (nitrous oxide and oxygen), are commonly used by most countries, and are given in the late initial stage and during the second stage of labour (SANDoH, 2016; Seller et al., 2018:422). Local analgesics include the paracervical block in the late first stage, pundendal nerve block in the second stage, and direct perineal infiltration with a local anaesthetic in the perineal phase of the second stage of labour (Seller et al., 2018:422). Regional anaesthesia as an epidural is injected into the lumbar region of the spine, while spinal analgesia is injected in the subarachnoid space (Seller et al., 2018:422).

Non-pharmacological therapies are meant to assist women to cope with the labour pain to avoid discomfort, they further divert the woman's concentration on the pain thus reducing the feeling of pain and this may reduce the need for medicinal pain relief which has some side effects (Czech et al., 2018).These, amongst others, include, water birth and water immersion, transcutaneous electrical nerve stimulation(Tens),massage techniques, application of pressure on certain parts of the body, use of essential oils and flowers as well as application of electrical stimulus with electrodes (Czech et al., 2018). Mousa et al., (2018) listed additional techniques such as family support, breathing exercises, therapeutic touch, relaxation and position changing or mobilisation. These methods help in relieving mild labour pain especially in the latent phase of labour thus also reducing use of drugs that can have the negative

or untoward effects on the mother and the baby. In addition, these methods reduce labour pain with no adverse effects on the mother, the baby and the progress of labour (Mwakawanga et al.,2022) Furthermore, non-pharmacological techniques promote good interpersonal relationship between midwives and labouring women, have relaxing effects, are cost-effective, non-invasive and their employment is effortless (Boateng et al.,2019).

1.2. PROBLEM STATEMENT

Labour pain management remains an important topic in midwifery and needs to be reviewed more often. Some studies conclude that, although midwives knew about pharmacological labour pain relief methods they did not provide women with enough dosages of analgesics because they were afraid of the untoward effects these might have on the mother and the baby. The other reason for poor pain management was increased workload (Aziato et al., 2017). Furthermore, some of the midwives think that pain during labour is natural; as such, they encourage women to tolerate the pain, further contributing to substandard quality of care for labouring women (Mousa et al., 2018). Midwives are not mindful of some non-pharmacological pain relief techniques, hence they are not utilised in several maternity wards (Geltore et al., 2018). Based on the above, the researcher felt a need to explore the experiences of Lejweleputswa midwives regarding the use of pharmacological and non-pharmacological labour pain management interventions.

1.3. PURPOSE OF THE STUDY

This research has as its purpose to explore the experiences of midwives regarding the use of pharmacological and non-pharmacological labour pain management interventions in the Matjhabeng Municipality of the Lejweleputswa District, Free State province, South Africa, with the intention of providing recommendations to the Free State Department of Health.

1.4. SPECIFIC OBJECTIVES OF THE STUDY

As specific objectives, the study intended:

a) To describe the midwives' experiences regarding pharmacological labour pain management interventions in the Matjhabeng Municipality of Lejweleputswa District; and
b) To describe the midwives' experiences regarding non-pharmacological labour pain management interventions in the Matjhabeng Municipality of Lejweleputswa District.

1.5. RESEARCH QUESTIONS

The current study's research questions are:

a) What are the midwives' experiences with using pharmacological labour pain interventions in the Matjhabeng Municipality of Lejweleputswa district?
b) What are the midwives' experiences with using non-pharmacological labour pain interventions in the Matjhabeng Municipality of Lejweleputswa District?

1.6. SIGNIFICANCE OF THE STUDY

The study intended to acquire knowledge of and insight into the experiences of midwives concerning the utilisation of both pharmacological and non-pharmacological pain relief interventions. Specifically, this applies to midwives in the Matjhabeng Municipality of the Lejweleputswa District of the Free State province in South Africa. The findings will provide evidence-based information to the Free State Department of Health in order to assist policymakers and stakeholders in initiating and developing appropriate policies, guidelines, and interventions that can improve labour pain management. Improved labour pain management will reduce complications for mothers and their babies. This will further reduce the litigations and costs with which the Department of Health may be faced.

1.7. DELIMITATIONS OF THE STUDY

The research was done in Matjhabeng Municipality, one of five municipalities in Lejweleputswa District. The other districts –Masilonyana, Tokoloho, Tswelopele, and Nala – were not investigated in this research. The study was conducted in only two

district hospitals, excluding the regional and private ones. The population was midwives in the maternity wards of these two hospitals.

1.8. OPERATIONAL DEFINITION OF KEY CONCEPTS

Below follows, a list of operational definitions of key concepts referred to in this study.

Experience

This is defined as information and the ability obtained through prolonged exposure to something or an activity (Oxford, 2015:523). In this study, experience means the feelings, expectations, as well as awareness about events encountered by midwives who currently care for labouring mothers in Matjhabeng Municipality.

Midwife

A midwife is a nurse who has achieved her/his prescribed studies in midwifery and obtained the required diploma to be registered as a midwifery practitioner (Mosby 2013:1430). This study operationalises the term as a trained health professional who provides help and most important medical care to women during pregnancy, observing, attending labour and delivery of labouring women, as well as caring for the mothers and baby's afterbirth in Matjhabeng Municipality.

Pharmacological therapy

This term refers to interventions that involve the use of one or multiple medicines (Mosby, 2013:1381). In this study, pharmacological therapy means any oral or parenteral substance/drug used to alleviate labour pain.

Non-pharmacological therapy

Non-pharmacological therapy is a term describing interventions that do not involve medications (Raynor & Marshall, 2014:314). For the purpose of this research, non-pharmacological therapy means the non-medicinal pain management methods utilised by midwives to relieve labour pain.

Labour

Simply put, labour is the parturition or childbirth, which occurs in various stages, i.e.: opening of the cervical os, birth of the baby, and delivery of the placenta (Freshwater& Maslin-Prothero, 2014:324). In this study, labour means the process from the beginning of cervical dilatation to the delivery of the placenta.

Labour pain

This term generally indicates recurring pains of increasing severity and frequency due to contraction of the uterus at delivery (Mosby, 2013:1003). In this study, labour pain is the pain associated with contraction of the uterus in labour.

1.9. RESEARCH METHODOLOGY AND DESIGN

A qualitative approach was chosen for this research to describe the midwives' experiences on pharmacological and non-pharmacological labour pain management interventions in the Matjhabeng Municipality of Lejweleputswa District.

1.10. DESIGN

This study followed a descriptive, exploratory and contextual design to look into the midwives' experiences on management of pain during labour. An exploratory qualitative approach allowed the researcher to explore the phenomenon in-depth. According to Brink et al., (2018:96) descriptive designs are employed where the researcher requires more information in a specific field about a particular phenomenon as it occurs naturally.

1.11. RESEARCH SETTING

Brink et al., (2018:47) describes the research setting as the particular place or places and or location or site where data collection occurs. This study was conducted in the maternity wards of two resource-limited district hospitals in the Matjhabeng Municipality of Lejweleputswa District in the Free State. Matjhabeng has a total population of 429113(Census, 2016), and is one of five municipalities in the Lejweleputswa District of the northern Free State.

1.12. POPULATION

Population means the whole group or elements, whether persons or objects, that the researcher is interested in and have the characteristics required for the study (Brink et al., (2018:116) or a set of either people, animals, objects nor events with particular properties (LoBiondo-Wood & Haber 2018:213).

1.12.1. Target Population

In this study, target population consisted of midwives who possessed three to five years of skill in midwifery, and who worked in the two district chosen hospitals where the study was conducted.

1.13. SAMPLE AND SAMPLING PROCEDURE

A sample is a subset of elements that make up the population and are the most fundamental units about which data or information is collected. Furthermore, sampling is the selection of the subset or portion of the whole group or elements that will serve as representation for the whole population (LoBiondo-Wood & Haber 2018:215; Polit & Beck 2021:261). A non-probability sampling method was utilised, and purposive sampling technique was applied to select the participants

1.13.1 Inclusion Criteria

Included in the study were midwives who worked in maternity wards of both selected hospitals, and who had an experience of three to five years in midwifery.

1.13.2 Exclusion Criteria

Midwives who will be on annual or maternity leave during the time of the study are excluded, as they may not be available during the period of study.

1.14. RECRUITMENT STRATEGY

Following ethics approval and permission from the Free State Department of Health, letters were written to the CEOs of the hospitals where research was conducted to obtain permission. The CEOs informed their nursing managers about the intended study. Once permission was granted, the recruitment of the qualifying midwives to participate in the study was commenced.

A researcher requested to meet the nurses in charge of labour wards, as they were gatekeepers for the study. During the meeting, the researcher explained the reason for the research, what its worth, expectations from participants, that taking part in the study is out of free will, and the necessity to sign a written consent form should the participants be willing to participate.

All documents of approval were submitted to the managers as evidence that ethical approvals were met. In addition, they were given information leaflets with more details about the study to share with the participants. During their meetings, managers informed the midwives about the study and encouraged them to participate. The researcher left contact details for those midwives who were willing to participate. Finally, the researcher contacted individual participants to provide them with more clarity on study expectations, and secured appointments and agreements for interview sessions.

1.15. RESEARCH INSTRUMENT

A semi-structured interview guide with open-ended questions which covered the researcher's areas of interest was utilised to facilitate the interview process with the intention of gaining insight into the midwives' experiences (Polit & Beck 2021:514). The open-ended nature of the questions further afforded the participants the opportunity to freely share their experiences in more detail and ensured that the researcher obtains all the information required. The guide was reviewed by an expert and was administered to a few selected participants to test whether the questions evoked the required information (Polit & Beck 2021:641).

1.16. DATA COLLECTION PROCEDURE

Brink et al., (2018:133) define it as the method which the researcher uses to collect data to answer the research question. Furthermore, it lays out an audit trail, which distinctly describes how data was collected and how the results or findings of the study were obtained. The researcher obtained ethical clearance from the University of Fort Hare Ethics Committee in addition, the researcher obtained permission to conduct the study at the selected district hospitals from the Free State Department of Health and the CEOs of said hospitals.

Data collection was arranged so that midwives' daily routines were not interrupted. Participants were not inconvenienced, as the interviews were arranged by appointment, and took place in the afternoon or during their lunch times. The interviews lasted for 45 to 60 minutes each. The researcher conducted one on one interviews with participants in their settings using English. The participants were granted permission to freely share their pain management experiences. Probing depended on the responses of the participants to gain in-depth understanding of the responses.

Participants who volunteered to take part in the study signed consent forms (*cf*. Addendum C). The interviews were recorded after obtaining permission to do so from the participants, the researcher then transcribed these interviews verbatim. Field notes were taken by a research assistant and were kept to ensure a valid representation of the participants' views.

1.17. DATA ANALYSIS

Data was analysed by using the eight steps of Tesch's (1990) coding process (as cited in Cresswell, 2009:186; Botma et al., 2010: 224), as outlined in chapter 3.

1.18. TRUSTWORTHINESS OF THE STUDY

Lincoln and Guba's criteria for enhancing research trustworthiness was employed. These include credibility, dependability, confirmability, and transferability (as cited in Polit & Beck, 2021:154). What follows below are brief definitions of these terms. A more detailed discussion can be found in Chapter 3.

1.18.1 Credibility

Credibility means the truthfulness of the research findings and the correctness of the interpretations thereof (Brink et al., 2018:158).

1.18.2 Confirmability

Confirmability implies objectivity; that is, whether the findings originate entirely from participants and conditions of the study without the researcher's bias, motives, or viewpoint (Polit & Beck, 2021:570).

1.18.3 Transferability

Transferability means the degree to which the results mean the same to others in the same situations, or the degree to which results can be used in different contexts and groups (Polit & Beck, 2021:570).

1.18.4 Dependability

Dependability is the degree to which the results will be compatible if the research is repeated with similar participants in the same circumstances (Polit & Beck, 2021:569).

1.19. ETHICAL CONSIDERATIONS

Ethical considerations consist of a set of principles that the researcher must follow to ensure the protection of research participants by ensuring that the research benefits are more than the risks (Brink et al., 2018:27). They are crucial and should be integrated before, during and after the conduct of the research (LoBiondo-Wood & Haber, 2018:232). Ethics has been integrated in every phase of the present study as outlined below.

1.19.1 Respect for Persons

The participants' autonomy and their right to self-determination was upheld by making sure that participants voluntarily took part in the study. Participants were made aware that taking part in this research is completely out of their free will, and that no negative actions will be taken against them should they decide not to participate (Brink et al.,2018:29).

1.19.2 Confidentiality and Anonymity

Confidentiality was continuously upheld during the processes of this study to protect the participants' right to privacy. Participants were guaranteed in writing that their responses will be kept confidential, and that the people involved in the study will only access these responses. In addition, they were informed that their responses will not be connected to them in anyway (Polit & Beck, 2021:141).

1.19.3 Privacy

The right to privacy is referred to as the protection of the participants' personal information and who is eligible to access it (Dhai, 2019:65). In addition, it allows the

participants to decide when and which information are they willing to share. In this study the participants were not forced to share information that they did not want to share and were informed that their responses will be kept private (LoBiondo-Wood & Haber, 2018:236).

1.19.4 Principle of Justice

The principle of justice stresses fair, equitable, and appropriate selection and treatment of participants (Brink et al., 2018:30). Every participant who had the required characteristics was given an opportunity to participate in the study.

1.19.5 Principle of Beneficence

The principle of beneficence is based on the understanding that the researcher has the duty to protect participants from any harm and discomfort by minimising risks (non-maleficence) and maximising the benefits of participating in the study (Polit & Beck,2021:133). The researcher did not subject the participants to any harm or discomfort throughout the study.

1.19.6 Informed Consent

Polit and Beck (2021:137) describe it as participant's full understanding of the contents of the study and which enables them to voluntarily agree to or refuse participation. Participants were given information on the purpose and significance of the research an information leaflet that explained the details of the study was issued to them. Participants who were interested to take part were asked to sign an informed consent form.

1.20. 1.20 DISSEMINATION OF RESULTS

This dissertation will be presented on a compact disk (CD) that will be submitted to the University of Fort Hare Faculty of Health Sciences, and to the HOD of the Free State Department of Health. Articles will be published in accredited journals and presented at conferences such as the Free State Research Day.

1.21 CHAPTER SUMMARY

In this chapter, the topic was identified as well as contextualised in relation to the aims, objectives, and research questions. Further, the research methodology and design, as well as ethical underpinnings and considerations, were briefly outlined.

1.22 OUTLINE OF THE CHAPTERS

The chapters that follow each have their own outline and purpose. In Chapter 2, an overview of exact literature regarding labour and labour pain, pain relief during childbirth, and pharmacological and non-pharmacological pain interventions during labour is provided. The chapter further includes a review of scholarship relating to barriers regarding the utilisation of pharmacological and non-pharmacological pain relief options.

Chapter 3 comprises detailed discussions on elements touched on in the current chapter, such as the research design, research- setting and population, and the research instrument. It further provides a comprehensive overview of the ethical considerations and trustworthiness of the study, alluded to in preceding sections. Finally, the chapter consist of a review of the data- collection method, analysis, and dissemination of results.

The fourth chapter presents the data analysis and findings by first explaining the operationalisation of the data for analysis purposes, literature control, and participant demographics. The themes as identified during interviews, having been clustered, are then discussed, along with emergent sub-themes.

In the final chapter, the researcher provides a general summary of the study's objective and purpose as well as conclusions drawn from the analysed themes, as noted in chapter four the limitations of the study and recommendations for further research are supplied.

CHAPTER 2: LITERATURE REVIEW

2.1. INTRODUCTION

Literature review comprises exploring research previously conducted on the subject at hand to develop an understanding of what is known about the topic (Brink et al., 2018:57). In this study literature, review involved the systemic search of information from worldwide primary and secondary sources based on the experiences of midwives on use of pharmacological and non-pharmacological labour pain relief interventions with the intention of answering the research question at hand. The search commenced from 2019 to 2022.

2.2. SEARCH METHODS

This study reviewed literature on the experiences of midwives related to pharmacological and non-pharmacological labour pain interventions, highlighting the different types of medicinal and non-medicinal techniques. It also reviews the underlying reasons for inadequate or poor management of pain during labour in the South African context, as well as in continental Africa and across the globe. Electronic search databases, namely Google Scholar, Science Direct, Medline, Web of Science, EBSCO Host, PubMed, BIOMED Central, and African Journal Online, were used.

The following keywords were used in the literature search: childbirth, labour, and experience, pain, and pain relief. The following basic search phrases were also used:

a) Analgesia or obstetric analgesia for labour;
b) Pharmacological and non-pharmacological labour pain relief;
c) Nurses or midwives' experiences, perceptions, knowledge and practices of labour pain relief;
d) Support during labour; and/or
e) Women's/Mother's childbirth experiences.

Only relevant, peer-reviewed documents published in English were retrieved for review. Reviewed information was acknowledged by means of the Harvard referencing style.

2.3. LABOUR AND LABOUR PAIN

Labour pain is normal and physiological due to the contraction of the uterus (Seller et al., 2018:412). It can further be attributed to various factors, including reduced blood flow to the uterus during a contraction and opening of the cervical os in the initial phase of labour, widening of the vagina and perineum, and pressure on the floor of the pelvis in the second phase (Mousa et al., 2018). Labour pain is explained as comprising visceral and somatic types. The visceral stage takes place in the initial stage of labour due to the pressure on the cervix, which leads to cervical os dilation. The somatic takes place in the second stage until the birth of the baby, and is due to the compression of the vagina and the perineum (Czech et al., 2018; Mwanza et al., 2018).

Giving birth is generally a positive experience for women of childbearing age, but the pain involved is sometimes unbearable, depending on individual pain thresholds. This pain is said to be an individual feeling, and it is complex, multidimensional, and subjective (Boateng et al., 2019; Czech, 2018). Therefore, midwives must individualise the assessment and management of labour pain. In addition, they should assess the labour pain of individual women using various assessment methods (Aziato et al., 2017). Thus, a woman's stage of labour, mental and physical wellbeing, as well as her birth layout should be considered when managing labour pain (DoHWSA, 2017).

Geltore et al., (2018) share the same views regarding the subjectivity of pain, by acknowledging that pain thresholds differ from person to person, as individuals may respond to it in a variety of ways, where one individual may find a specific type of stimuli painful, and others may not. Therefore, all women should have a choice in terms of palliative care according to their preference and individual circumstances (McCauley et al., 2017).

As labour pain and severity are unique to each individual, the attitude toward pain relief may be caused by an individual's background, cultural and social beliefs, and level of maturity, (Ponnusamy et al., 2017). This pain can be traumatic unless midwives provide pain relief which, either pharmacological or non-pharmacological, depending on their attitudes towards the necessity for pain relief during labour, the available pain management protocols, and the mother's preferences.

The severity of this pain and midwives' intermittent failure to manage it can have adverse effect, such as those cited in a study on Ethiopian women's perspectives:

> *Childbirth is a traumatic event for 34% of mothers, 1.9% posttraumatic stress disorder and 10.9% develop severe acute postpartum pain in 36 hours, 9.8% persistent pain and 11.2% depression at 8 weeks (Bitew et al., 2016).*

Moreover, according to the literature, labour pain increases the output of certain substances, which disturb the uterine action (Seller et al., 2018:420). Boateng et al. (2019) further cite the traumatic outcomes of labour pain as maternal consequences, including high stress levels, increased blood pressure, increased sugar levels, and constipation. Moreover, labour pain may lead to placental insufficiency, resulting in asphyxia, and or respiratory distress of the foetus. The mentioned outcomes make women to feel powerless and lose confidence towards the health professionals' skills in managing the labour pain as well as to the health systems.

It is evident from globally conducted studies that women should be provided with palliative intervention during labour, along with continuous support, in order to allay negative childbirth experiences (Aziato et al., 2017).

2.4. PAIN RELIEF DURING CHILDBIRTH

The management of labour pain includes pharmacological and non-pharmacological interventions. National and international guidelines advocate for both methods, with more emphasis on the latter. Non-pharmacological methods include, for example, the presence of a companion for support, reassuring and providing bodily relaxation like soothing touch or rubbing the back, and warm baths or showers, (WHO, 2018; SANDoH, 2016). The World Health Organization further advises, mobilisation of women and standing position during labour for risk-free mothers to divert the woman's thoughts from the pain as non-pharmacological techniques (WHO, 2018).

Global studies further stipulate some drugs of choice, namely epidural analgesia, and injectable medication like Fentanyl, Morphine, and Pethidine, which should be offered during the first or second phase of labour to lessen the pain of the perineum and enhance normal birth. These can be used along with rubbing of the perineum, warm water immersion, and a "hands-on" supporting the perineum (WHO, 2018). McCauley

et al. (2018) note that respectful maternity care has an element of pain management for the wellbeing of the mother during and after childbirth. On the other hand, Seller et al., (2018:420) advocate for the use of analgesia and anaesthesia to reverse the adverse effects of painful labour on the uterine action, as well as to promote more efficient uterine action, ultimately shortening the duration of labour. Studies indicate that there are two versions of palliative practices. In high-income countries, pain relief is part of the labour process in conjunction with non-pharmacological methods, in low-income countries; there is poor management of labour pain, as labour is regarded as a natural process, which the women should endure without intervention (Mousa et al., 2018).

Poor labour pain management may lead to untoward outcomes for the pregnant woman, her significant others, healthcare professionals, and healthcare systems (Boateng et al., 2019). Painful labour increases the output of certain substances that disturb the uterine action (Seller et al., 2018:420). If the uterine action is disturbed, the progress of labour can be prolonged, resulting in complications for both mother and baby. Furthermore, failure on the side of midwives to provide labour pain relief can have traumatic outcomes, which can be detrimental to the life of mother. These outcomes amongst others include fear, depression, confusion, and constipation (Boateng et al., 2019). These traumatic events are emphasised in an Ethiopia study, which indicates that 34% of mothers stated that childbirth is traumatic. A further 1.9% suffered complications of posttraumatic stress disorder, 10.9%developed severe pain 36 hours' post-birth, and 9.8% experienced constant pain. Moreover, 11.2% developed depression at eight weeks' post-birth (Bitew et al., 2016).

Complications during labour can subsequently lead to compromise on placental insufficiency with ultimate asphyxia, and respiratory distress of the foetus. What is evident from the studies cited earlier is that palliative measures should be provided during labour, along with continuous support, to avoid negative childbirth experiences (Aziato et al., 2017). If not provided, the absence of labour pain interventions could significantly contribute to morbidities and mortalities during labour and childbirth. Given the literature explored, pain relief during labour is important to ensure better labour processes and satisfactory childbirth; when none is provided, it can lead to devastating outcomes for the mother and the baby.

Studies from different countries indicate disparate findings. In some countries, pharmacological and non-pharmacological pain relief interventions are used religiously, whereas some midwives allow women to suffer during labour as they believe that labour pain is natural.

On the other hand, in Ethiopia, 66% of healthcare professionals advocated for the use of various methods of palliative care: including personal coping ability and support from family (Bitew et al., 2016). Around 74% of healthcare workers report that, if they had all of the facilities and resources available, they would provide pain relief to all labouring mothers (McCauley et al., 2017). It is therefore necessary to have policies and education to emphasise the importance of pain relief during the process of giving birth.

The World Health Organization (2018) advocates for pain relief during labour using both pharmacological and non-pharmacological interventions for healthy pregnant women who request palliative intervention during labour. The choice of an intervention should depend on a woman's preference.

2.5. PHARMACOLOGICAL PAIN RELIEF

Studies recommend that all mothers should be given with enough information on pharmacological options available for them during labour. Although these are effective in reducing labour pain, they have untoward effects as well, such as dose-dependency and the requirement of large cumulative doses (Alleemudder et al., 2015). According to Alleemudder et al. (2015), pharmacological pain relief interventions are classified according to their mode of application, and whether they are opioid and or non-opioid types.

In Western countries, nitrous oxide (gas and air) is the most common form of analgesia provided for all labouring women with mild labour pain. Though it is a safe method, it is said to be less effective in relieving pain unless combined with techniques such as TENS and water immersion (Czech et al., 2018).

Although, nitrous oxide does cross the placenta it does not have a negative impact on the heartbeat of the foetus or respiration of the new-born. Women commonly

experience light-headedness, nausea, vomiting to a greater extent as well as less hallucinations, hyperventilation, and tetany to a lesser extent (Aziato et al., 2017).

Non-opioids include paracetamol, which is commonly used, and non-steroidal anti-inflammatory drugs, sedatives, and antispasmodics, which are rarely used. Paracetamol is said to be effective in relieving pain and satisfying labouring women. Midwives sometimes use several pain relief drugs such as Pethidine to manage labour pain. Pethidine calms and sedates women; however, the use thereof is associated with dizziness and vomiting, which are unfortunate outcomes (Aziato et al., 2017).

The majority of countries use intramuscular Pethidine in managing pain during labour. In the UK, midwives are authorised to prescribe and administer the drug (McCauley et al., 2018). In South Africa, it should be prescribed by the doctor in the form of a prescription or as part of institutional protocols.

In Ghana, however, doctors mostly prescribe analgesics, but the absence of doctors, the midwives administered painkillers. Midwives at the district level administered Pethidine on their own, unlike in hospitals where the doctor's prescription was required (Aziato et al., 2017).

Opioids are regarded as more effective in managing labour pain, but can have negative birth outcomes for the mother, the progression of labour, and for the baby. Some mothers become drowsy and unable to push, and some become nauseas to an extent of vomiting. The foetus shows signs of respiratory distress such as decelerations. Furthermore, it can be in the neonate's system for six days' post-birth, leading to respiratory depression, low body temperature, inability to feed, abnormal crying, and apathy (Alleemudder et al., 2015). In this study midwives also experienced that pethidine had the calming and sedating effects, however some women would be so sedated that they failed to push when the baby was ready to come out and some babies were born drowsy but they rarely had serious respiratory distress.

More often, Pethidine is given in conjunction with Phenergan to reduce vomiting associated with Pethidine. Some women demand analgesia for severe labour, which could account for the high use of pharmacological palliative practices. In a few instances, epidural anaesthesia was used for pain management during labour, but

only for women who could afford it (Aziato et al., 2017). In Matjhabeng Municipality, epidural anaesthesia is used mostly for women undergoing caesarean sections.

2.6. BARRIERS REGARDING THE USE OF PHARMACOLOGICAL PAIN RELIEF INTERVENTIONS

Studies by McCauley et al. (2017; 2018) conclude that 52% of healthcare professionals are uncomfortable about administering drugs to manage labour pain because of fear of the untoward effects of these to the mother, her new-born, the progress of labour ascribed to possible healthcare professionals' lack of awareness regarding palliative options during labour. Furthermore, healthcare providers in Tanzania believe that the pain is a sign that labour is progressing and, if removed (especially pharmacological interventions), it will prevent proper evaluation of labour and oversight of important signs of labour (Mousa et al., 2018)

Reasons for non-provision of pain relief in these countries, especially with regards to pharmacological methods, are inadequate knowledge of healthcare providers and women, refusal by women, drugs being out of stock, and fear of side effects (Mousa et al., 2018). In Ghana, midwives were shown not to provide adequate painkillers to labouring women for similar reasons as those of midwives in Tanzania in addition to increased workload; however, they are aware of pharmacological labour pain relief methods (Aziato et al., 2017). Some midwives believe that pain is natural and encourage women to tolerate the pain without intervention, further contributing to substandard care for labouring women (Aziato et al., 2017). An Ethiopian study notes that 38% of midwife's state that pain relief will lead to prolonged labour, and that 19% felt that palliative intervention would have adverse effects on the baby (McCauley et al., 2017). Midwives in Lejweleputswa did not share the same views as midwives in other countries hence they gave all women in labour Pethidine with the view of providing comfort to their women.

According to Maputle (2018), mothers in tertiary hospitals of Limpopo were never provided with labour pain relief medications, as the midwives interpreted the severity of pain differently from that of the women. What occurred at these hospitals was similar to observations made in Southern Ethiopia?

Substantial majority (211 [62.1%]) of health care providers in public health facilities do not use obstetric analgesia to manage labour pain as it was an entirely new concept. Only one respondent administered labour analgesia routinely; 72 (21.2%) of the study participants practiced it sometimes and 56 (16.5%) of the respondents offered labour analgesia on maternal request. Overall, 37.9% of respondents had provided any form of labour analgesia to manage labour pain (Geltore et al., 2018).

Other reasons for not providing pain relief are thought to be the negative attitude of healthcare providers regarding labour pain relief interventions, lack of knowledge, shortage of suitably qualified staff and in availability of guidelines for the administration of drugs during labour and birth (Geltore et al., 2018). Barriers precluding women from requesting or using pain relief are lack of awareness re palliative options, cultural norms, financial constraints, and pain relief not being a priority (McCauley et al., 2017).

2.7. NON-PHARMACOLOGICAL PAIN RELIEF

Non-pharmacological therapies are meant to assist women in coping with the pain of childbirth with the goal of preventing suffering by the labouring woman. According to Anarado et al. (2015), such techniques further minimise the tension and anxiety, which is due to the severity of pain and fear of the unknown, this in turn reduces the feeling of pain by the labouring mother, thus minimising the necessity for more medications. Midwives in various countries use different non-pharmacological strategies, such as empowering women during antenatal, reassurance, calming techniques, deep breathing, acupuncture and acupressure massage, mobilisation, music, and aromatherapy, (Anarado et al.,2015). It is worth noting, that those who had empathy with labouring mothers provided painkillers when pain became severe (Aziato et al., 2017). Furthermore, non-medicinal pain relief methods, such as warm bath, helping women to have positive images, chromotherapy, homeopathy, floral and energy-level support are said to be effective in relieving pain during labour and have a relaxing effect to labouring women (Boateng et al.,2019). Moreover, non-pharmacological methods of pain management have been effective in diminishing the feeling of pain by reducing the severity of pain and increasing the women's ability to endure the pain, reducing pain-related distress, and enhancing the women's ability to cope with pain;

thus, giving the woman and family the feeling of being in control over pain (Rahimi et al.,2018).

The researcher's observation is that midwives in Lejweleputswa hospitals encourage women to mobilise to distract attention from pain as well as to facilitate descent. Breathing through the mouth is also advised, as it reduces pain while also providing more oxygen to the baby, with ultimate positive outcomes. In addition, provision of a pleasant environment, information as to the progress of labour and what to expect, as well as positive attitudes towards women are seen to be effective in distracting the woman from pain and boosting her self-esteem.

Non-pharmacological interventions are effective in relieving pain and should be utilised as part of the extensive management of labour pain. In addition, these methods provide the labouring woman with control over the labour pain and increase her confidence, thus improved activity levels and functional capacity. These methods also reduce strain and worry, with ultimate improved quality of life. As a result, there will be reduction of the amount of pain relief drugs required, thus reducing the untoward outcomes of the treatment as well as provision of unnecessary expenses by minimising the doctor's visits and dependence on expensive medications (Alleemudder et al., 2015). These are effective for minimal labour pain or as an addition to intense labour pain minimise the use of pharmacological methods that have side effects (Alleemudder et al., 2015). A study conducted in China concludes that support by the trained professional doulas through continuous physical and emotional support was found to be effective in reducing labour pain (Zhang et al., 2018).

According to Wilson et al. (2022), having companions present to provide emotional support during labour is a fundamental part of good maternal and new-born care with ultimate positive experiences and improved birth outcomes. These benefits include that women are more likely to have uncomplicated birth, and there is less demand for pharmacological pain relief and there is improved satisfaction. Their labour is shortened, they are less likely to have a need for Caesarean sections, assisted delivery, or regional analgesia, and it is unlikely that their babies will be born with respiratory distress complications. The American College of Obstetricians and Gynaecologists(ACOG) (2019) confirm that continuous intimate emotional support improves outcomes for labouring mothers, and further suggest that women at low risk

as well as those whose labour progressing spontaneously do not need intravenous infusion, but non-pharmacological interventions such as the inclusion of the mother as well as her family in the birthing process. Studies in the Netherlands also conclude that birth preparation and active involvement of the woman and her family in the management of labour help the mothers to deal positively with labour (Klomp et al., 2017). In this study, the midwives had similar experiences about the importance of companions during labour, as they were helpful in providing emotional support and rubbing of the back which was done limitedly by the midwives due to the shortage of staff.

Methods proven beneficial in Ghana include changing positions and communication by the midwives on the nature of and reasons for labour pain, especially among those giving birth for the first time (Aziato et al., 2017). Changing positions frequently is also an ACOG recommendation (2019), as it is believed to provide maternal comfort with ultimate improved outcomes. Furthermore, women use different approaches in dealing with labour pain, such as natural pragmatic, deliberately uninformed, and pro-medicinal palliative approaches. These reduced anticipatory distress regarding labour pain and left women satisfied with and confident about their childbirth experiences (Klomp et al., 2017). According to Sprawson (2017):

> *The use of water and continuous support have been shown to improve maternal satisfaction with birth where opiates have not. It is unclear, however, if this is due to a reduction in the woman's experience of pain or an increase in her ability to cope with the pain.*

Moreover, on-pharmacological interventions reduce the feeling of pain by minimising the severity of pain and enhancing endurance of pain, in addition, they reduce pain-related distress, as well as enhancing the women's ability to cope, thus giving the mother and family the feeling of being powerful over the pain (Mwanza et al., 2018).

A study conducted in Enugu, Nigeria, highlights some evidence regarding the efficacy of non-pharmacological palliative interventions, specifically from the women's perspectives. Benefits as experienced by labouring women are, in descending order:

a) The natural nature of the birth (58.8%);
b) The process being cost-effective (31.0%);

c) No related harmful untoward outcomes (25.3%); and
d) A labouring mother is active while using these methods (17.6%) (Anarado et al., 2015).

The disadvantages of non-pharmacological pain relief interventions are noted to be:

a) The failure of the interventions to reduce pain completely (46.9%);
b) They can be stressful to woman in labour while performing them (21.2%); and
c) These interventions are less effective than pharmacological methods (19.6%) (Anarado et al., 2015).

Some literature also indicates that midwives have knowledge of other non-pharmacological options such as diversional therapy, mobilisation, cold and warm compresses but these were used less often due to shortage of material and human resources. While shortage of material and human resources may prevent employment of these options, in addition insufficient knowledge may also contribute to this observation (Boateng et al., 2019)This situation limits a number of labour pain interventions available to pregnant women, with subsequent sub-optimal labour pain relief(Boateng et al., 2019). According to Boateng et al., (2019) other non-pharmacologic approaches, mainly back rubbing, deep breathing were utilised more often and these were effective in reducing labour pain. It is concluded that the advantages of non-pharmacological methods for labour pain management, such as these being cost-effective, not invasive, easy to employ, and have fewer or no untoward outcomes, encourage midwives to use them. These have a calming effect on women thus leading to women being cooperative with the ultimate good relationship between the mother and the caring health professional (Boateng et al., 2019). The fact that pharmacological pain relief options may have unwanted outcomes on both the labouring mother and her unborn baby means that the usage of non-pharmacological methods, in addition to pharmacological techniques, can maximise pain relief, while on the other it will assist in minimising side effects in the labour process (Boateng et al., 2019).

Some women choose Caesarean sections and instrumental delivery, among others, because of being afraid of pain during labour and the belief that labour will be shortened, and that the pain will soon pass. The fact that these interventions have

possible harmful effects like severe excessive bleeding, infections, dense adhesions, and birth injuries indicate that there is a need for improvement in managing labour pain using non-pharmacological interventions (Boateng et al., 2019). Although midwives are seen to be using non-pharmacological interventions, they report some barriers preventing them from using these methods.

2.8. BARRIERS REGARDING THE USE OF NON-PHARMACOLOGICAL PAIN RELIEF INTERVENTIONS

Despite evidence that non-pharmacological palliative approaches provide some relief, their employment in the labour wards of the government institutions are mostly hampered by problems of infrastructure, like inadequate security, inadequate privacy, and non-availability of guidelines. Studies revised and classified these barriers into clinician-related, health system-related, and client-centred (Boateng et al., 2019).

2.8.1 Clinician-Related Barriers

According to Boateng et al. (2019), the beliefs and perceptions of nurses and midwives are that non-pharmacological methods are not efficient in reducing labour pain when measured against pharmacological interventions, which are believed to completely relieve labour pain. Thus, they mostly prefer to use pharmacological methods. Other studies conclude that obstetricians were in favour of pharmacological methods (Mousa et al., 2018).

The attitude of healthcare providers as a factor in the provision of pain relief is further confirmed by a study in Ethiopia, which cites that 79% of healthcare professionals expect women to feel the pain during labour, and 24% of them believe that labour pain relief is not necessary because it is an essential phenomenon. The number of years the midwives have in the profession and the of number of children they have impact on these professional's approach in dealing with labour pain (Klomp et al., 2017).

2.8.2 Health System-Related Barriers

According to the World Health Organization (2016), despite clear evidence as to the benefits of and the necessity on respectful maternity care, many healthcare institutions still forbid women to bring along their companions during labour and childbirth. This is confirmed by a study in the Limpopo province's tertiary hospitals, where companions

are not allowed; thus, physical support and care such as comforting touch and rubbing/massaging, are done limitedly (WHO, 2016; Maputle, 2018).

Barriers identified include the absence of policies that allow mothers to bring along their companions during the process of giving birth, as well as the infrastructure of healthcare facilities, which had limited space and this led to overcrowding which further contributed to inadequate privacy. In addition, not many nurses and midwives are available within the healthcare facility per shift. This situation leads to increased workloads, aggravated by inadequate resources and stressful work settings, leading to burnout with ultimate poor pain management (Aziato et al., 2017). Furthermore, there is lack of understanding among health professionals and managers about the advantages of having companions, hence their negative attitudes towards their presence (WHO, 2016; Boateng et al., 2019).

2.8.3 Client-Centred Barriers

The client may decide against non-pharmacological labour pain techniques for various reasons, thus preventing the midwives from using those (Boateng et al., 2019). Midwives in Lejweleputswa used both methods but mentioned that for Pethidine there was no protocol and had to wait for the doctor's prescription, which hampered the pain management whilst the shortage of staff, and limited infrastructure hampered the employment of non-pharmacological pain relief methods.

2.9. CHAPTER SUMMARY

According to the literature surveyed, it is obvious that pain relief during labour is important in ensuring a better labour process and satisfactory childbirth; the absence or lack of pain relief can lead to devastating outcomes for the mother and the baby. Studies indicate different findings. For example, in some countries, including South Africa, pharmacological and non-pharmacological labour pain interventions are utilised religiously, while midwives in other countries allow women to suffer during labour, as they believe that birthing natural process, and that interventions may lead to signs of labour being overlooked. It is therefore obvious that there is a need for policies and education to emphasise the importance of palliative care during labour and childbirth.

CHAPTER 3: RESEARCH METHODOLOGY AND DESIGN

3.1. INTRODUCTION

In Chapter 2, the researcher discussed the literature as it refers to the experiences of midwives on pharmacological and non-pharmacological labour pain management in detail. The current chapter provides a comprehensive description of the procedure performed when conducting the study in order to respond to the research questions and objectives (Brink et al., 2018:187). Discussing the research methodology tells the reader how the study was conducted, and highlights the processes followed to solve the research problem. It should provide adequate information to allow other researchers to repeat the investigation (Brink et al., 2018:187).

An overview of the study's design comprises elucidation regarding the population, sampling frame, approach and technique, sample size, data collection method, as well as data processing and analysis, including strategies to enhance methodological integrity and scientific rigor (Brink et al., 2018:187). The chapter also provides information re the researcher's ethical considerations (briefly alluded to in Chapter 1) and discusses the dissemination of the study's results.

3.2. RESEARCH DESIGN

Polit and Beck (2021:51) indicate that research design is a backbone of the study as it is a comprehensive outline of the methods that will be used to obtain answers to the research question. Furthermore, the design states the frequency at which the data will be collected, the types of analogies to be done and where the research will be conducted.

In this research, a qualitative, descriptive, explorative and contextual design was utilised. The importance of this design can be applied to gain an in-depth information into the experiences of midwifes on pharmacological and non-pharmacological labour pain management interventions in Lejweleputswa District. Each of the design concepts is discussed in the following section

3.2.1 Qualitative Research

In qualitative research, researchers want to have knowledge and understanding of the phenomenon under study from the participants' point of view in the context in which

the action takes place, as well as for developing a theory (Brink et al., 2018:103). In addition, it is about discovering and understanding human experiences, concepts and culture as described by the people involved. It is characterised by a smaller sample size, which allows in-depth study of the phenomenon, findings that are presented in words from the raw data that were narrated by participants and these are arranged in themes, but these findings cannot be generalised (LoBiondo-Wood & Haber, 2018:125). In this study, a qualitative approach was used. The researcher acted as an instrument of data collection, as the study was qualitative in nature, using face-to-face semi-structured interviews (Brink *et al*., 2018:135). The researcher's role was more of an insider, because the researcher was also a senior midwife with experience and was conducting the interviews of the midwives, although the researcher was not working at this setting.

Descriptive Designs

Brink et al. (2018:96) describe descriptive designs as an attempt to provide a complete and accurate description of a situation and is utilised in studies in which extra details are needed in a specific area about certain characteristics of the events as they take place in a natural setting. Furthermore, these designs provide correct information about the variables without determining their relationship but with the intention of answering the research question.

The relevance of this design to this study is that the researcher wanted to describe midwives' experiences regarding the use of pharmacological and non-pharmacological labour pain management interventions.

Exploratory Design

As per Rendle et al., (2019), exploratory design is used when the researcher wants to come up with an idea and develop a research question, as well as to investigate a problem about which little is known. The study further describes the exploratory design as an approach used when the researcher's studies are relatively a new phenomenon. In addition, he states that exploratory studies are done to gratify the researcher's interest and need for greater knowledge about the topic including the possibility of conducting in-depth similar study in future.

This type of design is applicable to this research, as it aims to explore the experiences of midwives regarding the use of pharmacological and non-pharmacological labour pain management interventions.

Contextual Design

Contextual design highlights the many macro- and micro-contexts related to the individual, and is used to examine the dynamic interaction with each other. The historical context of a person may be valuable to the researcher as it forms a division of the field study method, used when investigating the contextual utilisation of a product or service, or a cultural context. It is employed when there is a necessity to observe people in action so as to have complete knowledge of what they need and what they want to achieve (Duda et al., 2020).

The current study uses a contextual design to explore the use of pharmacological and non-pharmacological labour palliative interventions from the midwives' point of view whilst taking into consideration their work experience in this field. To this end, interviews were conducted in maternity departments of two resource-limited district hospitals in Matjhabeng Municipality.

3.3. RESEARCH SETTING

The concept of research setting means the specific area(s) where the study will be done or a location where the study is conducted, and can be natural, partially controlled, or highly controlled (Brink et al., 2018:47).

The setting for this study comprised maternity wards' private offices in two resource-limited district hospitals in the Matjhabeng Municipality of Lejweleputswa District in Free State. Matjhabeng has a total population of 429113(Census, 2016) and is one of five municipalities in the Lejweleputswa District of the northern Free State, the others being Masilonyana, Tokoloho, Tswelopele, and Nala. The municipality has three district hospitals, one regional hospital, three private hospitals, as well as day clinics, which do not offer intrapartum care except for an emergency childbirth. The maternity wards of these hospitals are hybrid in nature, with a maximum of 11 midwives in hospital A and 15 in hospital B.

3.4. POPULATION

Population refers to the whole group of persons or objects that the researchers want to study, and which poses the characteristics that are required for the study (Brink et al., 2018: 116). In this study, the population was ten midwives who work in the maternity wards of Katleho and Thusanong district hospitals in the Lejweleputswa district, but the first participant was a pilot study.

3.4.1 Target Population

This concept encompasses the whole elements or entire set of cases about which the researcher would like to generalise (Brink et al., 2018:116).

In this study, the target population of the main study comprised of 9 midwives (five from Katleho hospital and four from Thusanong hospital) who worked in the maternity wards of these two hospitals.

3.5. SAMPLE AND SAMPLING

According to Brink et al., (2018:117) a sample is a part, or fraction, of a whole, or a subset of a larger set selected by the researcher. The sample consists of a selected group of the elements or units of analysis from a defined population. Sampling is about choosing the cases that will represent the whole population (Polit & Beck 2021:261).

This research employs non-probability sampling, indicating that the researcher strives to choose individuals who can provide comprehensive facts on the experience or phenomenon under study (Brink et al., 2018:124). A purposive sampling technique was used where nine midwives who had the required characteristics were selected to participate in the study.

3.5.1 Inclusion Criteria

Inclusion criteria are features that are possessed by the subject or component to be selected as part of the target population (Polit & Beck 2021:261). Participants with relevant characteristics to this study are midwives with three to five years' experience, and who work in the maternity wards of the two chosen hospitals in Matjhabeng Municipality, Lejweleputswa district, Free State province, South Africa.

3.5.2 Exclusion Criteria

Exclusion criteria comprise features that can cause a person or component to be excluded from the target population (Polit & Beck 2021:261). Excluded from this study were midwives who were on annual or maternity leave, as they were not available during the period of study. Furthermore, all midwives who do not operate within the two hospitals selected, or those who work outside of Matjhabeng Municipality in the Lejweleputswa district of the Free State province (South Africa) were not considered for this study.

3.6. RESEARCH INSTRUMENT

The research instrument is defined as the procedures, tools, or devices used to gather data (Brink et al., 2018:44). In this study, the researcher conducted semi-structured individual interviews using an interview guide to obtain in-depth data from the participants. An interview guide was developed by the researcher, reviewed and approved by the supervisor. It had two sections, Section A consisted of the demographic data of the participants as follows: the name of the institutions which were labelled as hospitals A and B, the position of the participant from one to nine, their ages which ranged between 28 and 55 years, the number of years as a professional nurse and the number of years in midwifery which ranged between 3 and 27 years and Section B which consisted of five open-ended interview questions, probing depended on the responses of the participants.

3.7. PILOT STUDY

Polit and Beck (2021:633) describe a pilot study as a study that is conducted on a smaller scale, using a smaller sample of the population with the intention of assessing the feasibility of conducting the research and to assist in refining the protocols, methods and procedures that will be used in the main study. In addition, the main purpose of the pilot study is to determine the practicality of the whole set of procedures for a full-scale study. Brink et al. (2018:45) refers to the pilot study as a small-scale version or a dummy run of the main study and is intended to assist the researcher to identify and address the unexpected problems that may occur during the main study. This study is said to be a smaller sample preliminary study which is done before a full-scale study using the same methods and procedures that will be used for the main

study with the purpose of obtaining preliminary data to establish the possibility of conducting a bigger study (LoBiondo-Wood & Haber 2018:225).

The researcher conducted a semi-structured face-face interview on one midwife who met the inclusion criteria and who was working in the maternity ward of Katleho district hospital in the Lejweleputswa district in Free State. The same interview guide as that of the main study was used. The main goal was to determine whether the research questions will yield the required responses. The interview was recorded and transcribed verbatim and its findings were included in the main study. The findings of the pilot study were discussed with the supervisor to ensure the correctness of the research instrument. No changes were done on the interview guide. The participants responded well to all questions.

3.8. TRUSTWORTHINESS OF THE STUDY

Trustworthiness is a way of ensuring data quality or rigour in qualitative research based on Lincoln and Guba's (1985) model. The model proposes four criteria for developing trustworthiness of a qualitative study, namely credibility, dependability, confirmability, and transferability (Brink et al., 2018:158). These elements, utilised in the study, are detailed below.

3.8.1 Credibility

Credibility refers to whether the researcher has established confidence in the truth of the findings and the interpretations thereof (Brink et al., 2018:158). Credibility was maintained in the current study by the researcher establishing a believable mutual connection with the participants throughout, and by explaining the research objectives and procedures of the study. The researcher spent enough time interviewing the participants to ensure prolonged engagement.

3.8.2 Confirmability

Confirmability means the compatibility of data in relation to correctness, applicability, or meaning. In addition, it is concerned with proving whether data represent the perceptions and experiences of the participants as shared by them not the researchers' imagination and point of view (Brink et al., 2018:159). In the current study, confirmability was guaranteed and verified. The study supervisor verified the data as

well all transcripts, thus providing evidence of how themes and sub-themes were formed. Bracketing and continually reflecting on the research process through reflexivity were also undertaken.

3.8.3 Transferability

The element of transferability is the ability to utilise the results of the study in other contexts or to other participants (Brink et al., 2018:159). For the purposes of this study, participants were selected purposefully to obtain relevant information, and data saturation was reached. Saunders et al. (2018) define data saturation as being used in qualitative research as a benchmark for ceasing data analysis and/or collection. They further state that…saturation is often proposed as an essential methodological element within such work. [Some researchers] claim categorically that 'failure to reach saturation has an impact on the quality of the research conducted'; [others] note[s] that saturation is 'the most frequently touted guarantee of qualitative rigor offered by authors'; [other studies] refer to it as having become 'the gold standard by which purposive sample sizes are determined in health science research'

The researcher gave a full description of the research settings and key characteristics of the study participants, and observed transactions and processes to assist readers in other settings to decide whether to apply or transfer the findings to their settings and circumstances.

3.8.4 Dependability

Dependability means that if the study were to be replicated using the same or similar participants in the same or similar context, it would yield the same results (Brink et al., 2018:159). In this study, the researcher made available detailed documentation on the research process and data obtained to an independent researcher, who objectively determined whether the study reached reasonable and appropriate findings and conclusions.

3.9. ETHICAL CONSIDERATIONS

Ethical approval was obtained from the Health Sciences Ethics Research Committee (HSERC) of the University of Fort Hare (reference number 2021=05=02=ParkiesL; (Addendum A).

Permission was requested from the Free State Department of Health and the CEOs of the two hospitals where the research was conducted (Addenda B, G, and H). Research ethics provide researchers with guidelines on how to conduct research in an ethical manner with the aim of preventing researchers from engaging in scientific misconduct and protecting the rights of the research participants (Dhai 2019:41).It mandates voluntary consent, justification of research for the good of the society, adequate protection of participants from risk or harm, the participants' right to withdraw from experimentation, and adequate scientific training of researchers (Brink et al.,2018:28).

Cilliers and Viljoen (2021) state that ethical consideration should be carried out in the categories of respect for persons, confidentiality and anonymity, privacy, the principles of justice and beneficence, respectively, as well as informed consent. The principles of research are discussed in more detail in the following sections.

3.9.1 Respect for Persons

The principle of respect for persons involves the right to self-determination and autonomy, where the person has the right to choose whether to take part in the study or not without fear of being penalized or of prejudiced treatment. In addition, they have the right to pull out of the study at any time (Brink et al., 2018:29).

Participants were informed that participation in the study was voluntary and that there would be no negative repercussions or resentment should they decide not to participate. They were informed about the purpose of the study to enable them to make informed decisions, and to allow them freedom to choose whether to participate in the study or not, thus maintaining the right to self-determination. Further, they were informed of their right to withhold any piece of information they feel uncomfortable in sharing.

3.9.2 Confidentiality and Anonymity

Confidentiality is the researcher's management of private information shared by subjects that must not be shared with others without authorisation of the subject. Anonymity exists when even the researcher, with his or her individual responses (Polit & Beck, 2021:141), cannot link the subject's identity.

Confidentiality was maintained throughout the processes of this study to protect the participants' right to privacy. Participants were guaranteed of the confidentiality of the information, they shared with the researcher and that the people involved in the study would only access it. Instead of names, participants and settings were allocated identification letters and numbers attached to the actual data.

Identifying information and all hard copies containing data collected were locked in secure cabinets. Access was limited to the researchers as a way of maintaining confidentiality and anonymity. Completed interviews were kept confidential and were locked in a private location. During the study, data was stored on a password-protected computer only accessible by the researcher. Paper copies will be disposed of using a paper shredder after a period of five years; data stored on the computer will be erased from both the programme files and the recycle bin.

3.9.3 Privacy

The principle of privacy refers to an individual's right to decide whether to share or not to share personal information with others at any given time or under any circumstances (LoBiondo-Wood & Haber 2018:26). Participants were informed about their right to withhold any piece of information that they feel uncomfortable in sharing.

During recruitment, willing participants were telephonically contacted by the researcher and invited to participate in the study, thus ensuring privacy of participation. Interviews were conducted in a private venue accessed only by the researcher and participants. During data collection, personal identifiers such as birthdates were not collected, as they were not relevant to the study. During data analysis, data was not labelled as pertaining to specific participants, but as themes and subthemes that arose during the interviews. Participants names were not used; codes were used to ensure anonymity.

3.9.4 Principle of Justice

The principle of justice means that participant must have equal chance to be selected in the study and should be treated equally. It means that the researcher must choose the participants fairly for reasons directly related to the research problem (Brink et al., 2018:30).

The selection of the participants was done fairly according to the predetermined inclusion criteria. All participants were offered a fair and equal opportunity to participate in the study; they were provided with the same information and allocated equal time to complete the interview. No participant was prevented from participating in any way. Furthermore, the researcher adhered to the research protocol as initially explained to the participants and in the information, leaflet provided.

3.9.5 Principle of Beneficence

The beneficence is based on the premise that the researcher has the duty to protect participants from any harm and discomfort by minimising risks (non-maleficence) and maximising the benefits of participating in the study (Brink et al.,2018:29).

Participants' emotional harm or anxiety was reduced by a thorough explanation of the purpose of the research, and by providing the participants with an information leaflet clarifying the purpose of the study. Furthermore, participants were informed of the benefits of the study, such as scientific, evidence-based guidelines on management of labour pain. The researcher did not intentionally expose the participants to any physical, psychological, or emotional harm. The threat of physical harm was also addressed by adhering to Covid-19 prevention and protection protocols (*cf.* section 3.9.).

3.9.6 Informed Consent

According to Brink et al., (2018:29) informed consent means that participants fully understand the contents of the study and have the ability to voluntarily accord or decline participation.

The purpose and significance of the study was explained to the participants and in addition, they were given an information leaflet explaining details of the study. They were allowed to ask the researcher any questions about any part of the study that they did not understand. They were made aware taking part in the study is voluntary and that they are free to decline participation. Participants were further informed that failure to participate would not result in any penalty. In addition, they were informed about their right to withhold any piece of information that they do not want to share. Thereafter the participants were requested to sign an informed consent form

(Addendum C). Permission was also requested from the participants to use a tape recorder.

3.10. DATA COLLECTION

According to Brink et al., (2018: 133) data collection refers to the process, which the researcher follows to obtain the information from the participants, and it gives a clear picture of how the data was conducted and how the results were obtained. In addition, collection of data is based on research design, research problem, and research variables after the researcher obtained the ethical clearance from the University of Fort Hare Ethics Committee, permission was obtained from the Free State Department of Health and the CEOs of the hospitals to conduct the study at the selected district hospitals. The CEOs, in turn, informed the managers in charge of the maternity wards of the selected hospitals about the permission granted for the researcher to conduct the study.

Below, the method of data collection, as well as information regarding the interview process, is expounded.

3.10.1 Data Collection Method

The researcher conducted individual, in-person, semi-structured interviews. Interviews were conducted in English and were guided by an interview guide containing open-ended questions (Addendum E). “Interview “refers to a data collection method where the researcher asks the participants open-ended or closed-ended questions with the purpose of gaining more personal information (LoBiondo-Wood & Haber 2018:253).

A semi-structured interview is a combination of structured and unstructured interviews, where the interviewee’s responses may be constrained and influenced by predetermined questions; the interviewer and interviewee are given the opportunity to discuss issues beyond the questions’ confines (Polit & Beck 2021:514). Data collection was done based on appointments for the period of three months, as some participants did not avail themselves as per arrangements, and appointments consequently needed to be rescheduled.

3.10.2 Interview Process

The individual face-face interviews were conducted in a period of two and half months starting from 22nd July to 21st September 2021.

On the appointment days, the researcher used a set venue in the institutions, which abided by Covid-19 protocols. Regulations pertaining to Covid-19 were also taken into consideration during data collection. The room where the interviews were conducted was well ventilated and the furniture to be used was sanitised. Physical distancing of 1.5 metres between the researcher and the participant was maintained. The room had a washing basin with running water so that the researcher and participants could wash their hands. Participants and the researcher sanitised their hands and their temperatures were taken before interview proceedings. Masks were worn throughout the interview. Interview time was limited to 45-60 minutes to minimise contact.

The information initially provided to participants was read, with the researcher clarifying certain points and reminding the participants of the voluntary nature of participation, as well as the option to withdraw at any time. All participants willing to voluntary participate in the research study signed consent forms. Confidentiality and anonymity were ensured throughout the interviews.

The researcher also requested permission from the participants to use an audio recorder to record the conversation so as not to miss any information given, after which the participant signed the consent form. The questions from the guide were read and clarified for the participant; the guide was also given to each participant to serve as reminders of the issues while answering the questions.

Open-ended questions from the guide were asked individually in sequence, and participant were allowed time to answer each question to their satisfaction. Participants were allowed to freely share their pain management experiences beyond the set questions. Probing was done depending on participant responses in order to gain in-depth understanding of the responses. Clarity was sought from participants on themes and sub-themes that emerged during the conversation. Upon ending the interview, the participants were asked whether they wanted to have additional information not mentioned under any of the questions.

Nine midwives were interviewed. The interviews lasted for 45 to 60minutes and were recorded with the midwives' permission. In addition, the researcher took field notes. Participants were thanked for their participation in the study. The questions posed to the participants were:

a) What are your experiences on use of pharmacological labour pain management interventions?
b) What are the challenges you experienced whilst using pharmacological pain management interventions?
c) What are your experiences on use of non- pharmacological labour pain management interventions?
d) What are the challenges you experienced whilst using non- pharmacological pain management interventions?
e) Tell me about what needs to be improved in labour pain management.

3.11. DATA ANALYSIS

Data analysis allows the researcher to organise and bring meaning to the large amounts of data (Brink et al., 2018:165). Data was analysed by using the eight steps of Tesch's (1990) coding process (as cited in Cresswell, 2009:186; Botma et al., 2010:224). These steps are outlined below.

a) The researcher read the entire transcript carefully to obtain a sense of the whole and made concise, salient notes;
b) The researcher selected one case, asked "what is this about?", and thought about the underlying meaning in the information; the researcher's thoughts were then written in the margin;
c) A list was made of all the themes or topics, and similar themes or topics were clustered together;
d) The researcher applied the list of themes or topics to the data; the themes or topics were abbreviated as codes, which were written next to the appropriate segments of the transcripts;
e) The researcher found the most descriptive wording for the themes or topics and categorised them, while lines were drawn between categories to show the relationships;

f) The researcher made a final decision on the abbreviation for each category and alphabetised the codes;
g) The data material belonging to each category were assembled and preliminary analysis was performed; and
h) The researcher recoded the existing material if necessary.

To present the results under each theme with conclusions, the results were supported by secondary data and quotes from the developed code.

3.12. CHAPTER SUMMARY

This chapter provided substantive details pertaining to the research methodology, research approach, and design followed in this study. It described the research setting, the target population and sampling process followed to identify suitable participants. In addition, it highlighted the research instrument used, the data collection method, the data analysis, the trustworthiness and the ethical principles in relation to the study, as well as the envisioned dissemination of the research findings.

CHAPTER 4: INTERPRETATION AND DISCUSSION OF FINDINGS

4.1. INTRODUCTION

Chapter 3 described the research aim and objectives, the research methodology and design, population, as well as the sampling method. In chapter 4 the researcher discusses the data collection and analysis procedures and the themes and sub-themes that were identified, which addresses the research questions. Appropriate quotations made by the participants during the individual interviews support the sub-themes that were discussed. Literature control was utilized. All findings made served to respond to study questions below:

a) What are the midwives' experiences on using pharmacological labour pain interventions in the Matjhabeng Municipality of Lejweleputswa district?
b) What are the midwives' experiences on using non-pharmacological labour pain interventions in the Matjhabeng Municipality of Lejweleputswa district?

4.2. OPERATIONALISING OF DATA ANALYSIS AND LITERATURE CONTROL

The subsequent section will debate the operationalisation of the data analysis as well as the implementation of the literature control.

4.2.1. Interviews

Semi-structured individual interviews were conducted with nine voluntary participants. All respondents that were interviewed met the inclusion criteria as described in the previous chapter. all respondents had to be midwives working in maternity wards in either of the selected hospitals, and who had three to five years of midwifery experience. A tape recorder was used to record the interviews, thereafter, transcribed verbatim. At the point where the researcher reached data saturation, data collection was terminated. The researcher performed data analysis in accordance with Tesch's (1990) approach through the open coding method, as cited in Creswell (2014:186).

4.2.2. Literature Control

Literature control places the study's findings in the environment of what is already known about the phenomena under study (Brink et al., 2018:104). It entails integration of the literature into the conversations to confirm or disprove the outcomes, to gain a better kind of the findings, and to conclude how other researchers have conceptualised

and clarified similar findings (Brink et al., 2018:105). Literature control is further defined by as the procedure where the researcher uses literature during data analysis to build a structure related to the outcomes of similar studies done previously, before interpreting the findings of their study. In this study, the researcher reviewed various literature sources as literature control, such as journals, websites, and textbooks, to interpret data findings (see Chapter 2).

4.3. DEMOGRAPHIC PROFILE OF THE PARTICIPANTS

Ten (10) participants took part in the study. Their ages ranged between 28, 55 years, and their experience in midwifery ranged between 3 and 27 years. All participants were African females, as there were no males or midwives of other races who worked in the maternity wards. Participants' obtained qualifications included diplomas in Nursing (General, Psychiatry, Community) and Midwifery. The midwives were therefore well experienced in midwifery.

The age and professional experience of the participants did not have any impact or any significant influence on the experiences of the midwives regarding use of both pharmacological and non-pharmacological pain relief interventions.

4.4. DISCUSSION OF THEMES

Following data analysis, themes and sub-themes, as represented in Table 4.4.1 below, emerged. The principal emergent themes were:

a) Experiences with the use of pharmacological and non-pharmacological methods;
b) Positive experiences when using pharmacological methods;
c) Negative experiences when using pharmacological methods;
d) Challenges regarding pharmacological methods;
e) Suggestions for the use of pharmacological methods;
f) Positive experiences when using non-pharmacological methods;
g) Negative experiences when using the same;
h) Challenges regarding the use of non- pharmacological methods; and
i) Suggestions for the use of non-pharmacological methods.

Table 4.4.1: Identified Themes and Sub-Themes

No	THEME	SUB-THEMES
1	Experiences with the use of pharmacological and non-pharmacological methods	1a. Effects on labouring women
2	Positive experiences when using pharmacological methods	2a. Useful and good method
3	Negative experiences when using pharmacological methods	3a. Intermittently effective drugs; pain persists
4	Challenges regarding pharmacological methods	4a. Lack of standing orders to guide drug use 4b. Maternal-related 4c. Foetal-related
5	Suggestions for the use of pharmacological methods	5a. Explore use of "love gas" 5b. Ensure availability of standing orders
6	Positive experiences when using non-pharmacological methods	6a. Sometimes effective if properly implemented
7	Negative experiences when using non-pharmacological methods	7a. Sometimes ineffective
8	Challenges regarding the use of non-pharmacological methods	8a. Staff shortage (massages and individualised care) 8b. Covid restrictions (absent companions) 8c. Uncooperative labouring women to engage in labour facilitative efforts
9	Suggestions for the use of non-pharmacological methods	9a. Educate women about what expect to allay anxiety 9b. Increase staff complement 9c. Train lower categories in using non-pharmacological methods 9d. Best combine methods for maximum effectiveness

	9e. Provide more facilities, e.g. showers. 9f. Employ Doulas and engage student nurses to conduct activities

Theme 1: Experiences with the Use of Pharmacological and Non-Pharmacological Methods

Midwives in the maternity wards of the hospitals under study use both pharmacological and non-pharmacological pain management methods to relieve pain during labour. This is in line with national and international guidelines, which advocate for both types of interventions. These guidelines place more emphasis on the latter for example, citing as beneficial the presence of a companion for emotional supporting, reassuring the mother, and providing comforting touch, massage, or a warm bath or shower (WHO, 2018; SANDoH, 2015).

4.4.1.1. Sub-Theme 1a: Effects on Labouring Women

Most participants indicated that Pethidine and Phenergan are effective in sedating and calming the women as well as reducing pain during labour.

> *My experience on use of pharmacological labour pain management: It is quite good. The outcomes most of the time are good, because once you have given it; it will help subside the pain, because the patient will sleep, will rest but, sometimes, not most of the time (MW7).*

> *I have noticed that when you give sedation to the patients it allows them to rest and the pains are reduced (MW 6)*

> *The sedation is effective to some, I say so because the women will be screaming during a contraction but after sedation they become calm and stop screaming (MW 3).*

This is evident in some countries where midwives use several analgesics, including Pethidine, to manage labour pain. This medication has a calming and sedating effect (Aziato et al., 2017). Opioids administered by midwives during labour help the women to be calm and sedated, thus preventing complications that may occur if the woman is restless, such as bearing down before time resulting in foetal distress.

Some participants mentioned that the non-pharmacological methods they use are effective in relieving pain. These include mobilising, warm baths/showers, breathing exercises, as well as providing back rub, although this is used sparingly. Similarly, midwives in Ghana use non-medicinal palliative interventions like psychological care, lower back massage, and deep breathing exercises (Aziato et al., 2017).

> *Non-pharmacological pain relief is still working like mobilising the patient, sending the patients to the shower, as well as deep breathing (MW 3).*
>
> *Patients are not the same, some of them they are working on them, we are usually using the rubbing method, we are letting them to walk, and we are letting them take a shower and then the breathing exercises (MW 4).*
>
> *We also encourage them to take a warm bath because it does help with pain management (MW6).*

Non-pharmacological palliative care is said to be effective in diminishing pain perception by reducing the intensity and increasing pain tolerance (Rahimi et al., 2018).

The researcher's observation is that midwives in Lejweleputswa only use Pethidine and Phenergan as drugs of choice; in other countries, where there is a wider choice of palliative medications, these two were also seen to be effective in reducing labour pain. They also used non-pharmacological methods, which had good effects on labour pain, though they were very few as compared to other countries where more methods were used.

Theme 2: Positive Experiences When Using Pharmacological Methods

The midwives in the labour wards of the settings under study gave all women who were in labour pharmacological pain relief as part of routine care during labour to ensure better labour processes and satisfactory childbirth. It is obvious from globally conducted studies that women should be provided with pain relief during labour in order to reduce negative childbirth experiences (Aziato et al., 2017).

4.4.1.2. Sub-Theme 2a: Useful and Good Method

Some of the participants' experiences reflect that Pethidine and Phenergan help in rapid dilatation of the cervix, therefore hastening the birth of the child.

> *However, what I know is that it has an effect on the cervix, because the woman then will just relax, then within no time the woman delivers (MW 2).*

> *I have come to realise that, the Phenergan actually helps to fasten the process of labour, you would find that a woman is 1 centimetre dilated and is a primigravida and then you give them this combination of Phenergan and Pethidine, and then after about four hours then the lady is now fully dilated and bearing down well and giving birth without any problem (MW 5).*

> *Once you have given sedation, it will help subside the pain, because the patient will sleep, will rest, and then after that, they dilate faster, and then give birth without any complication (MW 7).*

Seller et al., (2018:420) share the same opinion, namely that the use of analgesia promotes more efficient uterine action, ultimately shortening the duration of labour.

Some participants mentioned that Pethidine and Phenergan have benefits as it has a relaxing effect on women and in turn, they become cooperative with the ultimate prevention of complications.

> *Pharmacological labour pain management I think is very useful and helpful and especially beneficial to the woman when in labour because if you have sedated your patient well the patient will benefit and be cooperative and thus preventing complications (MW 3).*

> *It works for most women, because you will find that the woman is relaxed (MW 9).*

> *We give even at 8cm; 9cm we can still give so that she can be relaxed (MW 8).*

> *The effect of this pharmacological pain management on pregnant women is quite good because it helps the woman to relax (MW 7).*

Studies indicated that Pethidine had a relaxation effect on women and was effective in relieving pain (Thomson et al., 2019).

From the experiences of the midwives, it is obvious that Pethidine and Phenergan are useful and good pharmacological labour pain relief methods, because of the positive outcomes that they have on labour.

Theme 3: Negative Experiences When Using Pharmacological Methods

In the labour wards under study, Pethidine and Phenergan did not have an effect on some patients in labour, as they continued to complain of pain even if these drugs were administered.

4.4.1.3. Sub-Theme 3a: Intermittently Effective Drugs; Pain Persists

Some participants mentioned that Pethidine and Phenergan did not have an effect on some women, as they continued screaming even after being sedated, while others asked for additional doses.

> *In other cases, some women keep experiencing pain even when you have sedated them, they will still be shouting and crying and then they will ask for the sedation again because they think it did not work on them. (MW1).*

> *My experience here is that the patients are not experiencing the effects the same, some of the patients the pharmacological sedation is having an effect and some of them it does not have an effect. Some of them they are still experiencing the pain even if you have given the sedation, so the patients are not the same. (MW4).*

> *Sometimes other patients it does not really work cause even after you give them the sedation they still having the pains. (MW6).*

Studies on the comparison of Diamorphine and Pethidine suggest that is effective, as two groups of women under study constantly reported important pain levels and often demanded extra analgesia (Sprawson, 2017).

Based on the literature and midwives' voices, it is clear that pharmacological palliative intervention does not always have the same effect on different women, indicating that not all women have the same pain threshold.

Theme 4: Challenges Regarding Pharmacological Methods

Midwives experience challenges with the use of pharmacological pain relief methods, which disturb the pain management routine. Challenges emanate either from the healthcare system, or from the adverse effects of the drugs on the mother and the baby. Studies suggest that opioids are effective in managing labour pain, but can have negative birth outcomes for the mother, progress of labour, and for the baby (Alleemudder et al., 2015).

4.4.1.4. Sub-Theme 4a: Lack of Standing Orders to Guide Drug Use

One of the participants mention that there are no standing orders directing the use of pharmacological pain relief methods, which results in constantly seeking permission from doctors, leading to the possibility of negative outcomes.

> *We do not have standing orders like other institutions where there is a standing order that you should sedate, all the time you have to call the doctor to ask for permission for sedating the patient (MW 3).*

Studies cite some of the reasons for lack of palliative care during labour as lack of protocols for use of analgesia during labour and birth (Geltore et al., 2018).

Unavailability of standing orders that provide direction to midwives as to when and how they should administer pain relief medication hinders the pain management routine, and leads to suffering by women whilst awaiting the doctor's prescription.

4.4.1.5. Sub-Theme 4b: Maternal-Related Challenges

Most participants' experiences indicate that pharmacological interventions, mainly the use of Pethidine and Phenergan, have adverse effects on the mother. These include drowsiness, tiredness, sleepiness, and lack of energy, which leads to women being unable to push when they were expected to.

> *Sometimes the mother will be tired and sleepy, even though she's fully dilated, the baby's head will be crowning, and you will be telling her, push the baby out,*

she will be just sleeping and saying sister what are you saying, I don't have the energy to do that (MW 1).

The problem, it becomes big because of the sedation is so high, they become sleepy. Now when you have to like when they are fully dilated, and you ask them to push they are sleeping (MW 5).

Sometimes you give the patient the sedation during an active phase of labour and when is time for delivery; they are unable to push the baby out because they are still drowsy (MW 6).

Alleemudder et al. (2015) note that opioids are regarded as more effective in managing labour pain, but that they could have negative birth outcomes, such as drowsiness for the mother. Although Pethidine and Phenergan are useful in relieving pain during labour, they also have adverse effects on the mother and the labour process, as the mothers become drowsy and cannot expel the baby out when the cervix is fully dilated, thus prolonging the second stage of labour.

Some participants indicate that these drugs are sometimes out of stock; thus, they have to use non-pharmacological methods only.

We do not have any problem with the Pethidine and Phenergan unless it is out of stock from the depot (MW 4).

Sometimes these drugs are out of stock, so women do not get them as they deserve so in this instance we only use non-pharmacological interventions (MW 7)

The challenge is that sometimes they are out of stock (MW 8).

This is similar to the situation in other countries, such as Ethiopia, where some of the barriers to provision of pain relief are identified as the unavailability of drugs (Bitew et al., 2016).

Unavailability of Pethidine and Phenergan in the labour wards lead to midwives being unable to manage pain as expected. Women simply have to tolerate the pain, leading

to negative outcomes such as premature bearing down, resulting in the babies being born with low Apgar scores.

4.4.1.1 Sub-Theme 4c: Foetal-Related Challenges

Most participant's mention that some babies are born being floppy because of the effect of the sedation provided during the active phase of labour to the mothers. This indicates that these drugs can cross the placenta, hence the floppiness.

> *Some babies are born being floppy because of the effect of the sedation (MW 2, 10)*
>
> *Then the challenge is that when the baby comes, the baby will be floppy from that effect of the sedation (MW 7).*

Some participants experience that some babies exhibit respiratory distress due to the sedation. Studies also cite that these drugs could cause foetal respiratory depression (Boateng et al., 2019).

> *Some of the babies will be having respiratory distress, but is very few (MW 4).*

An Ethiopian study notes that 38% of midwife's state that pain relief will have adverse effects on the baby (McCauley et al., 2017).

Based on the experiences of midwives interviewed, it becomes obvious that pharmacological pain relief methods have unwanted effects on some babies, as they are born with respiratory depression and low Apgar.

Theme 5: Suggestions for the Use of Pharmacological Methods

Midwives in the settings under study have some recommendations regarding use of pharmacological methods, such as resorting to other types of pain relief in case the opioids of choice are out of stock, or when the drugs do not have an effect on some women.

4.4.1.2 Sub-Theme 5a: Explore Use of "Love Gas"

Some participants suggest that other methods of pain relief should be explored, as they are also effective in relieving labour pain, such as gas and air.

I think they can use other pain analgesics may be something that is stronger for pain besides the sedation and besides the injection, may be the oral medication, especially the primigravida when they are in latent phase (MW 1).

So if they can explore those others like the gas that is now been used, they call it loving gas I do not know what its name is (MW 7).

For instance, midwives in the UK use a variety of drugs, including nitrous oxide (gas and air). This is the most common form of analgesia provided for all labouring women with mild labour pain (Alleemudder et al., 2015). In Ghana, non-opioids such as paracetamol is commonly used and it offers better pain relief (Aziato et al., 2017).

The institutions in Lejweleputswa need to consider other types of pharmacological pain relief, which can be utilised in case the Pethidine is out of stock, or when the drugs do not yield the intended pain relief results. Using alternative drugs can also aid in avoiding the previously mentioned side effects of Pethidine on the mother and baby.

4.4.1.3 Sub-Theme 5b: Ensure Availability of Standing Orders

Some participants suggest that standing orders be put in place to guide the midwives on administration of pain relief medications in the absence of the doctor.

I think is better if we can have a standing order that can give us, may be permission to say if there are no complications or is just a pain we can sedate the patient rather than calling the doctor first, okay you can still call but the standing order must be there (MW 3).

Healthcare providers in other countries emphasise the need to develop context-specific pain management protocols to guide midwives in pain management (McCauley et al., 2018).

The settings under study need to have protocols in place, which can be followed by midwives in administering pharmacological pain relief. This would negate the issue of waiting for the doctor's prescription, as sometimes the doctor may be unavailable. This will, in turn, allow the midwives to use their independent function in managing labour pain.

Theme 6: Positive Experiences When Using Non-Pharmacological Methods

Midwives in labour wards use different methods of non-medicinal pain relief, which prove to be effective in reducing labour pain. Alleemudder et al. (2015) are of the same view that non-pharmacological treatment may assist in reducing pain, and that such techniques should be stimulated as part of complete pain management effort. In addition, midwives in these settings allow the presence of birth companions as part of non-pharmacological pain relief for reassurance and emotional support for labouring women. Midwives in Maputo City reiterate that allowing birth companions is beneficial, as they can calm and reassure pregnant women during labour (Galle et al., 2020).

4.4.1.4 Sub-Theme 6a: Sometimes Effective If Properly Implemented

Some participants note that the non-pharmacological methods used include encouraging women to mobilise, advising deep breathing exercises, sending women to take a warm bath/shower, and back massage, indicate that these are useful palliative measure during labour.

> *Non-pharmacological pain relief is still working like mobilising the patient, sending the patients to the shower (MW3).*

> *I have realised that the shower works very well to help the women to relax, and that heat helps them with pain. Therefore, it works well (MW5).*

> *For non-pharmacological pain management, we advise women when they are in active phase of labour to mobilise, to take a warm bath, and then to do deep breathing exercises. All those three methods do work, when they are done properly (MW 7).*

In other countries, midwives similarly use non-pharmacological methods of pain relief, such as comforting and counselling the women, provision of psychological support, back massage, breathing techniques, and inspiring the mother to walk or have a bath (McCauley et al., 2018).

Palliative non-pharmacological methods are also effective in relieving pain when implemented correctly, as they distract focus from pain and have a relaxing effect.

Most participants indicate that the presence of companions is useful in helping with the massaging of women, and thus with continuity of care.

> *We used to allow the patients to bring in their companions and they were helpful in rubbing the patient's back and were assisting with continuity of care. They can even call you if the woman needs your attention (MW 3).*

> *During the times before COVID, we used to allow companions and we would ask them to rub the woman, the rubbing methods were working well because the husband or the mother will be there (MW 5).*

> *We do allow the companions before this Covid thing, they would come be it the mother or the husband, we would allow them, and they were helping with the massaging of the back of the women to reduce pain (MW 7).*

> *Non- pharmacologically we allow women to come along with their companions so that they can be there for them and they assist with back massage (MW 10).*

A Chinese study (Zhang et al., 2018) concludes that continuous physical and emotional support offered by trained professional doulas is found to be effective in reducing labour pain. Midwives in Tanzania encourage the presence of a companion in early stages of labour (McCauley et al., 2018). The presence of companions or doulas is very important as part of reassurance and emotional support as well as helping the short-staffed midwives with some responsibilities, such as back massage.

Theme 7: Negative Experiences When Using Non-Pharmacological Methods

Non-pharmacological pain relief sometimes does not yield the desired effect of reducing labour pain, or are effective with mild pain. A study carried out in Enugu, Nigeria, cites the disadvantages of non-pharmacological pain relief interventions as the inability of the methods to reduce pain completely, and that these methods are less effective than pharmacological ones (Anarado et al., 2015).

4.4.1.5 Sub-Theme 7a: Sometimes Ineffective

Some participants' experiences are that the non-pharmacological methods sometimes ineffective, as labouring women still express pain after their application.

We do not say we encourage use of pharmacological intervention, but non-pharmacological intervention works better when combined with pharmacological for some women (MW 3).

It is just as the pharmacological they are those patients, patients are not the same some of them they are working on them and some of them they are not working on them (MW 4).

Studies report that non-pharmacological pain relief methods are often less effective in relieving pain than anticipated (Thomson et al., 2019).

The respondent's voices suggest the non-effectiveness of the non-medicinal palliative, methods, which may be due to women only employing such methods sporadically or not as instructed. This seems a reasonable argument for the use of drugs in conjunction with these techniques. Furthermore, various participants mention that non-pharmacological methods, in some cases, aggravate the pain instead of reducing it, referring specifically to warm baths or showers.

Then after taking a warm shower, what I have experienced is that the woman the pains have increased not decreased (MW 2).

Sometimes when they have taken a bath, some say the pain is more (MW 6).

You'll tell mam go take a bath, sit in there for as long as you can or for about 30 minutes then you go and attend another patient, not even five minutes, that patient is out of the bath and then they'll say the pains are worse (MW 7).

Studies reveal that heat causes a significant increase in uterine activity, thus causing increased pain and shorter labour course (Akbarzadeh et al., 2019). While warm water has a relaxing effect, it also stimulates contractions; hence, women in labour may perceive it as exacerbating their pain. The positive outcome of this is that, with increasing uterine activity, labour progress is shortened.

Theme 8: Challenges Regarding the Use of Non-Pharmacological Methods

Midwives experience certain challenges relating to the use of non-pharmacological methods. These mainly comprise infrastructure issues, staffing concerns, and the labouring women themselves. Several studies cited earlier note that non-

pharmacological pain relief implementation in public sector maternity wards often encounter barriers, categorised into clinician-related, health system-related, and client-centred (Boateng et al., 2019).

4.4.1.6 Sub-Theme 8a: Staff Shortage (Massages and Individualised Care)

Most participants indicate that they know what they are supposed to do, but because of the shortage of staff, they are unable to manage labour pain effectively. Back massages, especially, are often not conducted as a result.

> *We do not do massaging because of shortage of staff (MW 7).*
>
> *We are also unable to rub/massage the woman because of lack of time and shortage of staff (MW 9, 10).*

Aziato et al., (2017) share the same views; in Ghana, only a few nurses and midwives are available within the healthcare facility per shift, leading to burnout and, ultimately, poor pain management.

The shortage of staff leads to poor pain management, as women do not get the care they deserve. This can, in turn, lead to women being uncooperative and bearing down with each contraction, resulting in complications such as foetal distress.

4.4.1.7 Sub-Theme 8b: Covid-19Restrictions (Absent Companions)

Most participants mention that, due to Covid-19 restrictions, they do not allow companions to accompany birthing mothers. This poses a challenge, as companion may assist in non-pharmacological palliative methods, such as providing back rubs and emotional support.

> *Because on the Covid restrictions we do not have the companions now (MW 5).*
>
> *Since the COVID 19 started, we are not allowing the companion, which is disadvantageous to us because they used to assist us with rubbing (MW6, 8).*

This is similar to countries such as Latvia, where maternity care institutions had to implement restrictions, such as prohibiting the presence of an accompanying person

in birth due to Covid-19 protocols; this leads to inferior childbirth experiences (Kovale et al., 2021).

Covid-19 restrictions have a negative impact on pain management during labour. As companions are not allowed, some of the palliative activities they could perform, such as massaging the back and emotional support, were not possible. This issue is compounded by staff shortages.

Some participants' experience that several black women do not involve birth companions because of cultural beliefs.

> *The challenge is that not all of them who are coming with a companion our black patients are not coming with the companions, is very- very few that are coming with the companion (MW 4).*
>
> *Then in terms of companion the challenges in some ways, they take the initiative well, some do not, you know, and you cannot force people to bring a companion (MW 5).*
>
> *We do allow companions but it is very rare, the patients they always come alone. I would say out of five only two patients come along with companions it is not a lot of patients (MW 6).*

Kabakian-Khasholian & Portela (2017) note similar experiences amongst Arabian cultures, where the male partners are not allowed to be part of the birthing process

In traditional black culture, men are not allowed to see women giving birth; although people are now more enlightened, some men still see their presence during birthing as a taboo, and do not want to be part of that process.

4.4.1.8 Sub-Theme 8c: Uncooperative Labouring Women to Engage in Labour Facilitative Efforts

Most participants commented that some women were reluctant, uncooperative, and did not want to mobilise or do breathing exercises. Some women also do not make adequate use of available facilities, for example not using warm baths for the specified amount of time, as they do not understand its use in the labour process.

The patients sometimes are very reluctant to mobilise because they do not understand why the sister says I must walk when I am in pain. They are very irritable and really do not understand why they should go to the warm bath even though we explain to them why they should do it. (MW 6).

The patients sometimes do not cooperate in terms of mobilising breathing exercises because they do not understand why they should do it (MW 9, 10).

You'll tell mam go take a bath, sit in there for as long as you can or for about 30 minutes then you go and attend another patient, not even five minutes, that patient is out of the bath (MW 7).

In Ghana, midwives encourage women in labour to deeply inhale and exhale, with the view that breathing exercises would provide more oxygen to the foetus; however, some women unlikely to cooperate (Aziato et al., 2017).

Based on the voices of midwives it is obvious that women are not fully informed about available non-pharmacological methods or their benefits in relieving the pain, and are consequently loathe to participate in these.

Most participants indicate that women are sometimes unable to take a warm bath/shower because of the unavailability of warm water.

Sometimes there will be no warm water, they will come back saying sister you said I should take a shower, but it is only cold water (MW 1, 2, 10).

Some healthcare providers in other countries indicate that they cannot implement labouring in water, as no facilities for implementation of this option are available in their settings (McCauley et al., 2018). Boateng et al. (2019) also mention that factors such as inadequate human and material resources contribute to poor pain management. Lack of resources such as showers and warm water in maternity wards hampers the labour pain management routine, exposing women to unbearable pain and suffering.

Some participants mention that they cannot engage women in doing exercises due to lack of space in labour wards.

We are unable to do the exercises because of the space and the shortage because you must be there (MW 4).

McCauley et al. (2018) reiterate that restrictions to implementation of some non-pharmacological methods as limited space in labour rooms.

In the settings under study, very few labour rooms exist; consequently, more than one patient often shares a room. This prevents midwives from employing some non-pharmacological methods due to lack of space and privacy.

Theme 9: Suggestions for the Use of Non-Pharmacological Methods

Midwives in the settings under study make some recommendations regarding use of non-drug methods to improve labour pain management. The recommendations include educating women, increasing the number of midwives, doulas, or students, availing the necessary facilities, as well as combining both methods of pain relief.

4.4.1.9 Sub-Theme 9a: Educate Women About What *to* Expect *to* Allay Anxiety

Midwives are aware that women were may refuse to participate in non-pharmacological pain relief methods because of lack of knowledge; hence, they are of the opinion that women should be educated in this regard.

I think, with the non-pharmacological the patients need to be educated more on what is going to happen during labour (MW 6).

To improve the management of labour I think that during antenatal attendance we need to make them aware of the pain that they will experience and of the pharmacological and non-pharmacological interventions that will assist them (MW 8).

With the non-pharmacological interventions, the women have to be educated more on what is going to happen during labour and this should be done during antenatal care (MW 9).

Midwives in United Kingdom discuss both pharmacological and non-pharmacological labour pain management methods with pregnant women routinely during antenatal visits to empower them about what to expect during childbirth (McCauley et al., 2018).

In addition, midwives should explain the various non-pharmacological methods, their advantages and disadvantages, as well as provide demonstrations and rehearsals of each technique during antenatal visits (Anarado et al., 2015).

Women's lack of knowledge on non-medicinal pain relief interventions lead to lack of cooperation rendering these methods largely ineffective. Thus, proper antenatal preparation and education of women is imperative.

4.4.1.10 Sub-Theme 9b: Increase Staff Complement

Most participants recommend that the availability of additional staff would enable them to carry out their duties, manage pain, and provide support to women.

> *We need more staff as for now you will find that sometimes you are alone for more than one patient (MW 10).*
>
> *Firstly, you know, if we can have enough staff as they say, according to the rule is that one midwife is to two (MW 7)*
>
> *We need extra staff because they will be those patients that need some time for reassurance and management (MW 6).*

Studies in other countries suggest that employing more staff in the labour ward would assist in improved non-pharmacological pain management as well as in provision of individualised support for patients (McCauley et al., 2018).

A larger staff complement in maternity wards should be beneficial, as midwives are currently unable to manage pain effectively, especially by using non-pharmacological methods, as they are short staffed.

4.4.1.6. Sub-Theme 9c: Train Lower Categories in Conducting Non-Pharmacological Methods

Another participant's suggestion is that lower ranking staff categories should be trained and empowered to assist with non-pharmacological methods.

> *I do not know whether I should say more staff even if is the lower categories we can always teach them (MW 4).*

McCauley et al. (2018) are of the opinion that healthcare professionals should be provided with specialist training in anaesthesia and that there should be monthly staff in-service training on pharmacological interventions and approaches.

The institutions in the current research need to allocate lower categories of nurses, such as nursing auxiliaries, in maternity wards as an addition to the short-staffed midwives. They should be trained in various non-pharmacological pain relief methods in order to assist in employing these methods for labouring women.

4.4.1.11 Sub-Theme 9d: Best Combine Methods for Maximum Effectiveness

Another commonly voices opinion amongst participant is that non-pharmacological pain relief methods are not effective on their own, but are more successful when combined with pharmacological methods.

> *We do not say we encourage use of pharmacological intervention, but non-pharmacological intervention works better when combined with pharmacological for some women (MW 3).*
>
> *Sometimes we combine the pharmacological and non-pharmacological, it depends on the patient; if the patient can tolerate the pain then we start with the non-pharmacological. However, there are those patients that cannot tolerate then you will have to do both (MW 4).*

In Ghana, for examples, midwives use non-pharmacological approaches, like reassurance, sacral massage, and deep breathing, while also, in some cases, administering painkillers to relieve severe pain (Aziato et al., 2017).

Non-pharmacological palliative methods may sometimes be unsuccessful in relieving pain on their own, or may only be effective in relieving mild labour pain. There is a need to supplement these methods with pharmacological methods.

4.4.1.12 Sub-Theme 9e: Provide More Facilities, e.g. Showers

Some midwives suggest an increase in the number of showers so that they can cater for the number of women in labour. Presently, wards possess only two working showers for all labouring women. In some case, these showers need to be availed to Covid-19 positive mothers, rendering them unsafe for the mothers to use.

You know, I do not know because what we have right now is working, but maybe if we had more showers (MW 5).

Ekweani and Avidime (2016) suggest that the Zarian government needs to intervene in management of labour pain by ensuring regular supply of equipment used by healthcare providers.

It is obvious that lack of resources can prevent midwives from providing the necessary care to labouring women, hence the need for provision of necessary material resources to be used by midwives by the facilities. Non-provision of these resources leads to sub-standard care.

4.4.1.7. Sub-Theme 9f: Employ Doulas and Engage Student Nurses to Conduct Activities

The need to employment doulas, as well as the allocation of more students to assist with non-pharmacological methods is another improvement suggested by participants.

But then it will better if there is somebody so the issue of the doula even though is not professionals the doulas they will help because you teach them how to do this non-pharmacological then they are able to help and you only come in when you give the pharmacological it will help a lot (MW 4).

I think the other thing maybe if we don't have the doula maybe if we can get enough I don't how to say enough students or what I don't know how many is enough but then enough and willing students because they can be enough but do not want to do the non-pharmacological and that is basically what they are supposed to do, because maybe they will say with the doulas they will have to hire some extra staff (MW 4).

In Ethiopian settings, different types of students (nursing, midwifery, and/or medical) work in the wards, to assist with the provision of care to mothers during and after delivery, this still takes place under supervision of healthcare practitioners (McCauley et al., 2017).

The midwives' responses indicate that the additional of doulas is vital in assisting the midwives themselves in providing supportive care to women. In addition, more students should be allocated and be involved in engaging women in non-

pharmacological pain relief methods. This will ensure improved labour pain management.

4.5 CHAPTER SUMMARY

This chapter presented 9 themes and 19 sub-themes, which emerged from the research findings. These themes emphasise the experiences of midwives regarding pharmacological and non-pharmacological labour pain management. The data analysis procedure gave rise to primary themes, namely experiences on use of pharmacological and non-pharmacological methods, positive and negative experiences as relevant to both methods, challenges pertaining to both methods of palliative care, and suggestions for the improved use of, and necessary resources for, non-pharmacological methods. All the findings identified during the data analysis process in the various themes and sub-themes were confirmed through literature control.

CHAPTER 5: CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

5.1. INTRODUCTION

The researcher discussed, in the preceding chapter, the findings analysed in the data analysis process. These were supported via literature control based on the various themes and sub-themes emergent from the analyses. This chapter presents a thorough conversation of the research process, the conclusions, limitations, and recommendations of the research will be included.

5.2. STUDY PURPOSE AND OBJECTIVES

The purpose of the study was to explore midwives' experiences regarding the use of pharmacological and non-pharmacological labour pain management interventions with the intention of providing recommendations to the Free State Department of Health. The objectives followed were:

a) To describe the midwives' experiences on pharmacological labour pain management interventions; and
b) To describe the midwives' experiences on non-pharmacological labour pain management interventions.

5.3. THEMES GENERATED FROM INTERVIEWS

5.3.1 Theme 1: Experiences with the Use of Pharmacological and Non-Pharmacological Methods

The current study explored midwives' experiences on using pharmacological and non-pharmacological labour pain management methods, which were discussed in relation to the global scholarship. The study revealed that midwives use both pharmacological and non-pharmacological labour pain management methods for all women who giving birth vaginally, as per recommendations made by the World Health Organization (WHO, 2018).

Pharmacological methods include the use of Pethidine and Phenergan only, possibly attributable to non-availability of other methods, and/or to departmental policies that only indicate the use of said medications. Literature reveals that, in other countries, midwives have access to and administer a variety of opioids and non-opioids. Midwives probed in this study according to doctors' prescriptions use these palliative

drugs. This often disturbs the routine management of labour pain, as midwives have to wait for the doctor's arrival, or depend on telephonic orders.

The above-mentioned medications are effective in sedating and calming the women, as well as in reducing labour pains. These benefits allow women to rest in preparation for pushing the baby out when time arrives. Similarly, studies in other countries note that Pethidine is one of the most widely known and used pharmacological pain relief methods administered during labour (Bishaw et al., 2020). In addition, Thomson et al. (2019) also indicate that the usage of opioids, particularly Pethidine, is the most commonly applied pharmacological method; as it helps women to relax and deal with pain effectively

Though these methods are said to be effective in many cases, they do not provide pain relief for all birthing mothers, with some still experiencing pain after these were administered. Pharmacological methods further sometimes yield unwanted effects for the mother and the baby, as well as disturbing the progress of labour.

On the other hand, non-pharmacological methods are also effective in relieving pain. Such methods include mobilising, taking warm baths or showers, breathing exercises, as well as back rub. These may not be widely or consistently employed, mainly due to factors discussed later. Other studies share the same sentiments - that similar non-pharmacological interventions are effective in relieving pain during labour, without harm to the woman, the baby and the progress of labour (Boateng et al., 2019).

Some midwives indicate that these methods are less effective on their own, attributable to women's reluctance to employ them; thus, these techniques often have to be used in conjunction with pharmacological methods.

Midwives mention challenges hampering them from managing labour pain according to expectations. They provide suggestions on dealing with these to ensure proper palliative management of women in labour.

5.3.2 Theme 2: Positive Experiences When Using Pharmacological Methods

Midwives administer the aforementioned pharmacological pain relief agents - Pethidine and Phenergan - to all women in labour as part of routine care. This approach is considered useful and good in enhancing cervical dilatation, thus

shortening the progress of labour. This finding is established by Seller et al. (2018:420), who posit that the use of analgesia promotes more efficient uterine action, ultimately shortening the duration of labour. Furthermore, these methods are beneficial in facilitating relaxation of women, benefitting the midwives in that women were more cooperative; thus, the birth process was easy and without complications. This is evident in other countries, as cited in the studies that indicate that Pethidine helped women to relax and cope with labour pain (Thomson et al., 2019).

Midwives are less concerned with limited drug options, as they do not mention the need for other types. This can be regarded as a lack of awareness regarding other types of drugs that can be effective in relieving labour pain. This situation limits the labour pain management options labouring women could benefit from, and leads to sub-optimal labour pain relief, especially when the drugs of choice are out of stock.

5.3.3 Theme 3: Negative Experiences When Using Pharmacological Methods

Though pharmacological methods in use are effective, they prove ineffective for some women, whose pain persists after administration. The women's continuous screaming and requests for higher dosages evidence this. In some instances, these drugs yielded their sedative and palliative effects only after the women have given birth, as indicated by some midwives. This could be attributed to drugs being administered very late in active phase of labour or merely being ineffective. This then means that some women suffer throughout the labour process, an experience that can affect negatively on future births, as women can be anxious that history will repeat itself. Studies on the comparison of Diamorphine and Pethidine suggest that neither was effective, as two groups of women under study constantly reported important pain levels and often requested extra analgesia (Sprawson, 2017).

5.3.4 Theme 4: Challenges Regarding Pharmacological Methods

Pharmacological pain relief methods pose some challenges resulting negative effects on the women, the progress of labour, the babies, as well as the midwives themselves. This is reiterated in several international studies that suggest that opioids are effective in managing labour pain, but can have negative birth outcomes for the mother, progress of labour, and the baby (Alleemudder et al., 2015).

In this respect, midwives experience challenges such as a lack of standing orders, which cause midwives to delay the administration of drugs as pending the doctor's prescription thereof. Geltore et al. (2018) note similar findings in their Ghanaian study, showing that midwives are unable to provide pain relief drugs because of unavailability of protocols to guide them.

Sometimes, palliative drugs are out of stock, which is attributed to their non-availability from the depot. This leads to the suffering of women, as midwives necessarily need to use non-pharmacological methods, which may not be effective on their own. According to Bitew et al. (2016), medication unavailability in pain relief efforts poses an obstacle in pregnant patients' pain management. In addition, maternal challenges, such as drowsiness, tiredness, sleepiness, a lack of energy disturbing the ability of women to push during birth, as well as baby related issues - some babies being born floppy or with respiratory distress due to sedation – were identified. Studies reviewed also cite that drugs can cause foetal respiratory depression (Boateng et al., 2019).

5.3.5 Theme 5: Suggestions for the Use of Pharmacological Methods

Midwives suggest the use of other pharmacological methods with the hope that availability of a variety of pain relief drugs can improve labour pain management. These can be useful in instances where Pethidine and/or Phenergan are out of stock or prove ineffective for certain women. According to literature reviewed for this study, midwives in Ghana also use non-opioids, such as paracetamol or painkillers, to manage labour pain effectively (Aziato et al., 2017). This could assist midwives in functioning independently without awaiting the doctor's prescription. Some midwives specify the use of love gas, which is not unprecedented, as midwives in countries such as the UK use nitrous oxide (gas and air) for palliative purposes. This is also the most common form of analgesia used in the management of labour pain (Alleemudder et al., 2015).

The other suggestion that is of importance relates to the availability of standing orders and protocols that allow the midwives to use their discretion in managing patients' labour pain. Unlike in the current situation, where midwives are dependent on doctors' prescription, this could improve provision of care, ensuring women's satisfaction. In the UK, midwives are licensed to prescribe and administer Pethidine, which facilitates pain management for patients (Alleemudder et al., 2015).

5.3.6 Theme 6: Positive Experiences When Using Non-Pharmacological Methods

Non-pharmacological approaches used include encouraging women to mobilise, take a warm bath or shower, and do breathing exercises. According to Aziato et al. (2017), breathing assist with provision of oxygen to the foetus as well as preventing maternal exhaustion. Midwives experience that some women do not cooperate in applying these techniques; this is attributed to lack of understanding as to why they should perform these activities. These methods are said to be effective if done properly, as supported by Anarado et al. (2015), though some midwives feel that they are only effective when combined with pharmacological methods.

Midwives also massage labouring women's backs when they have time. They also allow companions, who are very helpful in providing women with emotional support, and who can take on back massages when midwives cannot perform them due to their workload. This is an observation shared by Galle et al. (2020), who note that midwives in Maputo City allow birth companions, who were helpful in calming and reassuring pregnant women during labour. Furthermore, Zhang et al. (2018) find that midwives in China use doulas to provide continuous physical and emotional support to labouring women.

5.3.7 Theme 7: Negative Experiences When Using Non-Pharmacological Methods

Midwives experiences are that non-pharmacological interventions are ineffective in reducing labour pain, perhaps due to improper implementation. They also observe that such methods are valuable only in cases where patients experience mild pain; consequently, some believe that these methods need to be complemented with pharmacological methods. The same views are supported by findings in other countries, where studies indicate that non-pharmacological palliative efforts are not effective in relieving pain (Boateng et al., 2019).

5.3.8 Theme 8: Challenges Regarding the use of Non-Pharmacological Methods

Though non-pharmacological pain relief seems to be an easy option, midwives face impediments, preventing them from implementing such methods as expected. The first challenge noted is staff shortages, which prevent midwives from providing individual

care and supervision in employing non-pharmacological techniques. For instance, a midwife would encourage the woman to breathe during a contraction, but when the midwife turns away to tend to another patient, the woman starts pushing with each contraction, leading to avoidable complications. The issue of staff shortages is not unique to this setting, and is confirmed by studies where midwives attribute inadequate labour pain management to the shortage of staff and work overload (Galle et al., 2020).

The other challenge pertains to Covid-19 restrictions, as companions are not allowed into the hospital. This has a significant impact on the provision of support to the midwives and labouring women. Kovale et al. (2021) allude to the fact that the presence of an accompanying person in birth is prohibited because of Covid-19 restrictions in Latvia, leading to inferior childbirth experiences. Even when companions were allowed, some black women did not involve companions because of cultural beliefs, similar to practices in Arab cultures (Karbakian-Khasholian & Portela, 2017).

Companions in maternity wards are of great value to midwives, as they could potentially shoulder some of the midwives' burdens, such as providing back massages and emotional support, thus offering women in labour individualised attention. This issue is exacerbated by previously mentioned staff shortages.

Midwives also sometimes face a lack of cooperation by labouring women when they try to implement non-pharmacological activities such as mobilising, breathing exercises, and taking warm baths and showers. This may be due to a lack of antenatal education as to the use and benefits of such palliative interventions, as supported by Aziato et al. (2017).

Lack of material resources and poor infrastructure are seemingly insurmountable obstacles in the implementation of non-pharmacological pain relief interventions. Midwives cite a lack of warm water and shortages of baths and showers, which prevent women from taking warm baths or showers. Another issue is a lack of space to effect exercises. McCauley et al. (2018) cite the issue of limited space in labour rooms and lack of facilities for labouring in water. These challenges lead to sub-standard care.

5.3.9 Theme 9: Suggestions for the Use of Non-Pharmacological Methods

Midwives provide suggestions to address the aforementioned obstacles to the use of non-pharmacological interventions in order to improve labour pain management, and

in ensuring quality care. These include educating women about these methods during antenatal visits so that women should know what to expect during labour, and increasing the number of midwives, doulas, or students. The latter will reduce midwives' workload, resulting in improved labour pain management by availing the necessary facilities as well as combining both methods of pain relief.

Studies confirm that midwives in United Kingdom provide education on both pharmacological and non-pharmacological pain relief methods to women during antenatal contacts, creating in them an awareness regarding what to expect during childbirth (McCauley et al., 2018). In addition, according to Anarado et al. (2015), midwives explain to women the difficulties and drawbacks of these methods, and include demonstrations and practices of each technique during said visits (Anarado et al., 2015). In this way, women are empowered by the knowledge and understanding of what will happen during labour, likely making them more cooperative and receptive to non-pharmacological palliative interventions.

Increasing the number of midwives would be beneficial to both expectant women and midwives, as workloads would be reduced, thus enabling midwives to provide individualised care to women, as is the expectation. Similarly, midwives in other countries had the same recommendations. (McCauley et al., 2018).

Provision of continuous education to midwives, students, and nurses in lower categories, along with the employment of professional doulas, are other salient suggestions. These suggestions are also highly relevant, as non-midwives would be utilised to assist in implementing non-pharmacological methods, as well as in supervising women whilst midwives are providing midwifery care to individual women (McCauley et al., 2018).

Since non-pharmacological methods are said to be only intermittently effective, midwives suggest that non-pharmacological pain relief methods should always be given in conjunction with pharmacological methods. Midwives in Ghana, especially in instances where women in labour experience severe pain (Aziato et al., 2017), successfully employ this technique.

In addition to these recommendations, is one related to infrastructure improvements, including additional showers to cater for the increased number of women who come

to these institutions? Negligence in addressing these infrastructural issues lead to the provision of sub-standard care; management of these institutions need to assist the midwives in managing labour pain by providing the necessary resources (Ekweani and Avidime, 2019).

5.4. LIMITATIONS OF THE STUDY

The results of the study are limited as the study was conducted in resource-limited settings; therefore, the results cannot be applied to high resource settings. Furthermore, since it is localised to Matjhabeng Municipality in the Lejweleputswa district of the Free State province in South Africa, findings may not be generalised as applying to all midwives across all healthcare facilities, whether these be national or international.

5.5. RECOMMENDATIONS

The midwives provided suggestions on how labour pain management could be improved by using both pharmacological and non-pharmacological methods. It is therefore imperative that managers of the concerned institutions take into consideration these recommendations to assist and support midwives in managing labour pain.

5.5.1 Midwifery Practice

a) Prioritise antenatal education of women regarding both pharmacological and non-pharmacological pain relief interventions, thus creating awareness;
b) Increase the number of midwives to reduce midwife workload and improve individualised care;
c) Avail the necessary facilities to allow midwives to manage labour pain as expected;
d) Provide standing protocols to guide midwives in managing manage labour pain using drugs in the absence of the doctor; and
e) Consider the addition of other drugs, analgesics, and love gas in the management of labour pain including non-opioids such as paracetamol to be used by midwives in the absence of the doctor.
f) Employ lower category of staff to assist with non-pharmacological processes.

g) It is also imperative that the infrastructure of these institutions be improved to enable midwives to perform non-pharmacological palliative measures easily

5.5.2. Education

The institutions themselves need to put in place written protocols and standing orders that guide the midwives in drug administration in the absence of the doctors, to avoid the sub-standard care.

Midwives should be educated about other pharmacological and non-pharmacological pain relief interventions, as they currently make use of very limited options, likely due to lack of knowledge.

During training of the midwives, the curriculum should include in-depth information on management of labour pain using pharmacological and non-pharmacological techniques

Further, midwives should empower women by explaining pain relief methods available during labour; they should demonstrate the non-pharmacological methods during antenatal care, so women can know exactly what will be expected of them and how to implement these methods.

5.5.3 Research

Future studies should consider examining the efficacy of non-pharmacological methods on labour pain relief, as are reported to be ineffective by some midwives.

5.6. CHAPTER SUMMARY

The results of the study effectively answer the research questions posed by the researcher. The midwives freely shared their experiences on managing labour pain using both pharmacological and non-pharmacological methods. Research participants' experiences were categorised into nine themes, which described midwives' experiences regarding the use of pharmacological and non-pharmacological palliative methods. These included positive and negative experiences of pharmacological and non-pharmacological methods, the challenges that experienced in using both methods, as well as suggestions on how to address them.

It is obvious that midwives work hard to satisfy labouring women, thus providing each woman with pain relief drugs. Furthermore, midwives employ non-pharmacological activities, though they are sometimes met with resistance from labouring women, possibly due to lack of understanding regarding the implementation and benefits of these techniques.

Although the midwives are willing to support labouring women and to provide individualised care, it is difficult because of staff shortages and increased workload. The impact of Covid-19 also affects midwives, as it prevents to inclusion of companions in the birthing process. Companions can assist in the provision of individualised non-pharmacological pain relief methods.

The results of the study will create an awareness amongst managers and healthcare officials regarding midwives' positive attitudes of midwives towards managing labouring women, as well as the challenges experience in their provision of care. It is therefore imperative that these recommendations are taken into consideration in order to provide midwives with strategies to improve labour pain management.

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ADDENDUM A: ETHICAL CLEARANCE CERTIFICATE (UFH)

University of Fort Hare
Together in Excellence

HEALTH RESEARCH ETHICS COMMITTEE

P.O Box 1054
East London 5200
Tel: +27 (0) 43 704 7368
E-mail: dgoon@ufh.ac.za

ETHICAL CLEARANCE CERTIFICATE
REC-100118-054

Certificate Reference Number:	**Ref #2021=05=02=ParkiesL**
Project title:	Experiences of midwives on pharmacological and non-pharmacological labour pain management in Lejweleputswa district, Free State, South Africa
Nature of Project	Masters of Public Health
Principal Researcher:	Parkies L
Student Number:	201928120
Supervisor:	Dr D Murray

On behalf of the University of Fort Hare Health Research Ethics Committee (HREC), I hereby give ethical approval in respect of the undertakings contained in the above-mentioned project and research instruments(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 HREC 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 HREC in the prescribed format, where applicable, annually, and at the end of the project, in respect of ethical compliance.

University of Fort Hare
Together in Excellence

HEALTH RESEARCH ETHICS COMMITTEE

P.O Box 1054
East London 5200
Tel: +27 (0) 43 704 7368
E-mail: dgoon@ufh.ac.za

The HREC retains the right to

- Withdraw or amend this Ethical Clearance Certificate if
  - Any unethical principles or practices are revealed or suspected
  - relevant information has been withheld or misrepresented
  - regulatory changes of whatsoever nature so require
  - 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 principal 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 HREC monitoring@ufh.ac.za.

The Ethics Committee wishes you well in your research endeavours.

Yours sincerely

Professor DT Goon
Chairperson: HREC
5th May 2021

ADDENDUM B: APPROVAL (FREE STATE DEPARTMENT OF HEALTH)

health
Department of Health
FREE STATE PROVINCE

14 June 2021

Ms L Parkies
Dept. of Nursing Science
UFH

Dear Ms L Parkies

Subject: Experience of midwives on pharmacological and non-pharmacological labour pain management in Lejweleputswa district, Free State, South Africa.

- Please ensure that you read the whole document, Permission is hereby granted for the above – mentioned research on the following conditions:
- Participation in the study must be voluntary
- A written consent by each participant must be obtained.
- Serious Adverse events to be reported to the Free State department of health and/ or termination of the study
- Ascertain that your data collection exercise neither interferes with the day to day running of **Katleho and Thusanong Hospital** nor the performance of duties by the respondents or health care workers.
- Confidentiality of information will be ensured and please do not obtain information regarding the identity of the participants.
- **Research results and a complete report should be made available to the Free State Department of Health on completion of the study (a hard copy plus a soft copy).**
- Progress report must be presented not later than one year after approval of the project to the Ethics Committee of the University of Fort Hare and to Free State Department of Health.
- Any amendments, extension or other modifications to the protocol or investigators must be submitted to the Ethics Committee of University of Fort Hare and to Free State Department of Health.
- **Conditions stated in your Ethical Approval letter should be adhered to and a final copy of the Ethics Clearance Certificate should be submitted to** sebeelats@fshealth.gov.za **before you commence with the study**
- No financial liability will be placed on the Free State Department of Health
- **Please discuss your study with Institution Manager on commencement for logistical arrangements see 2nd page for contact details.8**
- Department of Health to be fully indemnified from any harm that participants and staff experiences in the study
- **As part of feedback you will be required to present your study findings/results at the Free State Provincial health research day**

Trust you find the above in order.

Kind Regards

Mr. MNG Mahlatsi
ACTING HEAD: HEALTH
Date: 21/06/2021

Head : Health
PO Box 227, Bloemfotein, 9300
4th Floor, Executive Suite, Bophelo House, cnr Maitland and, Harvey Road, Bloemfotein
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www.fs.gov.za

ADDENDUM C: INFORMED CONSENT FORM

University of Fort Hare
Together in Excellence

PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

TITLE OF THE RESEARCH PROJECT: Experiences of midwives on pharmacological and non-pharmacological labour pain management in Lejweleputswa District in Free State

PRINCIPAL INVESTIGATOR: Parkies Limakatso Elizabeth

ADDRESS: 18 Larnaca Street Riebeeckstad Welkom 9459

CONTACT NUMBER: 0828075832

You are invited to take part in this research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the researcher any questions about any part of this project that you do not fully understand. It is very important that you clearly understand what this research entails and how you could be involved. Also, your participation is **entirely voluntary** and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you did agree to take part.

This study has been approved by the **University of Fort Hare Faculty of Health Sciences Research Ethics Committee (UFH HREC) (Ref No: #2021=05=02=ParkiesL)** and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki and the ethical guidelines of the National Health Research Ethics Council. It might be necessary for the research ethics committee members or relevant authorities to inspect the research records.

What is this research study all about?

The study intends to gain an understanding of and insight into the experiences of midwives on using pharmacological and non-pharmacological labour pain interventions in the Matjhabeng Municipality of Lejweleputswa District in Free State.

The objectives of this research are:

- To describe the midwives' experiences on pharmacological labour pain management interventions
- To describe the midwives' experiences on non-pharmacological labour pain management interventions

Why have you been invited to participate?

- You have been invited to participate because you meet the requirements of the population relevant for the study
- You have also complied with the following inclusion criteria: midwives who are presently working in maternity wards of the district hospitals in Lejweleputswa where the study will be conducted and have 3-5 years' experience in midwifery.

What will your responsibilities be?

- You will be expected to: participate in the interview sessions as scheduled. Data collection will be arranged so that daily routine is not interrupted. Interviews will be arranged by appointment in the afternoon or during your lunch times. Interviews will last for 45-60 minutes.

Will you benefit from taking part in this research?

- Direct benefits for you as a participant: Improved labour pain management will prevent complications to the mothers. There will be reduction of litigations and financial loss for the institutions.
- The indirect benefit will be: The study will add to the body of knowledge and development of appropriate guidelines and policies to improve labour pain management

Are there risks involved in your taking part in this research?

- There are no risks in this study
- The benefits outweigh the risk

Who will have access to the data?

- Only the researchers will have access to data.

What will happen with the data/samples?

- Completed interviews will be kept confidential, under lock and key. Data will be stored during the study on a computer which has a code of access known only to the researcher. Paper will be disposed of using a paper shredder after a period of five years and data stored on the computer will be erased from both the programme files and the recycle bin.

Will I be paid to take part in this study and are there any costs involved?

No. You will not be paid to take part in the study. There will thus be no costs involved for you.

Who can you contact for additional information regarding the study?

The primary investigator Limakatso Elizabeth Parkies can be contacted during office hours at 057-3966242, or on his cellular phone 0828075832 at anytime. Should you have any questions regarding the ethical aspects of the study, you can contact the Acting Chairperson of the UFH HREC, Prof Leon van Niekerk, during office hours at leonvn@ufh.ac.zaor tel. no: +27 (0) 40 602 2435.

How will you know about the findings?

The findings of the research will be shared with you by the researcher in a meeting that will be scheduled with the participants in the venue where the interviews took place a**fter the outcomes of the study are** successful. The dissertation will be presented in a CD form that will be submitted to the University Of Fort Hare Faculty Of Health Sciences, and to the HOD of the Free State Department of Health. Articles will be published in accredited journals and presented in conferences as well as in the Free State Research day.

Declaration by participant

By signing below, I agree to take part in a research study titled: Experiences of midwives on pharmacological and non-pharmacological labour pain management in Lejweleputswa District in Free State.

I declare that:

- I have read this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions to both the person obtaining consent, as well as the researcher and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Signed at: ..... on: ……..…… 2021.

.....

Signature of the participant

Declaration by researcher

I Parkies Limakatso Elizabeth declare that:

- I explained the information in this document to ……..
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use an interpreter.

Signed at: .....…..…… on: ……...……. 2021

.....

Signature of the researcher

ADDENDUM D: LETTER FROM CODER

TO: Masters Student: Limakatso Parkies

From: AN Mbatha

Address: No: 65 Mc Pherson Street

Ginsberg, King William's Town

5601

Cell: 0837491478/ 076 991 3637.

E-mail Address: adeliciambatha@gmail.com

CERTIFICATE OF CO-CODED WORK: FOR MASTERS STUDENT:
Limakatso Parkies

This is to certify that I co-coded the work that was sent to me by the student's supervisor

I wish to indicate that I have expertise in doing this kind of work
I have done it to several students' Masters Studies due to my background knowledge

of the different designs within qualitative research approach.

I have been used by the Nursing Science Department of University of Fort Hare to perform this kind of work and I have always done it satisfactorily and successfully.
When I do it I always consider the following:
- The title of the study - Problem statement - The set objectives

- The questions asked

- The design and methods employed in data collection and analysis

- The specific principles of data collection and analysis followed under each

specific design used.

For this particular student I also looked at a provided example of delineated themes and sub- themes from the data presented from her participants. I did so after
I completed my analysis to ensure maintenance of my independent analysis. The purpose of such comparison was just to check if we analysed data within the same contexts of the above bulleted identified items.

- Comments are often given to Student and supervisors.

INDEPENDENT CO-CODER: AN Mbatha (Mrs)

Highest Qualification: Masters in Nursing Education (UKZN)

As an Independent co-coder I am also a Doctoral candidate at the UNISA and am due to submit m thesis at the end of this year. Signature:

ANbatha ..... Date 2021/10/1

ADDENDUM E: INTERVIEW SCHEDULE

INTERVIEW GUIDE

SECTION A: DEMOGRAPHIC DATA

Name of the institution	
Participants No	
Age	
Work experience as professional nurse (in years)	
Work experience in midwifery (in years)	

SECTION B: INTERVIEW QUESTIONS

1.What are your experiences on use of pharmacological labour pain management interventions?

2.What are the challenges you experienced whilst using pharmacological pain management interventions?

3.What are your experiences on use of non- pharmacological labour pain management interventions?

4.What are the challenges you experienced whilst using non- pharmacological pain management interventions?

5.Tell me about what needs to be improved in labour pain management.

ADDENDUM F: PARTICIPANT INTERVIEW

SECTION A: DEMOGRAPHIC DATA

Name of the institution	Hospital B
Participant's NO	[redacted]
Age	41 Years
Work experience as professional nurse (in years)	4 Years
Work experience in midwifery (in years)	4 Years

SECTION B: INTRVIEW DATA

What are your experiences on use of pharmacological labour pain management interventions?

Experiences on use of pharmacological pain management during labour. It's quite good. The outcomes most of the time are good, because we give in different stages of labour. Once you have given it will help subside the pain, because the patient will sleep, will rest, and then after that, they dilate faster, and then give birth without any complications. Sometimes, not most of the time. The effect of this pharmacological pain management on pregnant women is quite good because it helps the woman to relax and give birth with ease.

We give Pethidine 100 mg and Phenergan 25mg. We give according to the pain, they are having, if they're having strong contractions like 4 in 10 minutes, and the patient may be the patient is still one centimetre or two centimetres we give to relax the uterus. And then from there, the patient will dilate with ease and deliver.

When the baby is born, if you gave in active phase of labour, the baby will be born floppy because of the effect of the sedation, but we counteract that with naloxone. So one challenge is that all women want to be given that because they're all in pain, but unfortunately we cannot give all of them you check, we give, according to how strong the pain is, some would want the sedation even if she is having mild contractions.

Before delivery some will fall into sleep due to sedation, but others it will seem like it's not working, because the patient will keep making noise complaining of pain, even though you have given. So, but it doesn't work like the same on all of them, it works

differently like one will continue having pain even though we have given, but others will sleep. And when she wakes up or when the sedation wears off, she will start complaining of the pain again, and then when you check you'll find that she is far more dilated than before, and then she's about to give birth.

In my experience no babies ever needed to be resuscitated after sedation, they only become floppy and when you give naloxone they become ok. Not all babies whose mothers were sedated are given naloxone, we check the baby first, you don't just give because you sedated, you check the baby, then if the baby's fine we don't give naloxone.

What are the challenges you experienced whilst using pharmacological pain management interventions?

So now we only have pethidine and phernagan which you give on condition, because you don't just give without checking the patient. I forgot to say, because you put a woman on CTG, if it's a foetal distress, you don't give, because then the baby is already distressing then you will be distressing the baby even more. So, you just don't give. you give on conditions

Sometimes these drugs are out of stock so women do not get them as they deserve so in this instance we only use non-pharmacological interventions,

There are some, especially when you give sedation let's say she's in active phase of labour, far, far like for instance eight centimetres or seven centimetres. That patient will be so tired and when you check she is fully dilated but there is no maternal effort.

But then the challenge is that when the baby comes, the baby will be floppy from that effect of the sedation

What are your experiences on use of non- pharmacological labour pain management Interventions?

For non-pharmacological pain management, we advise women to like when they are in active phase of labour to mobilize, to take a warm bath, like to stay there for a long and to like soak themselves in a warm bath for about 30 minutes and then to do deep breathing exercises. All those three methods do work, when they are done properly.

You tell them you mobilize, while mobilizing when you feel the pain, you stop and you take deep breathing exercises. Then when the pain stops again you start mobilizing.

We do allow the companions before this Covid thing, they would come be it the mother or the husband, we would allow them and they were helping with the massaging of the back of the women to reduce pain.

What are the challenges you experienced whilst using non- pharmacological pain management interventions?

We don't do massaging because of shortage of staff, we did allow the companions before this Covid thing and they were helping with this, but now they are not allowed.

Another challenge is that of the warm bath. You will tell the patient. Okay, since. Let's say we are busy I can't focus on her alone, you'll tell her mam go take a bath, sit in there for as long as you can or for about 30 minutes then you go and attend to another patient, not even five minutes, that patient is out of the bath and then they'll say the pains are worse, then it won't be effective.

Tell me about what needs to be improved in the management of labour pain.

Firstly, you know, if we can have enough staff as they say, according to the rule is that one midwife is to two. But now it's impossible, because you will find that I'm attending like to almost everyone in the ward. If we can have more staff, I think some of the challenges we can overcome or we can manage the patient better. I know there are some pharmacological pain management methods that we don't use in public hospitals.

So if they can explore those others like the gas that is now been used, they call it love gas I don't know what its name is. That one I saw it works, when my sister was in hospital, you know she was in so much pain that she was bearing down before time. So, when they admitted her on her bed and it was there hanging, they told her just take one or two puffs when you feel pain. She took like one, two, and she was out laughing and then the next thing she wakes up like two to three hours late and then she gave birth. If they can also use things like epidural, those that we don't have if they can explore them I think it will be best for the patients also.

ADDENDUM G: LETTER FROM CEO (HOSPITAL A)

To whom it may concern

RE-PERMISSION TO CONDUCT RESEARCH

This letter serves to inform you that I, R.G. Monyake the CEO of Katleho District hospital grant permission to Ms. Limakatso Parkies who is a student at the University of Fort Hare to conduct her research titled **EXPERIENCES OF MIDWIVES ON PHARMACOLOGICAL AND NON-PHARMACOLOGICAL LABOUR PAIN MANAGEMENT IN LEJWELEPUTSWA DISTRICT IN FREE STATE.**

Ms. Limakatso Parkies has informed me of the target population of the study as well as the study design of this research project. She provided me with the Ethical approval letter from the University of Fort Hare as well as approval form the Free State Department of health (FSDoH).

Hospital stamp:

KATLEHO DISTRICT HOSPITAL
PRIVATE BAG X4 KOMMANDO AVE.
VIRGINIA 9430
TEL: (057) 221 3300 FAX: (057) 2127114

Name of the CEO: R-G Monyake

Signature:

Date: 29.06.2021

ADDENDUM H: LETTER FROM CEO (HOSPITAL B)

To whom it may concern

RE-PERMISSION TO CONDUCT RESEARCH

This letter serves to inform you that I MASIKANE THAMSANQA the CEO of Thusanong District hospital grant permission to Ms. Limakatso Parkies who is a student at the University of Fort Hare to conduct her research titled EXPERIENCES OF MIDWIVES ON PHARMACOLOGICAL AND NON-PHARMACOLOGICAL LABOUR PAIN MANAGEMENT IN LEJWELEPUTSWA DISTRICT IN FREE STATE.

Ms. Limakatso Parkies has informed me of the target population of the study as well as the study design of this research project. She provided me with the Ethical approval letter from the University of Fort Hare as well as approval form the Free State Department of health (FSDoH).

Name of the CEO: DR T.L MASIKANE

Signature:

Date: 29.06.2021

ADDENDUM I: EDITING DECLARATION

Proofreading • Proeflees
Text Editing • Teksredigering
Text Layout • Teksuitleg
Translation • Vertaling

HANTA HENNING
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DECLARATION: 4 FEBRUARY 2022

Hereby I, Johanna Gertruida (Hanta) Henning, declare that I completed editing of the research dissertation titled *Experiences Of Midwives On Pharmacological And Non-Pharmacological Labour Pain Management In Lejweleputswa District In Free State* by Limakatso Elizabeth Parkies (201928120), a mini-dissertation in partial fulfilment of the requirements of Master in Public Health, Faculty of Health Sciences, University of Fort Hare. I completed content editing as well as page layout of the document, and no other services (such as reference editing or validation) were carried out.

Based on the nature of the services performed, the editor cannot be held liable for any of the following:

i. The accuracy of the material contained in the thesis;
ii. The accuracy of material as gathered from sources contained in the thesis;
iii. Any plagiarism that may be present in the thesis;
iv. Any factual errors that may occur in the thesis; and/or
v. Any changes made by the candidate after editing was completed.

A full report of the edited document can be provided upon request.

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082 448 2726

ADDENDUM J: LETTER FROM TECHNICAL EDITOR

24 Lutman Street

Richmond hill

Port Elizabeth

6070

16th September 2022

TO WHOM IT MAY CONCERN

I hereby confirm that I have done Technical Editing on the following mini-dissertation

EXPERIENCES OF MIDWIVES REGARDING THE USE OF PHARMACOLOGICAL AND NON-PHARMACOLOGICAL LABOUR PAIN INTERVENTIONS IN LEJWELEPUTSWA DISTRICT IN FREE STATE

BY LIMAKATSO ELIZABETH PARKIES – 201928120

I Fixed the fonts and font size, added spacing and Set-up Heading H1, H2, H3 and H4 styles. I ensured no headings started at the bottom of the pages. I also set up a Table of contents. I replaced the UFH logo in the document, fixed the Addendums. I have done these Edits for the student to produce a clean Professional copy.

Kind regards

MR TIM WILSON
CREATIVE CONSULTANT
CELL: 074 609 0064

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