FACTORS CONTRIBUTING TO THE NON-USE OF PHARMACOLOGICAL PAIN RELIEF METHODS BY MIDWIVES DURING THE INTRAPARTUM PERIOD ON NULLIPAROUS WOMEN IN THE NORTH WEST PROVINCE, SOUTH AFRICA

By

MASHALA NTHABISENG JENIFFER

[redacted]

DISSERTATION

Submitted in fulfilment of the requirements for the degree of

MASTER OF NURSING

In the

FACULTY OF HEALTH SCIENCES

(School of Health Care Sciences)

At the

UNIVERSITY OF LIMPOPO

SUPERVISOR: Dr. L Muthelo

Co-Supervisor: Mr. MO Mbombi

Dr. N Mabila

DECLARATION

I, Mashala Nthabiseng Jeniffer, declare that the study on **"factors contributing to the non-use of pharmacological pain relief methods by midwives during the intrapartum period on nulliparous women in the North West province, South Africa",** is my work, has never been submitted by me for any degree at this or any other institution, and all the materials used in the study have been indicated and acknowledged in the text and the list of references.

MASHALA N.J. DATE 05/ April/ 2023

DEDICATION

This dissertation is dedicated to my late grandparents, Abram Kolobe Tebane and Manare Mosima Mashala. Thank you for your love and for always encouraging us to never give up. You are loved and missed dearly. To my mother, Machoene Magdeline for your love, and support, for always putting my needs before yours and making sure that I succeed. And to my little sister Kholofelo Kolobe for being my cheerleader.

ACKNOWLEDGEMENTS

To God be the glory. "*I can do all things through Christ who strengthens me"* (Philippians 4:13)

I would like to acknowledge the following people for their contribution to this dissertation:

- My supervisor Dr L. Muthelo, and co-supervisors: Mr M.O. Mbombi and Dr L.N. Mabila for their support and guidance.
- Prof M.K. Thopola, my former supervisor, for your guidance, encouragement and patience throughout the study.
- University of Limpopo research ethics committee for approving my research project.
- North West Department of Health and sub-district for permitting me to collect data in their facilities in the Bojanala district.
- The CEOs of the four selected hospitals for allowing me to conduct the study in their facility.
- To the midwives who sacrificed their time to be respondents to my study.
- To my Operational Manager, Mr Sibanda for allowing me to take time out of work and do the research, and for the support and encouragement.
- To my friends and colleagues for your contribution and support.
- To Mr P. Mpherwane; our biostatistician, for helping me to analyse the quantitative data.
- To Thuli Thaba and Kgaladi Mohlala for always being there whenever I needed help.

ABSTRACT

Background: Pharmacological pain relief management is one of the effective methods of relieving pain during the intrapartum period. The ideal pharmacological pain relief methods must be safe, and effective and should not interfere with the labour mother. But, very few pregnant women experience pharmacological pain relief methods during labour.

Aim: To determine factors contributing to the non-use of pharmacological pain relief methods by midwives during the intrapartum period on nulliparous women in selected hospitals in the North West Province of South Africa.

Method/design: The study applied a quantitative, descriptive design to investigate factors contributing to the non-use of pharmacological pain relief. A total population sampling method was used to sample 93 midwives. A self-designed questionnaire was used to collect data and with the use of descriptive statistical analysis to analyse the data obtained. Permission to collect data was obtained from the North West Department of Health, the District office, Hospital Chief Executive Officer and ethical clearance was obtained from the Turfloop Research Ethics Committee. The study ensured the reliability and validity of the data collection instrument by conducting a pretest to identify errors.

Results: The majority of midwives, 55.9% agreed that pain management is important and 46.2% agreed that mothers should be given pain relief. The results from the study have shown that factors contributing to the non-use of pharmacological pain relief were: a shortage of pharmacological pain relief, the unavailability of equipment, a shortage of staff, the lack of in-service training and the side effects of the medication administered.

Conclusion: The unavailability of drugs and equipment, concerns about the side effects, and a lack of in-service training were identified as factors contributing to the non-use of pharmacological pain relief. Nursing management should enforce in-service training at least every second month and midwives must be encouraged to advance their skills. The National Department of Health (NDoH) should include detailed pain management during delivery, in its guidelines.

Keywords: Pharmacological, Pain relief, Intrapartum, Nulliparous, Midwives

LIST OF ABBREVIATIONS

ABBREVIATIONS	MEANINGS
CEO	Chief Executive Officer
DoH	Department of Health
ICM	International Conference of Midwives
NDoH	National Department of Health
NWDoH	North West Department of Health
PTSD	Post-Traumatic Stress Disorder
RCM	Royal College of Midwives
SANC	South African Nursing Council
SASA	South African Society of Anaesthesiologist
SPSS	Statistical Package for the Social Sciences
TREC	Turfloop Research Ethics Committee
USA	United State of America
WHO	World Health Organization

DEFINITION OF CONCEPTS

Factors

According to the Collins English dictionary (2014), a factor is an element that contributes to certain results. In this study, factors allude to any element hindering the use of pharmacological pain relief methods during the intrapartum period in selected hospitals in the North West Province of South Africa.

Intrapartum

Perry, Hockenberry, Lowdermilk, Wilson, Lindsay and Sams (2017) define intrapartum as a period from the onset of labour to the delivering of the placenta. In this study, intrapartum refers to the period wherein a nulliparous woman starts labour until the placenta is delivered at the selected hospitals in the North West Province of South Africa.

Midwife

A midwife is a trained health care practitioner who cares for women during antenatal care, labour and delivery and after the birth of their babies (Hurley, 2020). In this study, a midwife refers to a health care practitioner registered in terms of section one of the South African Nursing Council (SANC) who is expected to supply pain relief methods, including pharmacological relief, while taking care of women in the Maternity Unit in selected hospitals in the North West Province of South Africa.

Nulliparous

According to Chenery-Morris and McLean (2013), ′nulliparous′ is a medical term for a woman who has not given birth before. For this study, the word ′nulliparous′ refers to all women delivering for the first time in selected hospitals in the North West Province of South Africa.

Pain

Anarado, Ali, Nwonu, Chinweuba and Ogbolu (2015) describe labour pain as ″an intermittent, regular, rhythmic pain occurring during labour″. For this study, the pain was referring to the emotional and physical discomfort experienced by the nulliparous patient

during the intrapartum period in selected hospitals in the North West Province of South Africa.

Pharmacological method

′Pharmacological′ relates to treatment using drugs. Pharmacological comes from the word ‘pharmacology’, a branch of pharmaceutical sciences concerned with the studying of how drugs interact with the living organism to have a physiological function (Brucker & King, 2017). In this proposed study, ′pharmacological′ referred to any method of pain relief used by the midwives during the intrapartum period on the nulliparous to their alleviate pain.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION AND BACKGROUND

Pain during labour is more than a purely physical event, as it is a complex occurrence involving sensory, emotional and perceptual components (Bitew, Workie, Seyum & Demeke, 2016). Labour pain is associated with normal and natural processes and it is intensively painful (Kennedy & Baird, 2017). Women go through the same process, but the experience and interpretation of pain and how it is dealt with, are certainly individualized. As a result, what happens during labour can affect both the mother and her baby; and influence the likelihood or experience of her future pregnancies and the mode of delivery (Marshall & Raynor, 2014).

Pharmacological pain relief methods date as far back as the year 1847 when Doctor James Young Simpson, professor at Edinburgh University, discovered and subsequently applied chloroform to relieve labour pain for the first time - a practice that was not accepted culturally, religiously and medically (Hasan, Alsaadi, Abbas & Algoraby, 2016). In 1853, John Snow administered chloroform to Queen Victoria, which popularised the use of pharmacological pain relief methods in the United Kingdom. To this day, chloroform is still a drug of choice by midwives and doctors. Due to the physical pain that mothers experience during the intrapartum period, it is expected that pain relief methods may be initiated (Hasan et al., 2016). The ideal pharmacological pain relief methods should be safe, effective and should not interfere with labour or maternal mobility (Workie, Chekol, Fentie, Ahmed & Bizuneh, 2020).

Pain management during the intrapartum period is considered an integral part of care, and women should have access to various pharmacological pain relief methods. Pharmacological interventions can reduce labour pains (McCauley, Stewart & Kebede, 2017). Unlike developing countries such as Ethiopia and Ghana, as well as sub-Saharan regions, developed countries worldwide use pharmacological interventions during labor. Developed countries such as Sweden, frequently and regularly use pharmacological pain relief methods during the intrapartum period and emphasise continuous labour pain

management (Shiferaw, Temesgen, Mekonnen, Wubie & Worku, 2020). There are several pharmacological pain relief methods that are widely used during the intrapartum period. These methods include: Entonox®, Pethidine, Epidural, Paracetamol, and Diclofenac, which are approved and can be administered to delivering mothers (Chantrasiri, Wanapirak & Tongsong, 2021).

Even though little is known pertaining to the non-use of pharmacological pain relief during the intrapartum period in South Africa, findings from Ghana indicate that factors such as inadequate knowledge about pharmacological pain relief methods, high volume of patients, the unavailability of drugs and the preferences for non-pharmacological pain relief methods were found to be significant factors contributing to the non-use of pharmacological pain relief methods during the intrapartum period (Shamrani, Shamrani, Almagrabi, Tayeb, Bukhari & Harakeh, 2017). This was in line with a study done by Sahile, Yemaneh, Alehegn, Niguse, Salahuddin, Yekoye and Gebeyehu (2017) in Ethiopia where factors such as the shortage of staff, the lack of information, lack of equipment and drugs during labour were identified as factors that contribute to the non-use of pharmacological pain relief by midwives on nulliparous women during the intrapartum period.

According to Wakgari, Mekonnen, Lema, Negasu, Lulu, & Abebe (2020), the non-use of pharmacological pain management in Ethiopia in Hawassa city was due to the unavailability of drugs and equipment and concern about the side effects on both the mother and the baby. They believed that it causes late presentation of the fetal head and the midwives believed that labour is a natural process that should not be facilitated or interfere with. This is supported by McCauley et al. (2017) in their study, which highlighted that midwives do not use pharmacological pain relief methods due to their belief that labour is a natural process and that women can cope with it, but it is believed that they can experience moderate to severe pain. The Midwife was concerned about the side effects of pharmacological pain relief on the mother, the baby and the labour process, hence the poor utilisation of pharmacological pain relief.

Workie et al. (2020) highlighted, amongst other factors, that midwives fear and have limited knowledge of pharmacological pain relief methods, which has resulted in a low rate of awareness and utilisation. This was supported by Aziato, Kyei and Deku (2017) in

their study where pharmacological pain relief methods were not given enough due to the fear of side effects. The use of pharmacological pain relief is neglected and this is due to a lack of awareness among midwives about the use of pharmacological pain relief during the intrapartum period, the misconceptions about the acceptability, safety and availability of pharmacological pain relief methods, and the misconceptions that labour pain is normal and should not be treated (Shiferaw et al., 2020).

Labour pains can be related to negative emotions such as fear and anxiety that could negatively affect the woman′s delivery choice in the next pregnancy especially the nulliparous women since it is their first pregnancy and delivery (Czech, Fuchs, Fuchs, Lorek, Tobolska-Lorek, Drosdzol-Cop & Sikora, 2018). Labour pain can lead to numerous undesirable outcomes. The effects of pain on labour include decreased cardiac output, stress response and impaired uterine contractions (Sabaratman, 2016). There is an increasing number of requests for and instances of caesarean sections in Europe, Australia and the United States of America (USA) because there is no provision for the use of pharmacological pain relief during the intrapartum period (Wigert, Nilsson, Dencker, Begley, Jangsten, Sparud-Lundin, Mollberg & Patel, 2020).

The advantages of using pain relief during labour is to avoid complications related to pain during delivery. Besides giving the positive and satisfying birth experience, provision of pain relief during labour helps to eliminate postpartum depression and avoiding maternal hypertension caused by overstimulation of the sympathetic nervous system caused by pain (Geltore, Taye & Kelbore, 2018). The nulliparous women were the subject of interest in this study because it is their first pregnancy and first time birthing experience. The outcomes of pain management would either give them a positive birthing experience or cause them a long term complications and this might even contribute to them changing the mode of delivery in their coming pregnancies.

Management of pain during the intrapartum period is considered an integral part of care, and women should have access to variety of pharmacological pain relief methods during the intrapartum period (McCauley et al., 2017). A study by Karn, Yu, Karna, Chen and Qiao (2016) indicated that there is still a lack of knowledge about pharmacological pain relief methods. There are strategies to enhance the use of pharmacological pain relief

during the intrapartum period and those include, among others, equipping midwives with proper skills in the assessment of pain and pain relief; the provision of various methods of pain relief, as well as the management of the associated side effects; and continuing medical education.

1.2 PROBLEM STATEMENT

During years of practice as a midwife, the researcher has observed that the use of pharmacological pain relief methods is often neglected and was not the preferred method of pain relief. Midwives helped women to deliver without offering any form of pharmacological pain relief such as Pethidine, Entonox® or Epidural analgesic, while the women would be experiencing excruciating pain for hours. They only encouraged non-pharmacological pain relief methods such as deep breathing and back massage, which are believed to alleviate pain. Some midwives have also verbalised that labour pain is a natural process and nothing can be done to alleviate the pain.

This has been the researcher′s concern as to whether the midwives are allowed to administer pharmacological pain relief methods, or is it because they are unavailable, or they lack the insight or knowledge of pharmacological pain relief methods and how to manage their side effects. This is in line with a study conducted by Bitew et al. (2016), which has proven that the poor utilisation of pharmacological pain relief methods was due to the negative attitude of the midwives; the lack of skilled professionals; the unavailability of pharmacological pain relief methods; and the misconceptions of labour pain.

Providing care to mothers during the postnatal period has also raised concerns for the researcher, because most women had a common complaint about the amount of pain they felt during the intrapartum period, without being assisted by being given pharmacological pain relief. It appears that the non-use of pharmacological pain relief has affected some of the mothers so badly that they even developed postpartum depression, with some even considering caesarean section as the next mode of delivery. The researcher has also observed cases of post-traumatic stress disorder (PTSD) caused by the trauma experienced by the women during the intrapartum period.

Shamrani et al. (2017) have proven that labour pains can negatively affect women, causing postpartum depression and stress. To avoid financial problems, overwork and complications, the researcher found it necessary to conduct this study to identify factors contributing to the non-use of pharmacological pain relief methods by midwives during the intrapartum period in selected hospitals in the North West Province. This study aims to be able to help identify gaps and propose recommendations to enhance the use of pharmacological pain relief methods during the intrapartum period.

1.3 PRELIMINARY LITERATURE REVIEW

A literature review is the collection of pre-existing information or evidence-based data about particular research to help with the current research project. It supplies reviews of the current and past knowledge about a research study and helps the researcher to identify gaps in the present research study (Mahrooi, 2020).

1.3.1. Factors contributing to the non-use of pharmacological pain relief methods

Pharmacological pain relief management is inadequately addressed in low-resource countries. This is due to various factors such as social, cultural, attitudinal, financial and religious beliefs (Boama, 2011). Successful pain management requires knowledge, skills, and a positive attitude towards pain relief, trained personnel, correct protocols and proper policies (Geltore, Kelbore & Angelo, 2019).

The unavailability of pharmacological pain relief methods, affects the client′s inability to bear the costs and the lack of skilled human resources and equipment to administer pharmacological pain relief were among the factors highlighted by Anarado et al. (2015) in a study done in Nigeria. However, some midwives and obstetricians reported no reasons not to administer pharmacological pain relief methods. There is little use of pharmacological pain relief and 49% of non-use was related to the fear of respiratory distress and prolonged labour (Anarado et al., 2015).

1.4 AIM OF THE STUDY

The study aimed to investigate factors contributing to the non-use of pharmacological pain relief methods by midwives during the intrapartum period on nulliparous women in selected hospitals in the North West Province of South Africa.

1.5 OBJECTIVES OF THE STUDY

The objectives of the study were:

- Identify and describe factors contributing to the non-use of pharmacological pain relief methods by midwives during the intrapartum on the nulliparous in selected hospitals in the North West Province, South Africa;
- Propose recommendations for the use of pharmacological pain relief methods by midwives during the intrapartum period.

1.6 RESEARCH QUESTION

The following research question guided the study:

- Which factors contribute to the non-use of pharmacological pain relief methods by midwives during the intrapartum period on nulliparous women in selected hospitals in the North West Province, South Africa?
- What are the recommendations that can be established to enhance the use of pharmacological pain relief methods by midwives during the intrapartum period on nulliparous women in selected hospitals in the North West Province, South Africa?

1.7 STUDY HYPOTHESIS

Midwives attitude and knowledge; and facility determinants are factors contributing to the non-use of pharmacological pain relief methods during the intrapartum period.

1.8 OVERVIEW OF THE RESEARCH METHODOLOGY

In this study a quantitative research method was used to collect numerical data on the factors contributing to the non-use of pharmacological pain relief methods by midwives during the intrapartum period on nulliparous women In selected hospitals in the North West Province, South Africa.

1.8.1 Study site

The study was administered in four selected hospitals located in Bojanala District in the North West province.

1.8.2 Study design

This study used a descriptive design to identify and describe the factors contributing to the non-use of pharmacological pain relief methods by midwives during the intrapartum period on nulliparous women in the North West province.

1.8.3 Population and sampling

A census of all midwives working in maternity units of the hospitals under study was conducted. A total population of 122 was used to designate 93 midwives and used to learn more about one or more characteristics of the population of interest.

1.8.4 Data collection

In this study, a self-designed questionnaire (see Appendix 1 on page 87) was used to collect data and it consisted of five sections which included demographic data, pain management incorporated in the learning curriculum, the availability of pharmacological pain relief methods to nulliparous women and the midwives' confidence in and attitude towards pharmacological pain relief methods.

1.8.5 Data analysis

Data were analysed using Descriptive statistics on Statistical Package for the Social Sciences (SPSS) software version 24.

1.8.5.1 Descriptive statistic

Descriptive statistics is a form of statistic that is used to facilitate the description and summarisation of research data in a form of illustration and graphical representation (Cooksey, 2020). Frequency tabulation was used to tabulate the data in a form of frequency and percentages.

1.8.6 Validity and Reliability

1.8.6.1 Validity

In this study, three types of validity were ensured, which were face validity, content validity and construct validity. Validity looks at the accuracy of the instrument. It means that the concept that is measured is measuring what is intended to be measured (Middleton, 2019). Meaning that the instrument used should answer what we are intending to research.

1.8.6.2 Reliability

This study ensured reliability by conducting a pretest of the questionnaire. Reliability means that the instrument used to measure or collect data is consistent and can produce similar scores or results if used in the same condition (Middleton, 2019).

1.8.7 Bias

The researcher minimized bias by carefully selecting the population and sampling, and by following the inclusion and exclusion criteria. Participant bias, data collection bias and analysis bias were carefully avoided.

1.9. ETHICAL CONSIDERATIONS

Ethical considerations are a set of standards to guide the researcher. Ethical considerations protect the rights and well-being of respondents, preventing harm and maintaining scientific integrity (Bhandari, 2021). This study adhered to the following ethical standards and principles: ethical clearance, permission to conduct the study, informed consent, beneficence, confidentiality, anonymity and respect for privacy. More details on ethical considerations will be discussed in Chapter 3.

1.10. SIGNIFICANCE OF THE STUDY

1.10.1. Midwives

- The study will help midwives to effectively use the knowledge they have regarding pharmacological pain relief methods.
- It will help the midwives to manage pain and its side effects better, without fear and anxiety.
- It will help them to be the initiators of policy and protocol drafting regarding pain management during the intrapartum period.

1.10.2. Patients

- The study will help patients to deliver painlessly, and safe with no fear and anxiety.
- It will help them in reducing Post Traumatic Stress Disorder (PTSD), post-partum depression and acute pains after delivery.
- Many will not choose Caesarean Section as the next method of delivery in trying to avoid the pain experienced during delivery.

1.10.3. Department of Health

- The study will help the Department of Health (DoH) in providing quality midwifery-led care and providing quality intrapartum care, reducing the costs of unnecessary caesarean sections, which are being done due to women fearing the severity of pain felt during the intrapartum period. It will also increase patient satisfaction with service delivery and decrease financial constraints.

1.10.4. Policymakers

- The study will help in developing proper policies which include detailed labour pain management in delivery facilities since they will have detailed information about what is lacking during the intrapartum period.

1.11. CONCLUSION

This chapter provided an overview of the research study including the introduction and background, the problem statement, the theoretical framework, the aim of the study, the research question, research objectives, validity and reliability, and an overview of the research methodology, which also outlines the ethical considerations, biases and significance of the research study.

1.12 OUTLINE OF THE STUDY

Table 1.1 Outline of the study

CHAPTER 1	This chapter introduced the study. It outlined the background, literature review and problem statement. It included the aim and objectives of the study, the research question, the study site and designs, population and sampling, the validity and reliability, the ethical considerations, bias and the significance of the study.
CHAPTER 2	This chapter discusses the literature review of the study concerning what is already known about the topic and what has been practised previously and is currently being practised.
CHAPTER 3	This chapter describes the research setting, the designs and the methodology adopted in the study. This includes the research approach, study setting and design, population and sampling, data collection and analysis, ethical considerations, the measures taken to ensure reliability and validity and to eliminate bias
CHAPTER 4	This chapter presents the data analysis, presentation and interpretation of the results.
CHAPTER 5	This chapter discusses the results of the study.
CHAPTER 6	In this chapter, the researcher concludes the interpreted results and develops strategies and recommendations.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter describes the literature reviewed in the study. The main purpose of the literature is to help the researchers find the information and understand their research topic. This was done by researching the articles and books on Google Scholar and in the libraries.

2.2 RATIONALE FOR LITERATURE REVIEW

A literature review is a collective assessment of research studies on a particular area of interest. The primary objective of literature is to gain an understanding of new phenomena through related concepts that have been proposed in former research (Rowe, 2014). The literature review was written to show knowledge of the research topic, keep current knowledge and gain credibility of the research topic to help justify the research question and hypothesis and to identify gaps within the body of research.

2.3 ROLES AND RESPONSIBILITIES OF A MIDWIFE DURING THE INTRAPARTUM THE PERIOD

Organizational models of obstetrical care involve and depend on several health professionals. Midwives are the centre of care for women during labour. They carry the most responsibility for the women in the provision of care during the whole labour process. The role of a midwife during labour is to attend to and promote normal pregnancy and delivery (O'Brien, Coughlan, Thompson, Carroll, Sheehy, Brosnan, Cronin, McCreery & Doherty, 2022). The midwife is recognised as a responsible and accountable professional who works in partnership with the women to render support and care during pregnancy and labour. This care includes preventative measures, promotion of normal pregnancy and labour, early detection of complications, and access to care in medical emergencies (Murray-Davis, Hutton, Carty, Kaufman & Butler, 2020).

According to the International Confederation of Midwives (ICM), midwife's care includes preventative measures and the promotion of normal labour (Murray-Davis et al., 2020). The World Health Organization (WHO) recognises midwives as women-centred caregivers, whose task is to keep women healthy throughout their pregnancy and labour (WHO, 2018). Midwives provide care to a diverse population with complex lives and health. Those working in maternity units share a common aim to support women's health, and well-being and create a positive experience during pregnancy and labour. The roles of midwives as outlined by the ICM included respect for human dignity, advocacy for pregnant and labouring women and focus on health promotion and prevention of diseases (Murray-Davis et al., 2020).

2.4 PAIN DURING LABOUR

Pain is a major concern for most pregnant women even before delivery (Ojo, Olubukola & Owopetu, 2020). Helping women to manage pain during delivery is a critical part of nursing care. Although pain is expected and has a purpose during labour, it does not mean it cannot be alleviated or eliminated. Management of pain during the intrapartum period is considered an essential part of care. Women should be given an option to access different types of pharmacological pain relief during the intrapartum period. This should be incorporated into daily health education during antenatal visits (Murray & McKinney, 2014).

An increased level of pain, stress and anxiety due to labour pain affects uterine oxygen consumption and contractility. This increases peripheral resistance, cardiac output and blood pressure, which, as a result, increases adrenaline secretion. This can lead to an increased release of catecholamine and cortisol into the blood circulation, thus causing widespread vasoconstrictions (Ojo et al., 2020). During the intrapartum period woman experience two types of pain: visceral and somatic pain (Perry et al., 2017).

2.4.1. Visceral Pain

Visceral pain relates to the uterus's contraction and the cervix's dilation and stretching. Uterine pain during the first stage of labour results from the ischemia caused by the constriction and contraction of the arteries supplying the myometrium. Pain from uterine

contractions and cervical dilation during the first stage of labour is transmitted by afferent fibres to the systematic chain of the posterior spinal cord. Visceral pain is felt during the first stage of labour (Perry et al., 2017).

2.4.2. Somatic Pain

Somatic pain is caused by the pressure of the presenting part on the birth canal, vulva and perineum. It is experienced during the transition and the second stage of labour. The somatic pain appears at the end of the first stage until the second stage of labour, and it is a result of the force exerted by the fetus on the cervix, vagina and perineum (Aziato et al., 2017). Somatic pain is more intense and localised (Perry et al., 2017).

2.5 PHARMACOLOGICAL PAIN RELIEF DURING THE INTRAPARTUM PERIOD

The WHO visualize intrapartum care as a platform to provide the pregnant woman with respectful, individualised woman-centred and effective clinical and non-clinical practices to optimise birth outcomes for the woman and her baby through a skilled health care provider in a well-functioning health care system (Oladapo, Tunçalp, Bonet, Lawrie, Portela, Downe & Gülmezoglu, 2018). WHO recommendations on intrapartum care shows that women want a positive childbirth experience that fulfils or exceeds their prior personal and socio-cultural beliefs and expectations. The WHO model of intrapartum care for a positive childbirth experience is to transform the care of women and babies for improved health (Oladapo et al., 2018).

The WHO models (2018) recommended the use of the following scheduled drugs Fentanyl, Diamorphine and Pethidine as pharmacological pain relief methods in a healthy pregnant woman who would be requesting pain relief during the intrapartum period depending on her preferences. The Royal College of Midwives (RCM) indicated that pain during labour can be relieved by non-pharmacological means, such as deep breaths and back massage and pharmacological methods such as Pethidine, Epidural Anesthetic, Diclofenac, Paracetamol and Nitrous Oxide (Entonox®) (Ross-Davie, 2012).

2.5.1 Pharmacological Methods Used during the Intrapartum Period

2.5.1.1 Pethidine

Pethidine is an opioid pain relief medicine. It works on the nervous system and brain to reduce the amount of pain. It can be used in a form of tablets, but during labour, the preferred method is through injection and it provides relief for two to four hours (Stewart, 2020). It is a potent pain reliever, injected directly into the buttock and it may also be administered directly into a vein (Pain Relief Options, 2014). The main side effects include sedation, nausea, vomiting and restlessness (Abdollahi, Mojibian, Pishgahi, Mallah, Dareshiri, Mohammadi & Naghavi-Behzad, 2014).

Pethidine significantly reduces the duration of the active phase of labour and provides a good analgesic effect for pain management during the intrapartum period. It can be used as an acceptable agent for pain relief during the intrapartum period, from the first stage of labour. Although it is the recommended pharmacological pain relief, it may affect the neonate after delivery, causing false positivity in newborn hearing screen tests (Kadirogullari, Yalcin Bahat, Karabuk, Bagci Cakmak & Seckin, 2021). Infants who are born to mothers who have had pethidine during labour can either be given naloxone or normal saline intramuscularly within one minute of birth to reverse respiratory depression. It attaches to the receptors and reverses and blocks the effects of pethidine (Lynn & Galinkin, 2018).

2.5.1.2 Epidural Anaesthetic

Epidural anaesthetics are opioids administered into the epidural space whereby a needle is inserted into the epidural space injecting an analgesic (Sawhney, 2012). It is the most effective pain relief method available, usually used during vaginal delivery and Caesarean Section. It is injected into the lining of the spinal cord through the back (Childbirth Pain Relief Options, 2014). A lumbar epidural is considered an effective pharmacological pain relief method in labour and it is recommended by the WHO (Halliday, Nelson & Kearns, 2022). In a study done in Arabia, it was found that Epidural Analgesia is more effective and makes childbirth bearable (Shamrani et al., 2017). It is a highly effective pain relief

during labour and it reduces the need for additional pharmacological pain relief (Trehan, Gonzalez & Kamel, 2016).

2.5.1.3 Nitrous Oxide (Entonox®)

Nitrous oxide is a tasteless, odourless and non-flammable gas. It was first synthesized in 1772 by scientist Theologia Joseph Priestly and was first used in Poland. It is also known as Entonox®. Nitrous Oxide can be used during any stage of labour and post-delivery procedures, such as laceration repair. It is self-administered, meaning patients can administer the gas on their own and it is administered through a face mask. The use of Entonox® in the United Kingdom has been recorded as a safe pharmacological pain relief method for both the mother and the baby (Collins, Starr, Bishop & Baysinger, 2012).

Nitrous oxide is also known as laughing gas and is administered through a face mask or tube through the mouth. It only takes seconds to work. It does not stop the pain entirely but it takes the edge off each contraction (Childbirth Pain Relief Options, 2014). A barrier to the use of Entonox® is the availability of nitrous oxide-delivering equipment (Collins et al., 2012). Although it relieves pain during the intrapartum period, it is often associated with varying degrees of sedation (Akadri, Odelola & Adepoju, 2019).

2.6 FACTORS CONTRIBUTING TO THE NON-USE OF PHARMACOLOGICAL PAIN RELIEF METHODS

In many countries, pain relief management during labour is not prioritized because it is often seen as a less important quality-of-life issue than a biological disease process and inadequately addressed in low-resource countries (Boama, 2011). This is due to a variety of factors including as social, cultural, attitude, economic and religious reasons. Barriers to pain relief in the Caribbean arises from societal perceptions that pain is inevitable and necessary for life. This discernment has influenced the patient and family's attitudes toward pharmacological pain relief methods (Boama, 2011).

The poor utilisation of pharmacological pain relief methods in some countries could be a result of various factors such as the high patient flow; the negative attitude of professionals around pain management; the absence of strategies and policies prepared

by the health ministry regarding the utilisation of pharmacological pain relief and pain management; the lack of skilled professionals; the unavailability of analgesic materials and drugs; and the misconception regarding labour pain. The findings are comparable with those of a study done in Nigeria and Lesotho (Bitew et al., 2016).

In a study done by Terfasa, Bulto and Irenso (2022) in Ethiopia, it was found that the main factors contributing to the non-use of labour pain management methods were the lack of guidelines and protocols. Of those polled 63.1% of the respondents agreed, that 42.7% were due to drug unavailability, 34.2% were lack of knowledge, 85.7% reported that they did not receive training on labour pain management and 17.3% were due to high patient volumes.

2.6.1 The Midwives' knowledge and health education about pharmacological pain relief

Successful pain management requires a positive attitude towards pharmacological pain relief methods, an adequate knowledge of pharmacological pain relief methods, well-trained midwives, and the availability of protocols, and policies (Geltore et al., 2019). The midwives' minimal knowledge of pain relief methods has also been noted in the Caribbean. Many midwives displayed minimal knowledge concerning pain relief methods available during the intrapartum period, their side effects and management (Boama, 2011). According to Karn et al. (2016) midwives still lacks knowledge regarding pharmacological pain relief methods, their advantages and their disadvantages.

It is the responsibility of midwives to educate pregnant women about the availability of pharmacological pain relief methods during the intrapartum period through preparedness for labour. Most women want to be involved in their pregnancy health care decisions but lack information regarding the pregnancy and labour process, and the general attitudes around pain and pain relief method options (McCauley et al., 2017). According to the study done in Canada, many women felt knowledgeable about the intrapartum process. Still, when asked about pain management and their preferred method, most did not know about the pharmacological pain relief method options available. Midwives do not fully and

adequately educate women about the options available and do not adequately prepare them for labour (Garlock, Arthurs & Bass, 2017).

Women do not receive childbirth education before labour. They rely upon or use various sources of information on labour and pain management. Most used books, leaflets and magazines and information from family and friends (Garlock et al., 2017). This study, conducted in Pakistan in 2007-2008, found that pregnant women were unaware of the role of pharmacological methods in relieving pain during the intrapartum period. Most pregnant women and midwives have limited knowledge of the benefits and side effects of pharmacological pain relief during the intrapartum period (Boama, 2011).

In the Caribbean, barriers to the non-use of pharmacological pain relief methods are societal perceptions that pain is inevitable and a required part of the labour process. This perception influences the patient and family attitudes towards pharmacological methods of pain relief (Boama, 2011). It is the responsibility of all midwives to fully inform pregnant women about all methods of pain relief and to advocate for the accessibility of pain relief in the health care facility so that women go into the labour process fully informed and aware of all available pain relief options, including pharmacological options, in the health care settings (Melesse, Wayessa & Bonkiye, 2020).

Karn et al. (2016) indicated that South African women do not have sufficient knowledge about pharmacological pain relief methods. Women must be given health education about pharmacological pain relief methods during the antenatal period so that they can make an informed choice. The American College of Gynaecologists and Obstetricians, and the United Kingdom′s National Institute for Clinical Excellence recommended that provision of pharmacological pain management should be made available to all women. Pregnant women should be educated about the availability and effectiveness of pain relief method (Karn et al., 2016).

2.6.2 The midwives' attitudes and beliefs towards pharmacological pain relief

Midwives play an essential role in providing obstetrical services. In Ghana, 57% of births happen with the assistance of midwives (Lori, Livingston, Eagle, Rominski, Nakua & Agyei-Baffour, 2014). There is established knowledge and evidence supporting the

safety and effectiveness of pharmacological pain relief methods during the intrapartum period. Therefore, it is unacceptable that many women are denied pharmacological pain relief during the intrapartum period due to lack of knowledge, some people's attitudes towards pharmacological methods of pain relief, beliefs and socio-cultural factors of some countries (Bitew et al., 2016).

Pain relief management during the intrapartum period should be seen as a human right issue, no woman should go through labour without the support and provision of safe and effective pharmacological pain relief (Boama, 2011). Midwives perceive pain as a normal phenomenon that women should be able to bear, contributing to poor labour management (Bitew et al., 2016). It is a misconception to believe that labour pain is normal and that interfering with it negatively impacts one′s health (Aziato et al., 2017). Modern medicine continues to demonstrate that pharmacological pain relief methods play an important role in the healthy delivery of babies.

Sometimes midwives underestimate the pain women experience during the intrapartum period and thus overestimate the effectiveness of pharmacological pain relief (Bitew et al., 2016). Midwives in Ghana believed that pharmacological pain relief methods prolong labour and affects both the mother and the baby, which is a concern for midwives. All pharmacological pain relief has side effects, which necessitates giving women good information about them and allowing them to make an informed choice (Ross-Davie, 2012).

2.6.3 The availability of pharmacological pain relief methods

Pain during labour is a central part of the women′s experience of childbirth, and its excruciating nature makes most women want to alleviate it. Although pain management is accepted in Ethiopia, pain management during the intrapartum period is not a common practice. This might result from several factors such as the availability of drugs in the health care delivery facility, the limited knowledge about pharmacological pain relief methods, the provider′s attitude about labour and pain management and the choice of the caregiver and clients (Geltore et al., 2018).

The common reasons reported for the non-use of pharmacological pain relief methods during the intrapartum period were high patient flow, followed by the unavailability of pharmacological pain relief methods (Bishaw, Sendo & Abebe, 2020). Few can cover the costs of pharmacological pain relief during the intrapartum period (Maeda, Takahashi, Yamamoto, Tanimoto, Kami & Crump, 2019). It was reported that midwives only give pharmacological pain relief when the pain has exceeded the pain threshold, but in some instances some pharmacological pain relief methods were unavailable and midwives only offered assurance (Aziato et al., 2017).

A Study in Ethiopia has shown that pharmacological pain management is not used frequently as compared to non-pharmacological pain relief methods. The utilisation of pharmacological pain relief during the intrapartum period is low across countries, with Nigeria at 56.8% and Kenya at the lowest at 18%. In contrast, in some developed countries, the use of epidural analgesics is higher, with Sweden at 71%, France at 75%, and Bangladesh at 58.5%. South Africa is at 21% and Colombia at 31.5% utilisation of epidural analgesia. This is reported to be due to the financial statuses of developing and developed countries (Bitew et al., 2016).

2.6.4 Availability of staff and birthing facilities

In Japan, there has been a noted decrease in the number of perinatal facilities from 1003 in 1996 to 649 in 2017. This is caused by the understaffing of obstetricians and many facilities are managed by midwives who are not allowed to prescribe pharmacological pain relief methods. They are only allowed to manage uncomplicated births, which caused many Japanese women to travel afar to access medical attention. Hence labour pains are considered to be part of the birth process (Maeda et al., 2019).

2.7 THE EFFECTS OF THE NON-USE OF PHARMACOLOGICAL PAIN RELIEF METHOD DURING THE INTRAPARTUM

Many women fear labour pains and that increases the rate of elective caesarean sections (Öztürk, Tüfekci & Karakaya, 2019). According to Shamrani et al. (2017), the non-use of pharmacological pain relief methods in Saudi Arabia is associated with side effects such as maternal hypotension and prolonged labour. Ohaeri, Owolabi, and Ingwu (2019) noted

in their study a paucity of knowledge about pharmacological methods of pain relief and pain management during the intrapartum period, across health continuum. Labour can be related to negative emotions such as fear and anxiety, which could negatively affect the women's delivery choice in subsequent pregnancies (Czech et al., 2018).

In a study done in Finland about women in labour, 93.5% indicated labour pain as severe and intolerable. Poor pain management during the intrapartum period leads to many effects. For example, 10.9% developed severe acute postpartum pain, 1.9% develop PTSD, and 9.8% reported persistent pain and 11.2% had depression (Bitew et al., 2016). Shamrani et al. (2017) highlighted that painful labour can negatively impact the mother and the foetus well-being. Women who experienced painful labour are likely to develop postpartum depression and PTSD, and those who received pharmacological pain relief methods during the intrapartum period tend to have a less cognitive impairment, mainly memory function.

Prolonged duration and severe pain may be life-threatening for a healthy person. Still, it can lead to overstimulation of the sympathetic nervous system, thus leading to increased blood pressure, and decreased blood flow from the placenta to the foetus, which in turn may lead to foetal distress, postpartum depression and post-traumatic stress disorder (Geltore et al., 2019). In a study done by Wang (2016), it was shown that, for the past twenty-five years, there had been an increasing number of Caesarean Sections. One of the major contributing factors is the fear of labour pain. Many women feared labour pain and hence, in a context without pharmacological pain relief methods during the intrapartum period, they came to regard the caesarean section as a way to avoid labour pain (Wang, 2016).

In low resource settings, with low levels of utilisation of health care facilities, the provision of pharmacological pain relief during the intrapartum period could be a useful incentive to help change negative attitudes and behaviour to delivering facilities, therefore it is important to include pain relief methods as part of a comprehensive quality care package. The National Institute of clinical excellence in the United Kingdom recommended that all health care professionals should consider how their values and beliefs inform their

attitude toward women coping with pain in labour and that they should ensure care and support for the women′s choice (McCauley et al., 2017).

2.8 THEORETICAL FRAMEWORK

According to Grant and Osanloo (2014), a theoretical framework is a blueprint for research to be undertaken. It serves as a guide for the research to build, provide the structure and support the study. This study was guided by the theoretical framework of Alzghoul and Abdullah (2020), which looked at the barriers to pain management and this framework was adopted from the field theory model by Kurt Lewin. This is a psychological theory which determines the behavior. It looks at the relationship between the personal factors (health care providers' factors) and behavior; and the relationship between the environmental (medical system/ organizational factors) factors and behavior.

Pain management is crucial and necessary service for patients. According to the South African Society of Anesthesiologist (SASA) relieving pain is an important right for a patient (Alzghoul and Abdullah, 2020). Alzghoul and Abdullah found that there is lack of pain management strategies at a particular hospital that they conducted the study. They found that pain management practices such as assessment, intervention and reassessment among nurses were at a low level and also nurses lacked adequate management skills.

The role of a nurse in relieving pain is to assess the patient and provide pharmacological and non-pharmacological interventions to relieve patient's discomfort. Insufficient pain management has led to many complications to patients such as increased heart rate, resistance to the flow of blood through peripheral circulation and hypertension (Adesoye & Duncan, 2017). Alzghoul and Abdullah (2020) identified three barriers to management of pain, which are; defective medical system, Health care providers and individual or patient barriers.

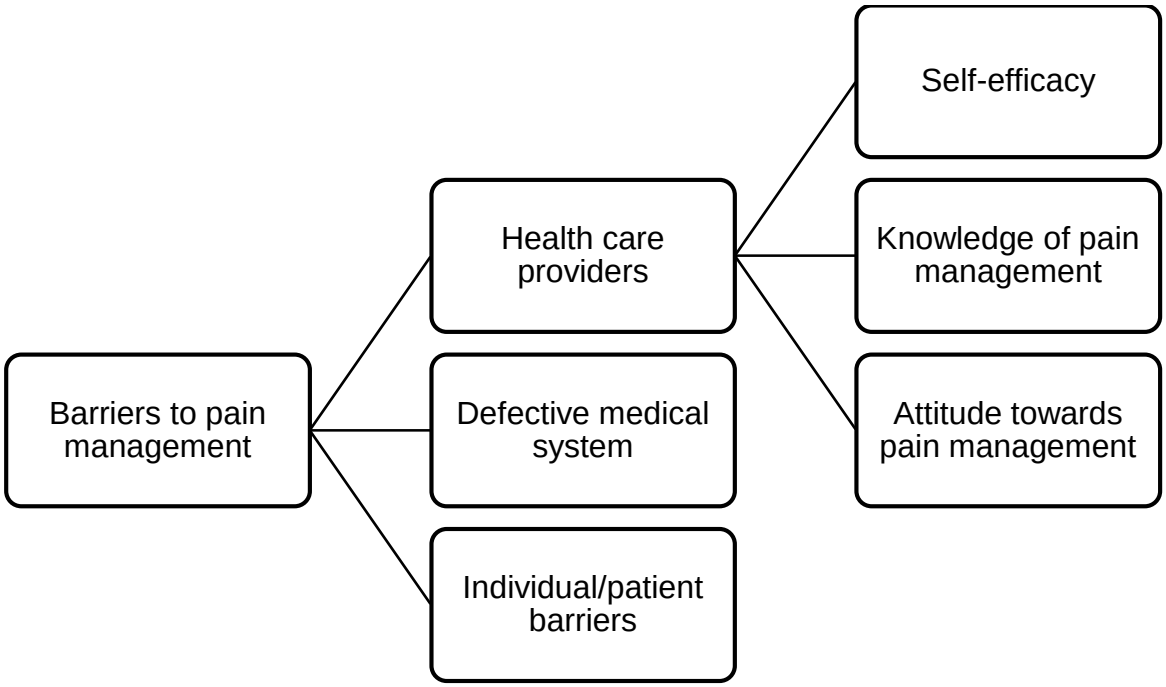


Figure 2.1. Alzghoul and Abdullah's theoretical framework adopted from the field theory model.

Alzghoul and Abdullah focused on barriers caused by Health care providers and assessed the relationship between the nurse's knowledge and their attitudes towards pain management; and their ability to manage the patient's pain. They developed the theoretical framework which focused on self-efficacy, knowledge of pain management and attitude towards pain management. According to Ekim and Ocakci (2013) and Voshall, Dunn and Shelestak (2013) there's an inconsistency between practice and attitude, which suggest that nurses may have positive attitude towards pain management but does not have sufficient knowledge to manage pain adequately and completely.

Lack of knowledge about pain management is not uncommon among nurses and it was reported that 50% of the nurses reported lack of knowledge in relation to pain assessment and pain management (Saunders, 2015). Alzghoul and Abdullah focused on the knowledge and attitude towards pain management as factors attributed to barriers caused by health care providers in managing pain.

2.8.1. Health care providers' factors/barriers

Self-efficacy

The element of self-efficacy means an individual belief (in this case referring to a nurse) that he or she can perform a particular task successfully. It is determined by some factors, of which one of them is a personal factor which include an individual's knowledge, experience, expectations and attitude. According to Alzghoul and Abdullah (2020) nurses feels confident when they have knowledge and adequate skills towards managing patient's pain. Therefore, it is crucial that hospital take notice of the abilities of their nurses to undertake pain management practices and to focus on the nurses' skills by conducting training courses on pain management (Alzghoul and Abdullah, 2020).

Knowledge and attitude towards pain management

Nurses must be well prepared and knowledgeable on pain assessment and management techniques (Alzghoul and Abdullah, 2020). Limited knowledge and negative attitude towards pain management were reported to be major factors in the implementation of effective pain management (Zhou, Liu, Tan, Yu, Pratt & Peng, 2015). According to Aly (2015) nurses have shown to have inadequate knowledge of pain management and training to assess pain and lack of in-service education programs organized by their facilities. The lack of knowledge pertaining to pain management is attributed to low priority given to pain management.

The study done by Aziato (2013) in Ghana have shown that Ghanaian nurse's inadequate pain management knowledge might have emanated from several factors such as curriculum gaps during their nursing training; poor clinical accompaniment or supervision; lack of regular workshops pertaining to pain management and the negative attitude of nurses not implementing the pain management due to their beliefs.

The qualification of nurses also plays a crucial role in determining their knowledge on pain management. According to Adams, Varaei and Jalalinia (2019), majority of nurses who had inadequate knowledge in their study were due to their qualification levels, majority of them had a diploma. This might be that pharmacology is inadequately covered at a

diploma level. Nurses may have a negative perception, attitude and misconceptions towards pain management (Eid, Manias, Bucknall & Almazroo, 2014).

2.8.2. Defective medical health care system/organizational barriers

Although Alzghoul and Abdullah (2020) only looked at the health care barriers to pain management, the researcher in this study also looked at the defective medical system which was covered in a section on the research questionnaire. The health care system barrier includes the absence of practice standards and failure to make pain relief a priority (Aly, 2015). According to the South African maternity case record, use of pain relief is recommended but the overall management of pain during the intrapartum period in the guidelines are not adequately covered and this is one of the systematical barriers to the use of pharmacological pain relief. Aly (2015) identified the absence of pain management policies as a major barrier to the use of pharmacological pain relief. The main purpose of pain management policies is to give guidance on how to assess, treat and evaluate patient's pain.

Poor pain management can lead to unnecessary, undesirable complications and increased health care expenditure (Aly, 2015). The main aim and objectives of the study was to identify and describe factors contributing to the non-use of pharmacological pain relief during the intrapartum period. This will help the midwives, patients and health care facilities to avoid having unnecessary and undesirable complications related to non-use of pharmacological pain relief. In order to attain to the aim and objectives of the study, the researcher adopted Alzghoul and Abdullah's theoretical framework in designing the research questionnaire to answer the research question: which factors contribute to the non-use of pharmacological pain relief by looking at the midwives' knowledge of pain management and their attitudes toward pain management during the intrapartum period? And to achieve the aim and objectives of the study.

2.9 CONCLUSION

Chapter two was looking at literature from other studies conducted. It has been proven in the literature that pain relief during the intrapartum period is not adequately given and it has not been given sufficient attention or adequately managed. It has been shown that

the midwives' attitudes, knowledge and beliefs were one of the contributing factors to the non-use of pharmacological pain relief. Sometimes our beliefs can influence other people′s choices in certain matters. Some facilities do not have sufficient available drugs to give to labouring women due to the costs involved. Midwives sometimes do not give pain relief because of fear of the side effects to both the mother and the baby.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter discusses research methodology, including study setting, design, population and sampling, data collection and analysis, data management, validity and reliability, pilot studies, ethical considerations, and bias. Research methodology is a way of orderly and scientifically solving a research problem. It involves various steps that are performed by a researcher using different techniques to study the research problem to obtain a better understanding of the concept (Kothari & Garg, 2020).

3.2 RESEARCH METHODOLOGY

This study used quantitative research methodology to identify, describe, and provide numerical data on factors contributing to the non-use of pharmacological pain relief methods by midwives during the intrapartum period on nulliparous women in selected Hospitals in the North West Province, South Africa. Quantitative research method is a type of method that deals with quantifying and analysing variables to obtain results. It involves the statistical methods of collecting data to quantify it and explain a certain phenomenon (Apuke, 2017). Quantitative research design was used in order to get a different perspective from a wider population.

3.2.1 Study settings

The research study was conducted in four Hospitals from the Bojanala District in the North West Province. The North West Province is located in north of South Africa, on the border with Botswana, east of the Gauteng Province and south of the Free State. North West Province has a population of 3 748 436. North West Province lies near Botswana's borders and forms a single urban area with the towns of Mmabatho, Potchefstroom, Klerksdorp, Brits, Rustenburg and Lichtenburg. The main language spoken is Setswana, with a sizeable minority of Afrikaans. The North West Province is divided into four districts, which are, Bojanala District, Dr Kenneth Kaunda District, Dr Ruth Segomotsi Mompati

District and Ngaka Modiri Molema District. These districts are again divided into 18 municipalities (Bojanala Platinum District Municipality [SA]).

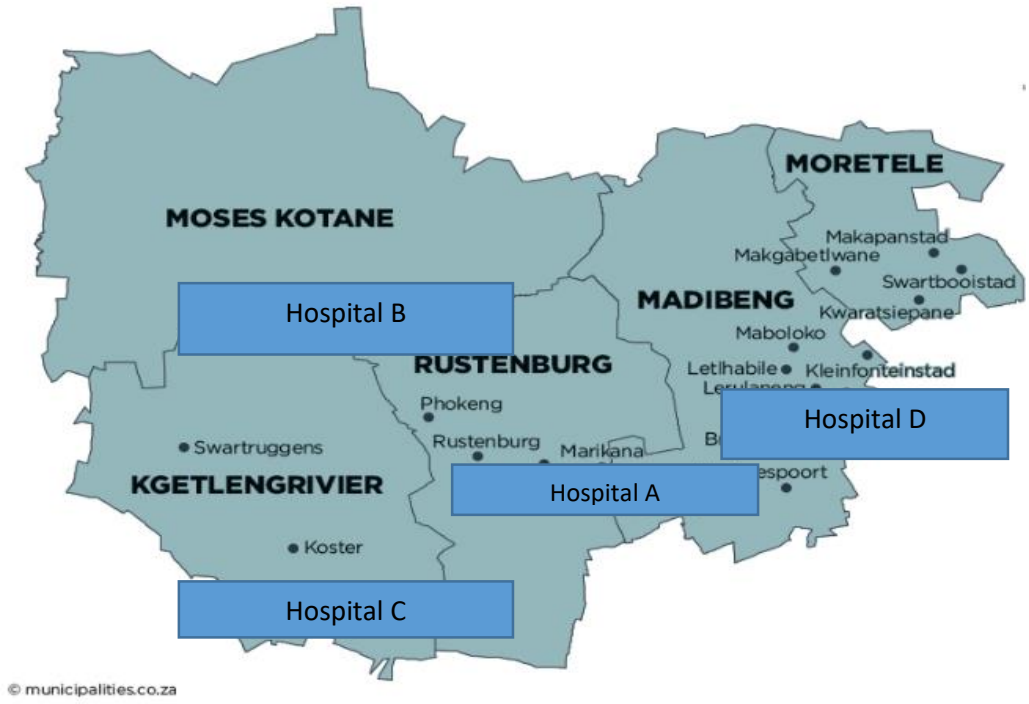


Figure 3.1. Map of Bojanala District Municipalities in the North West (Bojanala Platinum District Municipality [SA])

Figure 3.1 above shows the Bojanala District Municipality with the hospitals located in each district of the North West Province. Bojanala has five Sub-Districts, namely, Rustenburg, Moses Kotane, Madibeng, Kgetlheng and Moretele Sub-Districts.

3.3 STUDY DESIGN

The study design is a set of strategies and procedures used to collect and analyse data from a specific study (Ranganathan & Aggarwal, 2018). A descriptive design was used in the study.

3.3.1 Descriptive design

A descriptive design focuses on describing and interpreting the current status of individuals and settings. It includes observational and surveyed research (Apuke, 2017).

This study used a descriptive design to identify and describe factors that contribute to the non-use of pharmacological pain relief during the intrapartum period. This was used to propose the recommendations to improve the use of pharmacological pain relief methods by midwives during the intrapartum period in nulliparous women in selected hospitals in the North West Province.

3.3.2 Population and sampling

3.3.2.1 Population

Population refers to all the objects or an entire group of persons in which the researcher is interested in seeking certain knowledge or information (Majid, 2018). The population for this study were 122 midwives working in the South African Nursing Council (SANC) accredited Maternity Units at four selected Hospitals.

3.3.2.2 Sampling

A sample is part of the population which has the desired characteristics that the researcher is interested in when seeking information and knowledge about a particular phenomenon (Shukla, 2020). Due to the limited midwives at the selected hospitals, a total population sampling method was applied to select the respondents. Total population sampling is a type of purposive sampling technique in which the entire population with a specific set of characteristics is examined (Canonizado, 2021).

The researcher briefed all the maternity unit managers on the aim and objectives of the study, researcher then selected midwives who met the study′s inclusion criteria, and provided informed consent forms and questionnaires. In this study, not all health care providers working in maternity were selected to participate in the study. The midwives who met the criteria were conveniently selected to participate in the study.

Sampling was done from all 122 midwives working in the South African Nursing Council (SANC) accredited Maternity Unit at the selected hospitals in the Bojanala District. The midwives were selected based on the inclusion criteria. The study used the Yamane formula to calculate the sample size. The Yamane formula is a sample size calculation

method developed by a biostatistician Tara Yamane in 1967 to determine the sample size of a particular population (Yamane, 1967).

$$n = \frac{N}{1+N(e)^2}$$

N = population size (the sampling size included all the midwives at the selected Hospitals which were 122)

n = sample size

e = margin of error which is 0, 05.

$$n = \frac{122}{1+122(0.05)^2}$$

The total sample was 93

Eligibility Criteria

Inclusion criteria	**Exclusion criteria**
Inclusion criterion is the key features of the target population in the study. All midwives working in the Maternity Units who are accredited by the South African Nursing Council, who will be on day duty working at Maternity Ward at Hospital A, B, C and D, will be included in the envisaged study, as they have enough experience in the midwifery field.	Exclusion criteria are features of the potential respondents not meeting the required criteria for the study. All student midwives who will be on day duty at Maternity Wards at Hospital A, B, C and D will not be included in the envisaged study as they do not have too much experience in the midwifery field.

- **Sampling of respondents**

Sampling was done from all 122 midwives working in the four sub-district looking at the inclusion and exclusion criteria. Hospital A and B had a high number of midwives so a higher number of samples were obtained from each Hospital, followed by Hospital C and D, constituting a total sample of 93.

- **Sampling Hospitals**

Bojanala district has five sub-districts (Rustenburg, Moses Kotane, Madibeng, Moretele and Kgetlheng) and each one has a hospital except for one sub-district (Moretele). All four hospitals were selected and sampled to represent each sub-district.

Table 3.1. Names of Sub-district, and Hospitals in Bojanala district

Names of Sub-district	Names of the Hospital	N
Rustenburg	Hospital A	29
Moses Kotane	Hospital B	26
Kgetlheng	Hospital C	10
Madibeng	Hospital D	28
TOTAL		**93**

3.4 PRETEST STUDY

Pretest study is a study conducted before the main study. It involves imitating the formal data collection process on a small number of respondents to identify problems with the research methodology and data collection tool (Hurst, Arulogun, Owolabi, Akinyemi, Uvere, Warth & Ovbiagele, 2015). A pretest study serves as a testing ground so that mistakes made in the research designs, can be corrected and sorted out before the main study. The researcher uses a pretest study to evaluate the acceptability of the research instrument and this prevents the researcher from embarking on a large-scale study without having adequate information and knowledge of the proposed design method (Lowe, 2019).

The main purpose of the pretest study was to:

- Test the validity and reliability of the data collection tool;
- Identify errors with the collection tool; and
- Identify whether or not the collection tool does answer the research question and if that is in line with the objectives of the study.

A pilot study was done with 10 midwives working at JST Hospital. One unit of the maternity section was used and ten of the midwives that were piloted were not included in the main study when conducting data collection. The results of those pretest questionnaires were not included in the results as they were used only as a guide to correct the questionnaire for the main study. The pretest study assisted in the study, because the mistakes made during developing the questionnaire were corrected and some of the questions were removed since they were not valid for the study. It was found that time management was a challenge, and more time was needed to complete the questionnaire.

3.5. DATA COLLECTION

A self-designed questionnaire (see Appendix 1 on page 87) was used to collect data on factors contributing to the non-use of pharmacological pain relief methods by midwives during the intrapartum period on nulliparous women in the North West Province. The researcher designed a questionnaire based on the aims and objectives of the study as well as the use of the literature reviewed (McCauley et al., 2017). According to Bhandari (2021), a questionnaire is a list of questions or items that is used to gather information from the respondents concerning their views or opinion on a certain research problem or issue. Data was collected by the researcher using a pretested and structured questionnaire.

3.5.1 Data collection instrument

A self-designed questionnaire was used to investigate factors contributing to the non-use of pharmacological pain relief methods by midwives during the intrapartum period in nulliparous women. The questionnaire was developed in consultation with assistance from the biostatistician together with the supervisor. The sections of the questionnaire were developed based on the theoretical frame work of Alzghoul and Abdullah (2020) which looked at barriers to pain management. The questionnaire was in the form of a tick format with closed questions and written in English for better understanding and communication. The questionnaire had five sections. The quality of the data collection tool was ensured based on the pretested tool and the feedback received. Some questions

were rephrased and the final questionnaire was prepared based on the feedback from the pretested tool.

3.5.2 Format of the questionnaire

The questionnaire had five sections with 48 questions as outlined below:

- Section A Demographic data;
- Section B Skills and equipment;
- Section C The availability of pharmacological pain relief methods to nulliparous women
- Section D The midwives' confidence towards pharmacological pain relief management; and
- Section E The midwives' attitude towards pharmacological pain relief methods.

Sections A consisted of 9 questions each, Sections B, C and D had 7 questions each, and Section E consisted of 18 questions.

3.5.3. Recruitment of participants

After the researcher has obtained permission from the Hospitals' CEOs, the researcher sat down with the nursing and unit managers to explain the main aim of the study. Together, they arranged meetings with midwives from various shifts, and the researcher explained the main aim, objectives and significance of the study to them. Researcher allowed respondents to ask questions to better understand the study.

3.5.4 Data collection process

The researcher collected the data from November 2021 to January 2022 through a questionnaire. The researcher met with the respective Chief Executive Officers (CEOs) of the various hospitals and explained the aim and objectives of the research project and how the data will be collected. Scheduled dates and times were allocated for the

researcher to collect the data to avoid disturbing the patient care routine. Data collection was done based on scheduled dates.

3.5.5 Administration of the questionnaire

A self-designed questionnaires were given to all the midwives at four selected hospitals. Midwives were issued with the questionnaire and instructions were highlighted and verbalized before completion of the questionnaire. Before data collection began, the respondents were briefed about the research, what it entails and the aims thereof and how to complete the questionnaire. After collecting the questionnaire, the researcher checked the questionnaire for completeness and errors before the questionnaire was deemed complete.

A total of 122 questionnaires were distributed to the midwives who consented to form part of the study. The instructions on how to complete the questionnaire were highlighted. The questionnaires were given for one to two days for the respondents to complete. This was done to avoid disturbing their work routine and to give them enough time to complete the questionnaire. The researcher visited the hospitals every two days to collect the questionnaires and to distribute another batch of questionnaires to another working shift.

3.6 DATA ANALYSIS

Data analysis is a process of cleaning, transforming, summarising and deriving important information from the collected data (Johnson, 2022). The use of Statistical Package for the Social Sciences (SPSS) software version 24 was used in this study with the assistance of a statistician. SPSS is a software package used for logical batched and non-batched statistical analysis (Stehlik-Barry & Babinec, 2017). A descriptive statistic was used in the study. A descriptive statistic is a form of statistical analysis that organize and summarize the collected data in the form of graphs, percentages, and averages (Holcomb, 2017).

In this proposed study, the descriptive statistic was used to conclude from data collected in a form of graphs. The main purpose of the descriptive statistic was to organise and summarise numerical data so that their important features are presented clearly in a form

of tables and visual displays. A Chi-Squared test was used to categorize data in a form of frequencies, numbers and percentages.

3.7 VALIDITY AND RELIABILITY

3.7.1 Validity

Validity looks at the accuracy of the instrument. It means that the concept we think we are measuring is actually measuring what we are intending to measure (Middleton, 2019).

In this study, the following three types of validity were ensured.

3.7.1.1. Face validity

Face validity is how valid your results seem based on what they look like. It is the extent to which a measurement method appears to measure the construct of interest. It involves deciding if a logical relationship exists between a variable and the proposed measure (Hufford, 2021). The researcher ensured face validity by sending the questionnaire to my supervisor to critique and correct it. It was also referred to the biostatistician who is qualified to validate the questionnaire.

3.7.1.2. Content validity

Content validity is the extent to which an instrument used measures the construct of interest and whether or not the content of the variable is right to measure the concepts that we are measuring (Hufford, 2021). Content validity was ensured by conducting a pilot study among 10 midwives working at JST Hospital to correct the test before the main study, thus ensuring that the test measured the intended concepts.

3.7.1.3. Construct validity

Construct validity is the extent to which a research instrument measures the intended construct (Datt & Chetty, 2016). The researcher ensured construct validity by engaging with a biostatistician and supervisor to develop a questionnaire that measures what the study is intending to measure.

3.7.2 Reliability

According to Middleton (2019), reliability means that the instrument used to measure or collect data is consistent and can produce a similar score or results if used in the same condition. In this study, researcher ensured reliability by conducting a pretest study to evaluate the acceptability of the research instrument.

3.8 ETHICAL CONSIDERATIONS

According to Resnik (2020), research ethics involves the nature of morals and norms when conducting research. Research ethics involves the protection of a participant′s dignity and the publication of information in the research study. It deals with what is right and wrong, and the consideration of the participant′s choices and actions. Major ethical issues in conducting research are informed consent, beneficence, respect for anonymity, confidentiality and respect for privacy. Ethical clearance was obtained from the Turfloop Research Ethics Committee (TREC) (see Appendix 4 on page 100).

3.8.1. Permission

The proposal was presented to the departmental research committee, School research ethics committee and faculty research committee before permission was granted. The researcher presented her proposal to the North West Department of Health requesting permission. Permission to conduct the study was obtained from the North West Department of Health (see appendix 5 & 6, on page 101 & 102) and from the management of the district Hospitals in the North West. Data collection commenced after permission was granted. Letters to request permission were used to request permission from the Department of Health at Mafikeng and also from the Hospitals (see Appendix 3 on page 95). The researcher received permission letters from the CEOs of the selected Hospitals to be able to gain access and permission to collect data from the midwives (See Appendix 7, Page 103-106).

3.8.2. Informed consent

The purpose of informed consent is to provide information about the research study so that the respondents can make an informed decision, to consent. The subject has the choice to consent or not (Manti & Licari, 2018). The researcher first explained to the respondents the aim and objectives of the study before collecting the data. The researcher allowed the respondents to make their own decision as to, whether or not to participate in the study. The respondents were made aware that the study is voluntary and that they have a right to withdraw at any time without risk to their well-being. Consent forms were used to obtain informed consent from respondents. A consent form (see Appendix 2 on page 93) was distributed to the respondents before completing the questionnaire, and the researcher ensured that they had signed the consent form before distributing the questionnaire.

3.8.3. Beneficence

According to Lowe (2019), beneficence means not harming but rather benefiting both the researcher and the respondents. The principle of beneficence should benefit the respondents by protecting and safeguarding their well-being and preventing any harm. The principle includes effective and significant research that serves to better serve and promote the welfare of our constituents. Respondents are guaranteed that they will not be harmed in any way and that they can exercise their right of withdrawal at any time. The management was made aware that the study is of benefit to both the hospitals and midwives as this should improve their patient care.

3.8.4. Confidentiality

The researcher must ensure that the participant′s information is kept confidential (Brink, Van der Walt & Van Rensburg, 2017). Confidentiality is the control of a respondents′ personal information and the obligation not to divulge or disclose that information to others (Lowe, 2019). Confidentiality was ensured by keeping the respondents' questionnaires between the researcher and the supervisor and not divulging the information to a third person without the respondents' consent and knowledge.

3.8.5. Anonymity

Anonymity is when a researcher protects the respondents′ identity and ensures that they are not being linked to personal responses. The researcher ensured that the respondents′ identities remained anonymous by not mentioning their details in the study (Brink et al., 2017). The researcher ensured anonymity by requesting the respondents not to write their names on the questionnaire or anywhere on the data collection tool.

3.8.6. Respect for privacy

According to Rheeder (2018), privacy refers to protecting one′s own information, restricting access to personal information and respecting one′s personal space. The researcher has no right to decide on behalf of the respondents to divulge the information without the participant's consent or discussing it with the respondents (Rheeder, 2018). Privacy was ensured by allowing the respondents to give the information that they felt comfortable giving. Each participant was given a private space to complete the questionnaire and they were not allowed to discuss the questionnaire among themselves.

3.9 BIAS

Bias is a liability or tendency of an individual to prevent or tamper with the results. It suggests that personal judgement particular to the observer has been involved and it occurs when the results of a study are systematically different from the truth. Bias can occur at any stage of the research, either during the research study design or during data collection (Smith & Noble, 2014).

The researcher in the study minimized bias by:

- Carefully selecting the population and sampling, and
- Following the inclusion and exclusion criteria; giving correct and full information about the study before the collection of data;
- Avoiding communicating with the respondents during data collection

- Conducting a pilot study to pretest the questionnaire and exclude 10 midwives who participated in the pilot study.

In this study, the researcher avoided Bias in three phases, namely

3.9.1. Participants' bias

Participant bias relates to selecting participants who are representatives of the study population (Smith & Noble, 2014). The researcher selected the sample from the correct population by looking at the inclusion and exclusion criteria. The researcher avoided this bias by carefully selecting the respondents based on the criteria

3.9.2. Data collection bias

Data collection bias occurs when a researcher's personal beliefs influence the way information or data is collected. This happens if the questionnaire is not validated and not tested for reliability (Smith & Noble, 2014). The researcher avoided bias by conducting a pretest study before the main study and by not communicating with the respondents during data collection to avoid imposing personal beliefs and views on the subject matter.

3.9.3. Analysis bias

Analysis bias can occur when analysing data. A researcher may look for data that confirms their hypothesis or confirms their personal experiences (Smith & Noble, 2014). This was avoided by involving the biostatistician in analysing the data so that the researcher does not analyse the data to suit her interest.

3.10 CONCLUSIONS

Chapter 3 described the research methodology, including study setting and designs, population and sampling, data collection and analysis, data management, validity and reliability, pilot study, ethical considerations and bias. The next chapter, Chapter 4, presents the analyzed data.

CHAPTER 4

PRESENTATION OF RESULTS

4.1 INTRODUCTION

This chapter describes the results of the data collected from the 93 respondents. Data were analysed using Descriptive statistics on SPSS Version 24 with the help of the biostatistician and presented in the form of graphs, pie charts, tables and frequencies. The presentation of the results is based on descriptive statistics which was used to present the results and to interpret the numerical data.

The results will be presented in five sections

- Section A Demographic data;
- Section B Skills and equipment;
- Section C The availability of pharmacological pain relief methods to nulliparous women
- Section D The midwives' confidence towards pharmacological pain relief management; and
- Section E The midwives' attitude towards pharmacological pain relief methods.

4.2 PRESENTATIONS OF RESULTS

Data were presented in a descriptive form consisting of tables and graphs to further analyse and interpret the results in alignment with the aims and objectives of the study.

4.2.1 Section A: Demographic data

The demographic data presented included age, gender, religion, qualifications, work position, years of experience, and current working area of midwives.

- **Age**

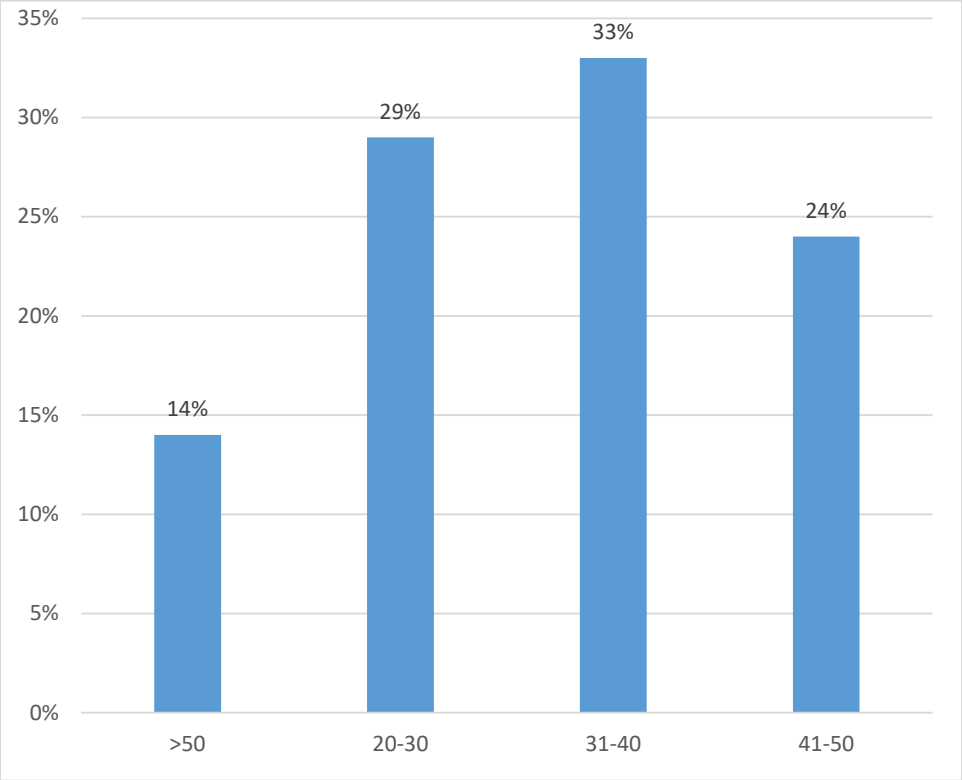


Figure 4.1 The Age of the Respondents

Figure 4.1 above indicates that most of the respondents were between the ages of 31-40 years (33%), which shows that maternity wards are dominated by younger midwives. The younger professionals are more advanced, quicker, and keener to learn and independent (Letvak, Gupta & Ruhm, 2013). These findings are different from that of the South African Nursing Council done by Schütz (2021) which reported that the current dominant age group for midwives is between 50-59 years (27%) followed by 40-49 years (26%) and then age 30-39 years (21%) which is contrary with these results.

- **Gender**

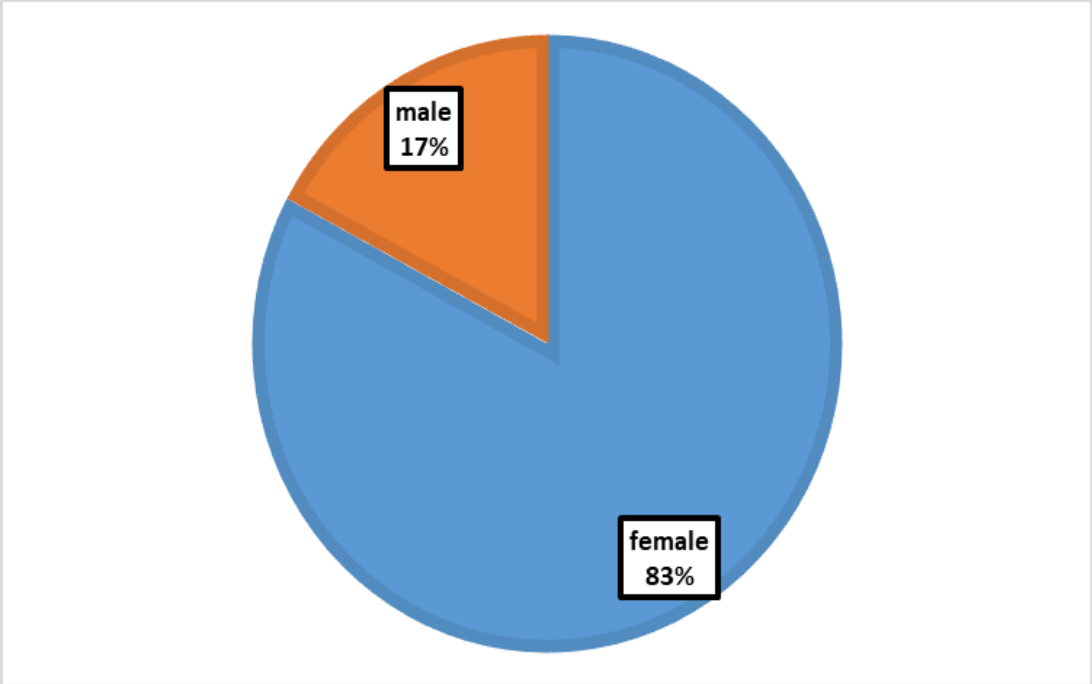


Figure 4.2 Gender of Respondents

The results in Figure 4.2 above show that 83% of midwives are female and 17% are males. This is supported by the study done by Mao, Cheong, Van and Tam in the United States in 2021 whereby the male respondents in the study accounted for 12% only and in Canada accounted for 7.8% in 2016. The results have proven that nursing has always been viewed as a female-dominant profession since it was established during the times of Nightingale in the mid-nineteenth century and has since been seen as a female profession (Barrette-Landau & Henle, 2014).

- **Religion**

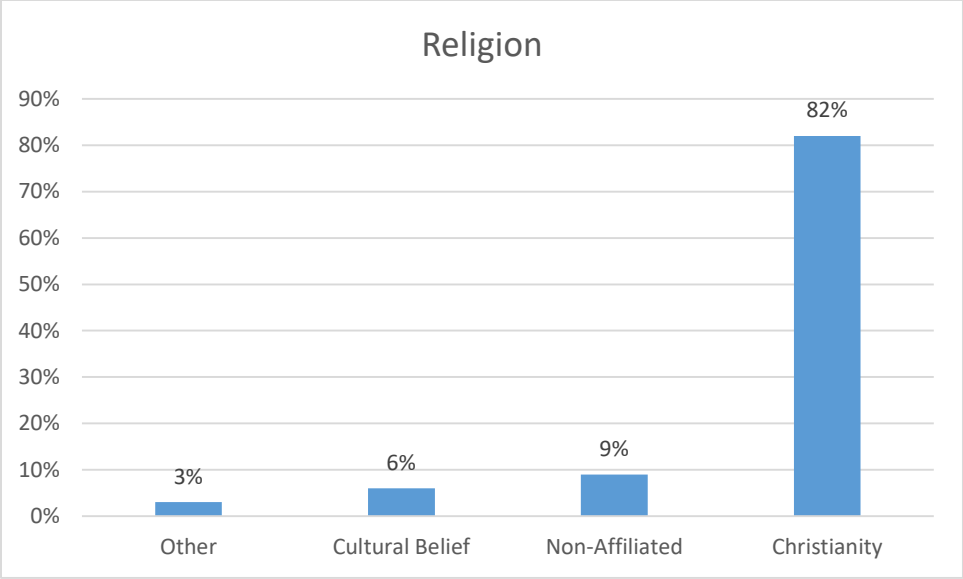


Figure 4.3 Religion of Respondents

As shown in figure 4.3 above the majority of the respondents were Christians at 82% and others at the lowest, 3%. Aziato, Ohemeng & Omenyo (2016) have indicated in their study that the biblical belief surrounding labour pain has contributed to some midwives' attitudes, where they view labour pain as a natural phenomenon. The results can be argued that the majority of health care providers that are Christian, can negatively impact decisions of nulliparous in choosing to relieve pain during the intrapartum period as this may be viewed as unacceptable to Christians who view pain as God's punishment for sins.

- **Qualification of midwives**

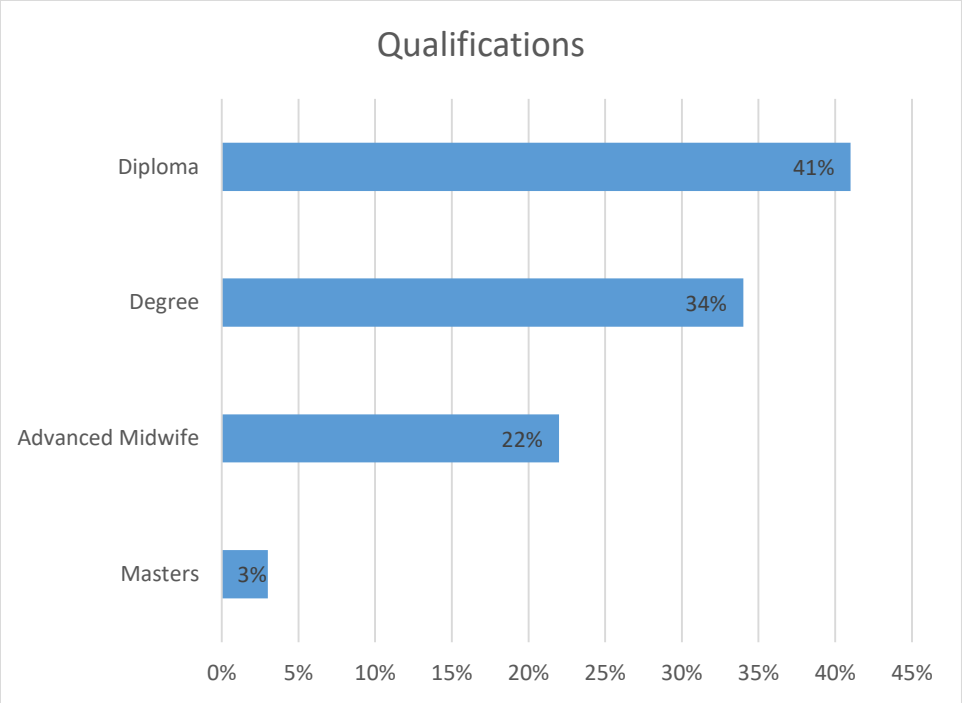


Figure 4.4 Qualifications of the respondents

The above figure 4.4 indicates that 41% hold a diploma in nursing qualification, 34% have a degree, 22% have a post-diploma in advanced midwifery and only 3% have a master's degree. According to Lesia and Roets (2013), advanced midwives are independent practitioners who provide high-quality patient care especially when Doctors are not available. The low level of advanced midwives at delivery facilities might compromise the care and management of delivering women.

- **Work position**

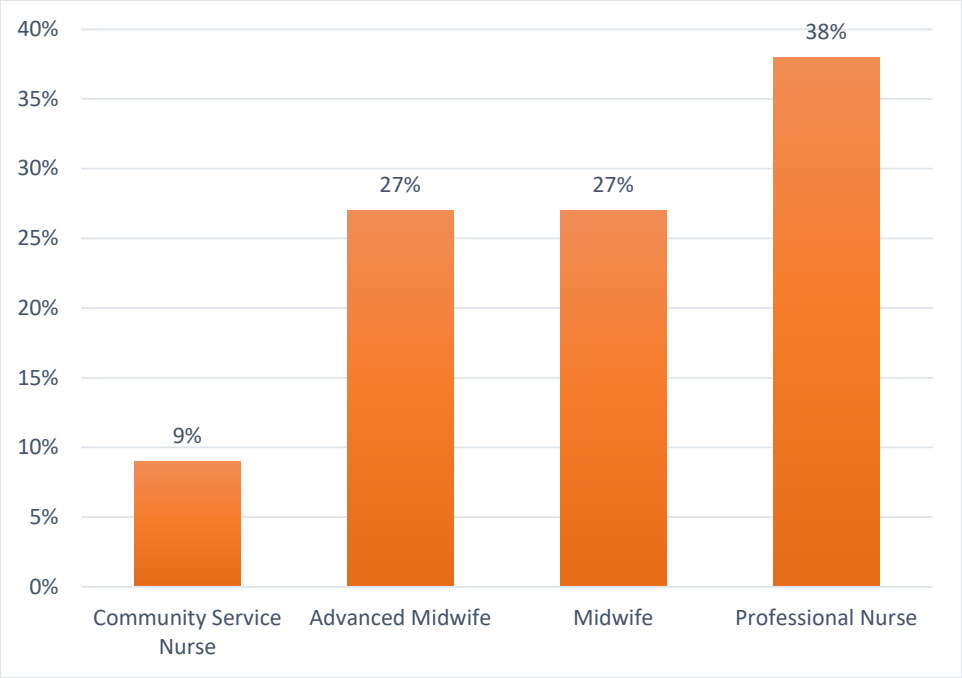


Figure 4.5 Work position of the respondents

As shown in figure 4.5 above 38% of the respondents are professional nurses whereas 27% are plain midwives and 27% are advanced midwives and 9% were community service nurses. The maternal health indicator released by statistics in South Africa has indicated an increase in births from 83% in 1998 to 96% in 2016, of which 68% of those births were attended by midwives and 29% by doctors. The low levels of advanced midwives and the increasing level of births might have poor implications for delivering women because there is a lower percentage of advanced and skilled midwives (StatsSA, 2020). Sahile et al. (2017) revealed that low-level qualified (Diploma in Nursing) health care providers were less likely to use labour pain management methods than high-level qualified health care providers (bachelor's degree in nursing sciences, advanced midwifery and master of nursing).

- **Years of experience**

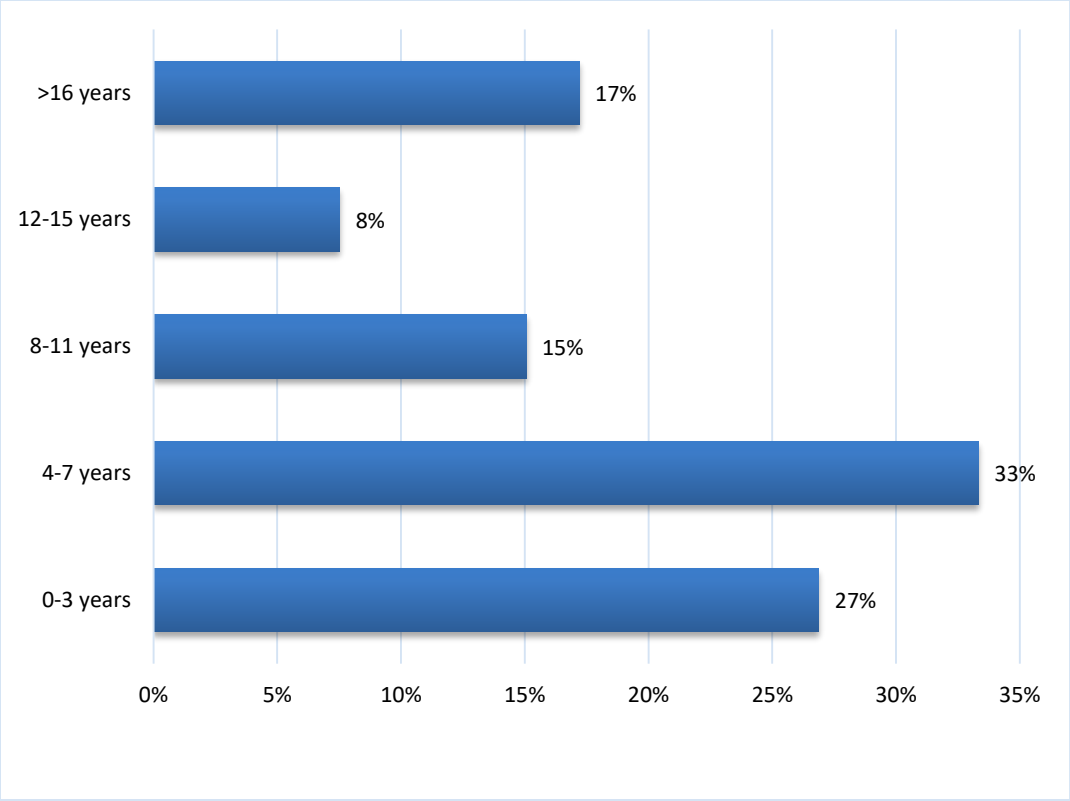


Figure 4.6 Years of experience of the respondents

Figure 4.6 illustrates that most of the respondents (33.3%) had 4-7 years of experience, followed by 27% who had 0-3 years,17% who had >16 years and 15% who had between 8 and 11 years. Only 8% had 12-15 years of experience. Working experience goes together with knowledge. The more you are exposed to work, the better and more adequate knowledge you gain. Midwives with adequate knowledge about their work and labour pain management were more likely to use pharmacological pain relief methods than those with inadequate knowledge. Midwives with 6-9 years and more than 10 years of experience were more likely to use pharmacological pain relief methods than those having less than 5 years of experience (Bishaw et al., 2020).

- **Current working area**

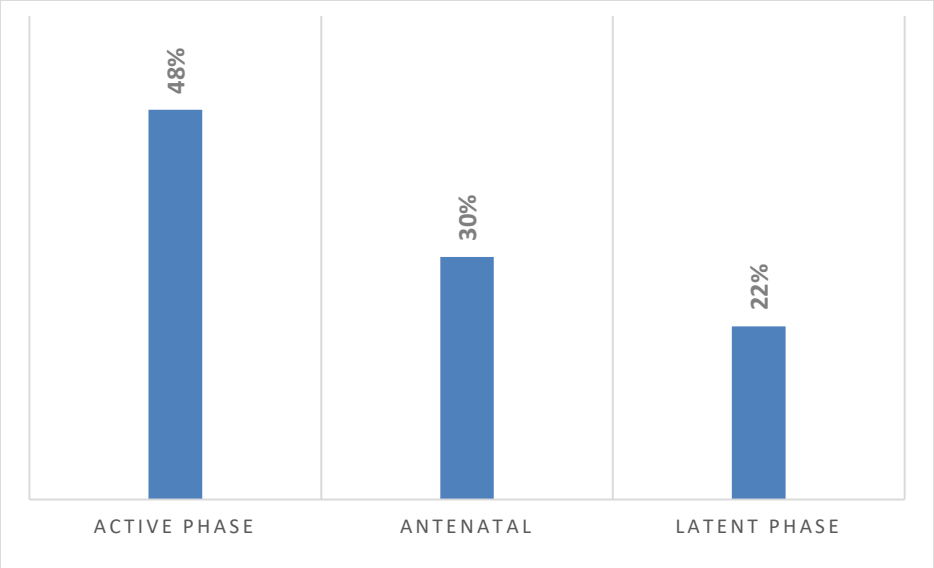


Figure 4.7 Current working area of respondents

Figure 4.7 above presents the working area of the midwives. The results indicate that 48% of the respondents were working in the active phase of labour, 30% at the antenatal and 22% were working in the latent phase of labour. The majority of the respondents are working in the active phase of labour and that's the area where pain relief management is practised most often.

4.2.2 Section B: Skills and equipment;

Table 4.1 Skills and equipment

	Strongly agree		**Agree**		**Disagree**		**Strongly disagree**	
Item	**Frequency and percentages**							
	n	**%**	***n***	**%**	***n***	**%**	***n***	**%**
1. There is in-service training in place in our facility regarding pain management during the intrapartum period	20	21.5%	24	25.8%	24	25.8%	25	26.9%

2. Drills are being done concerning pain relief management in our facility	11	11.8%	24	25.8%	31	33.3%	27	29%
3. There are policies and protocols on the use of pain relief methods during the intrapartum period	38	40.9%	33	35.5%	10	10.8%	12	12.9%
4. Midwives and obstetricians are involved in drafting protocols for pain relief management	18	19.4%	33	35.5%	17	18.3%	25	26.9%
5. National guidelines have pain management during the intrapartum period	45	48.4%	30	32.3%	9	9.7%	9	9.7%
6. There are strategies for the management of pain relief side effects	34	36.6%	35	37.6%	15	16.1%	9	9.7%
7. The facility has the necessary equipment for the management of pain the during intrapartum	17	18.3%	30	32.3%	20	21.5%	26	28.0%

Above table 4.1 reflects the skills of midwives and equipment facilities. 26.9% of the respondents strongly disagree that in-service training is being done in their facilities. This highlights that our facilities (the ones that data were collected from) do not conduct in-

service training on pain management and use of pain relief. This is supported by the 26.9% of the respondents who strongly disagreed with in-service training on pain relief management. Some of the respondents (33.3%) disagree that drills are being done.

Every delivery facility should have guiding policies and protocols for the management of a pregnant and labouring woman. The results indicate that 40.9% of the respondents strongly agree that policies and protocols for managing pain during the intrapartum period are available. Midwives are guided by national policies in managing labour. Out of 93 respondents, 48.4% indicated that they strongly agree to have national guidelines in their facilities and 36.6% have strategies for pain management. Pain management during the intrapartum period requires the ready availability of certain equipment and the results highlight that 32.3% of the respondents agree that their facilities have the necessary equipment, although 28.0% strongly disagree.

4.2.3 Section C: Availability of pain relief methods to the nulliparous

Table 4.2 Availability of pain relief methods to the nulliparous

	Strongly agree		**Agree**		**Disagree**		**Strongly disagree**	
Item	**Frequency and percentage**							
	n	**%**	***n***	**%**	***n***	**%**	***n***	**%**
1. Pain relief methods are available to all the delivering mothers	31	33.3%	26	28.0%	19	20.4%	17	18.3%
2. When there is enough stock of pain relievers, the nulliparous have been given during the intrapartum period	28	30.1%	35	37.6%	21	22.6%	9	9.7%

3. Pain relief is offered to all the nulliparous women	23	24.7%	26	28.0%	27	29.0%	17	18.3%
4. Pain relief methods are commonly and routinely used for the nulliparous during the intrapartum period	27	29.0%	27	29.0%	19	20.4%	20	21.5%
5. Midwives educate women regarding the availability of pain relief methods	26	28.0%	29	31.2%	19	20.4%	19	20.4%
6. The nulliparous are encouraged to request any pain relief methods during the intrapartum period	17	18.3%	32	34.4%	20	21.5%	24	25.8%
7. Midwives do give prescribed pain relief methods during the intrapartum period	48	51.6%	27	29.0%	11	11.8%	7	7.5%

Table 4.2 above indicates data on the availability of pharmacological pain relief methods during the intrapartum period. The data indicates that 29% of the respondents disagree that not all pregnant women are offered pain relief during the intrapartum period. Some of the respondents (29%) agreed that pain relief methods are commonly and routinely used, but 21.5% strongly disagrees. According to the results, 31.2% of midwives give health education regarding pain relief methods. Most of the midwives (34.4%) encourage nulliparous women to request pain relief methods during the intrapartum period. The majority of the responding midwives, 51.6% give pain relief methods during the intrapartum period.

4.2.4 Section D: The Midwives' confidence towards pharmacological pain relief management

Table 4.3 The Midwives' confidence towards pharmacological pain relief management

	Strongly agree		Agree		Disagree		Strongly disagree	
	Frequency and percentages							
ITEMS	***n***	**%**	***n***	**%**	***n***	**%**	***n***	**%**
1. I know about the availability of different methods of pain relief	52	55.9%	27	29.0%	9	9.7%	5	5.4%
2. I am confident to give education about different types of pain relief methods	43	46.2%	33	35.5%	9	9.7%	8	8.6%
3. I am skilled and competent in managing pain with the use of pharmacological methods during the intrapartum period	44	47.3%	36	38.7%	9	9.7%	4	4.3%
4. I am confident to manage pain to the nulliparous during the intrapartum period	40	43.0%	35	37.6%	10	10.8%	8	8.6%
5. I am confident to give pain relief to the	44	47.3%	30	32.3%	16	17.2%	3	3.2%

nulliparous during the intrapartum period								
6. I am confident to manage the side effects of any pain relief methods	35	37.6%	39	41.9%	15	16.1%	4	4.3%
7. If policies were to be available on pain management, pain relief methods would be given	54	58.1%	26	28.0%	9	9.7%	4	4.3%

Section D presents data on midwives' confidence towards pharmacological pain relief during the intrapartum period. According to the data, the majority of midwives (55.9%) know about the available pain relief methods. The results reveal that 46.2% of midwives are confident to provide education about different types of pain relief methods. From the data, 47.3% of the midwives indicated to be skilled and competent in managing pain with the use of the pharmacological method. Some of the respondents (43%) are confident to manage pain during the intrapartum period. The majority of the respondents (58.1%) indicated that if policies were to be made available pain relief would be given. This indicates that midwives rely on policies and guidelines to give pain relief.

4.2.5 Section E: The Midwives' attitude toward pain relief methods

Table 4.4 The Midwives' attitude toward pain relief methods

	Strongly agrees		**Agrees**		**Disagree**		**Strongly disagree**	
ITEMS	**Frequency and percentages**							
	n	**%**	***n***	**%**	***n***	**%**	***n***	**%**

1. Pain relief methods are not important	14	15.1%	7	7.5%	20	21.5%	52	55.9%
2. Pain relief methods during the intrapartum period are necessary	45	48.4%	29	31.2%	10	10.8%	9	9.7%
3. Pain relief methods such as pethidine negatively impact both the mother and the foetus	15	16.1%	29	31.2%	24	25.8%	25	26.9%
4. Pain relief delays labour	6	6.5%	20	21.5%	28	30.1%	39	41.9%
5. Pain relief methods cause respiratory problems in the foetus	23	24.7%	41	44.1%	23	24.7%	6	6.5%
6. Pain relief methods prolong the second stage of labour	5	5.4%	25	26.9%	33	35.5%	30	32.3%
7. Pharmacological pain methods are not given because they cause women to feel drowsy and inactive	12	12.9%	29	31.2%	31	33.3%	21	22.6%
8. Nulliparous should bear the pain and not be given any method of pain relief	7	7.5%	18	19.4%	26	28.0%	42	45.2%
9. Culturally it is unacceptable to be given pain relief	14	15.1%	12	12.9%	23	24.7%	44	47.3%

10. Every nulliparous should be given pain relief	43	46.2%	25	26.9%	15	16.1%	10	10.8%
11. Educating nulliparous about methods of pain relief is important	43	46.2%	29	31.2%	9	9.7%	12	12.9%
12. Non-pharmacological pain management is better than pharmacological pain management	18	19.4%	27	29.0%	31	33.3%	17	18.3%
13. Pharmacological methods cause more complications than none pharmacological pain methods	21	22.6%	24	25.8%	27	29.0%	21	22.6%
14. The high influx of patients causes midwives not to give pain relief methods	24	25.8%	17	18.3%	36	38.7%	16	17.2%
15. A shortage of staff contributes to inadequate pain management during the intrapartum	27	29.0%	29	31.2%	19	20.4%	18	19.4%
16. A shortage of pain relief medication contributes to the non-use of pain relief during the intrapartum	35	37.6%	31	33.3%	20	21.5%	7	7.5%

17. The unavailability of protocols and guidelines on how to use pain relief methods contributes to inadequate pain management	26	28.0%	34	36.6%	20	21.5%	13	14.0%
18. A shortage of materials and equipment contributes to the non-use of pain relief during the intrapartum	31	33.3%	32	34.4%	17	18.3%	13	14.0%

Table 4.4 above present the results on midwives' attitude towards pharmacological pain relief methods during the intrapartum period. The majority of the respondents (55.9%) believe that pain relief is not important. But 48.4% believe that it is necessary. The findings show that 31.2% of the respondents agree that pain relievers have a negative impact, 44.1% believe that it causes foetal distress, 22.6% believe it causes complications and 35.5% agreed that pain relief methods do not prolong of labour. The results indicate that 46.2% of the respondents agreed that nulliparous should be given pain relief during the intrapartum period. Some of the respondents (46.2%) strongly agree that health education on pain relief is important.

Some of the respondents (38.7%) indicated that the influx of patients is not one of the factors contributing to the non-use of pain relief. Data reveals that 37.6% strongly agree that the shortage of pain relief medication is one of the factors contributing to the non-use of pain relief during the intrapartum period. The results show that 36.6% agree that the unavailability of protocols and policies prevents them from giving pharmacological pain relief with 34.4% of the respondents strongly agree that the shortage of equipment and materials is one of the reasons or factors why pain relief is not given.

4.3. CONCLUSION

This chapter presented the results from midwives regarding factors contributing to the non-use of pharmacological pain relief methods during the intrapartum period. The demographic data profile of the respondents indicated that the average group were between the ages of 31-40, 83% were female, 82% were Christians, 41% had a diploma, 38% were professional nurses and 33% had 4-7 years' experiences with 48% of midwives working in the active phase of labour. Section B looked at the skills of midwives and equipment in facilities, 26.9% had no in-service training in their facilities and 29% did no drills; 28% did not have the necessary equipment in managing pain during the intrapartum period.

Section C highlighted the availability of pain relief methods in facilities. The majority of midwives (51, 6%) agreed that they issued the prescribed pain relievers and 33.3% agreed that pain relief methods are available, but 25.8% do not encourage the use of pain relief. Section D was about the midwives' confidence in pain relief management during the intrapartum period. The majority of midwives indicated in the results that they are confident in managing pain during the intrapartum period with 47.3% skilled and 58.1% dependent on policies and guidelines.

Section E gauged the midwives' attitudes towards the use of pain relief. Although the majority (55.9%) of midwives have agreed pain relief management is important, there are factors preventing midwives from giving pain relief methods such as theirs sides effects. According to the results, 31.2% agreed that it caused women to feel drowsy, and 25.8% agreed that pharmacological pain relief caused more complications. 29.9% prefer non-pharmacological, 33.3% reported a shortage of material and 28% reported the unavailability of protocols and 29% reported non-use of pharmacological relief due to a shortage of staff. The next chapter discusses the results of the study.

CHAPTER 5

DISCUSSIONS OF THE RESULTS AND APPLICATION OF THEORY

5.1. INTRODUCTION

The purpose of this chapter is to discuss the findings from the data presented in Chapter 4 and to relate the adopted theory to the results. The study aimed to determine factors contributing to the non-use of pharmacological pain relief methods by midwives during the intrapartum period in nulliparous women. As outlined in chapter 2, theoretical framework by Alzghoul and Abdullah adopted from field theory model was used as a lens for the study.

5.2. DISCUSSIONS OF THE RESULTS

5.2.1. Demographic data

- **Age**

Most of our respondents were between the ages of 31-40 at 33%, 24% were between the ages of 41-50, 29% were between the ages of 20-30 and only 14% were above the age of 50. These figures show some of the midwives in the study are still young, which is a good sign in the profession because the older nurses are deficit-oriented, have poor performance, are resistant to change, suffer from deteriorating health and the inability to learn quicker and newer things in the profession (Mudallal, Othman & Al Hassan, 2017). This can be detrimental to quality patient care delivery and a burden to other staff. The younger professionals are more advanced, quicker and keener to learn and independent (Letvak, Gupta & Ruhm, 2013).

- **Gender**

According to the results, 83% of the respondents were female and 17% were males. This supports that nursing is a female dominant workforce. Nursing has been viewed as female work ever since the appearance of the Nightingale training style, which favoured women over men to become nurses. Due to that, nursing remains a female-dominated profession (Mao et al., 2021); but it can also be argued that males prefer hard labour more than

working in a labour room. The majority of male nurses can be found working in Psychiatric and Orthopaedic wards, other than labour (Barrette-Landau & Henle, 2014). The study results are in line with a study done by Ojo et al. (2020) who found that most of the respondents (96.5%) were females.

- **Religion**

The results indicated that the majority of the respondents were Christian, constituting 82%, 9% were non-affiliated, 6% belonged to cultural beliefs and only 3% comprised of others. Different religious beliefs have created challenges for health care providers and the health care system in providing competent medical care (Swihart, Yarrarapu & Martin, 2021). Competent medical care refers to the ability of health care providers and the health care system to deliver quality care services that meet the needs of patients and their families (Swihart et al., 2021).

A biblical belief surrounding labour pain has contributed to some midwives' attitudes, where they view labour pain as a natural phenomenon (Dedeli & Kaptan, 2013). Taking the results into consideration it can be argued that the majority of health care providers, that are Christian, can negatively impact the decisions of nulliparous in choosing to relieve pain during the intrapartum period as this may be viewed as unacceptable to Christians who view pain as God’s punishment for sins (Aziato et al., 2016).

- **Qualifications and work position**

Amongst the respondents, professional nurses contributed 38%, 27% being advanced midwives. Advanced midwives have advanced skills in midwifery as a whole and they provide a great deal in delivering quality midwifery care. 41% of them have diplomas, 34% have bachelor′s degrees in nursing and 22% have Advanced Diplomas in Midwifery. A low level of advanced midwives in the labour rooms means that there is a shortage of advanced skilled professionals, which could lead to complications in managing pregnant and labouring women. It is important to have advanced skilled health professionals in the units.

A study done by Sahile et al. (2017) revealed that low-level qualified (Diploma in Nursing) health care providers were less likely to use labour pain management methods than high-

level qualified health care providers (bachelor's degree in nursing sciences, advanced midwifery and master of nursing). Professionals who had the highest qualification were 2.87 times more likely to use pain relief management than those with diplomas (Sahile et al., 2017).

- **Working experience**

The average working experience from the results was between 4-7 years (33%) and is followed by those with 0-3 years of experience (27%). In a study done by Wakgari et al. (2020), having five or more years of experience was negatively associated with poor labour pain management practices. Working experience goes together with knowledge. The more you have been exposed to your work the better and more adequate knowledge you gain. Midwives who had an adequate knowledge about their work and labour pain management were more likely to use pain relief than the midwives with inadequate knowledge (Bishaw et al., 2020).

- **Work unit**

Almost half of the respondents were working in the active phase of labour contributing 48% with 22% working in the latent phase of labour. This is a good indication that many midwives are working in delivery rooms and are more exposed to managing women during the intrapartum period unlike some midwives working in the antenatal or latent phase.

5.2.2. Section B: Skills and Equipment

According to our respondents, in-service training is not being done at the workplace. The study indicates that 26.9% of our respondents strongly disagreed with being exposed to in-service training in pain management in their various working environments. This is in line with the study done by Mousa, Abdelhafez, Abdelraheim, Yousef, Ghaney, El Gelany, (2018) whereby 78% of the respondents reported that they did not receive education or training regarding labour pain relief and management. The study was done in Ethiopia by Terfasa et al. (2022) showing that 20.2% of midwives had training and 79.2% had no training. Midwives who had training in pain management during labour were more likely to utilize pain relief compared to those without training.

According to Omar (2014), in-service training is a training program in an organisation by which workers are equipped with skills and given the necessary knowledge to enable them to carry out their responsibilities and competently perform their duties. The purpose is to facilitate the effective functioning of the health care professionals, rectify shortcomings and prepare for the changes that are to be implemented and manage the risks before complications. Midwives should have planned in-service training to improve their knowledge and skills regarding pain management during the intrapartum period. This will clear misconceptions and misunderstandings about managing labouring women. Continuous in-service training will improve the health care of pregnant women and midwives will become more motivated to perform to the best of their abilities.

Drills are planned activities or exercises in preparation for the real situation (Kakaland, 2015). Drills play a simulation of how to manage patients in case of certain conditions and to always remind midwives of their roles and responsibilities. According to our analysed data, drills are not being done at workplaces with 33.3% of our respondents′ disagreeing with drills being done.

Pain relief management is recognized by policymakers. It is supported by the Department of Health by including pain management in their new maternity case record (refer to Appendix 9, on Page 108). A guideline covers pharmacological and non-pharmacological pain relief management. The availability of policies, protocols and national guidelines is important in guiding and helping midwives to manage patients well. Health policies are regulations, laws and decisions implemented within health facilities to enforce and promote the wellness of patients and to ensure that health goals are achieved and met (Rudolph, Caplan, Ben-Moshe & Dillon, 2013).

According to the results, 40.9% of the respondents indicated that they have protocols and policies in their facilities, and 48.4% have national guidelines. This is contrary to the study done in Ethiopia by Terfasa et al. (2022) whereby 63.1% indicated a lack of protocols and Gido, Yadeta & Tura (2021) where 59.1% indicated the absence of guidelines and policies as factors contributing to the non-use of pharmacological pain relief and supported by Geltore et al. (2018) in their study, which they found that lack of guidelines and protocols were the most common bottlenecks for utilising the methods of pain relief. From the

research done by Geltore et al. (2019), it was found that there are no guidelines and protocols that simulate the practice of pharmacological pain relief methods in delivery facilities.

There's no specific management of pain during the intrapartum period in the South African maternity guidelines. Midwives rely on their knowledge and facility protocols. This was supported by a study done by McCauley, Actis Danna, Mrema and Van de Broek (2018) which highlighted that health care providers reported that pharmacological pain relief methods were not part of the routine protocol for women, especially those who are having a normal vaginal delivery.

5.2.3. Section C: The availability of pharmacological pain relief methods to the nulliparous

Pain relief is important in promoting quality intrapartum care and providing good maternal health hence the WHO recommends the use of pharmacological pain relief (Terfasa et al., 2022). The availability of pain relief plays an important role in managing labour and midwives rely on them to give the best quality health care to labouring women. There is 20.4% in disagreement which contribute to one of the factors of the non-use of pain relief. Most of the respondents, 30.1%, strongly agreed that their facilities do render pain relief methods when they are available to the delivering mothers, and 46.2% of the respondents agreed that delivering mothers should be given pain relief whenever it is available. This signifies that midwives do believe that pain relief during the intrapartum period is important and this is supported by several other studies as well.

A study that was undertaken by Terfasa et al. (2022) indicated that 63.6% of their respondents provided pain relief during the intrapartum period when they are available and 94.8% of the respondents agreed that pain management during the intrapartum period is needed. All methods of pain relief enhance the progress of labour by reducing maternal discomfort and anxiety, resulting in a positive birthing experience. Among the 93 respondents, 34.4% agree that there is an unavailability of equipment to assist in administering pain relief methods. According to the study done by Ekweani and Avidime (2016), the main factor that contributed to the non-use of pharmacological pain relief in

the study was the unavailability of pain relief and certain equipment, methods such as an epidural and Entonox® were not readily available.

Shortage of equipment in facilities contributes to midwives not using pain relief during the intrapartum period and 33.3% of the respondents agree. This is in line with the study done by Geltore et al. (2018). 70.9% of the respondents agreed that drugs are unavailability in the facilities. The study done by Ojo et al. (2020) showed that there were inadequate facilities to practice certain methods for labour pain management and 91% of the respondents agreed that there was no equipment for pain relief. In the study done by Bishaw et al. (2020) 41.5% of the respondents agreed that the non-use of pain relievers was due to the unavailability of drugs and 26.4% were due to the unavailability of equipment. Mulugeta's (2016) study revealed that 59.9% were attributed to both the non-availability of drugs and equipment.

5.2.4. Section D: The Midwives' confidence towards pharmacological pain relief management

The study indicated that 46.2% of the respondents strongly agree that it is important and they are confident in giving health education on pain relief management. During antenatal consultations and 43% are confident in managing pain during the intrapartum period. Health education on pain relief starts with antenatal care. Midwives should be open to many options when educating pregnant women on different types of pain relief and should be familiar with those readily available. The information gained from in-service training can be utilised in educating pregnant women about both opioids and epidurals. According to a study done by McCauley et al. (2018) it was recommended that health care providers can improve pain management by creating an enabling environment and providing antenatal education.

Midwives can use health education as a form of communication between them and the nulliparous as this is an effective method to communicate effectively about different types and the availability of pain relief. Health education is one of the resolutions that midwives can adopt by educating pregnant women about the available pain relief methods when preparing them for labour and the management thereof.

The study done by Gido et al. (2021) had shown that pregnant women who were offered pain relief methods during the intrapartum period had greater birth satisfaction and healthy reproductive outcomes. The opposite is also true, that inadequate labour pain management negatively affects maternal and foetal well-being and the progress of labour. This may further lead to mothers developing postpartum depression, post-traumatic stress disorders, negative experiences and dissatisfaction after birth and fear of normal delivery in their next pregnancies, which increases the number of caesarean sections. Therefore, midwives need to educate pregnant women about pain relief available during the intrapartum period to prepare them for delivery.

The critical shortage of skilled staff is a major problem in the provision of quality health care. A lack of sufficient and skilled staff can cause a delay in pregnant and delivering women receiving appropriate care, a delay in appropriate treatment and initiating timely emergency intervention. The results indicate that 29% of the respondents agree that a shortage of staff contributes to the non-use of pharmacological pain relief methods during the intrapartum period. This is in line with the study done by Bitew et al. (2016) which indicated that 43.8% of midwives highlighted that a shortage of staff contributes to the non-use of pharmacological pain relief. The common reasons mentioned by the respondents in a study done in North Ethiopia for non-use of pain relief during labour were patient flow (n=233, 100%) and the small number of staff (n=177, 76%) (Sahile et al., 2017).

One of the primary responsibilities of midwives is to relieve pain and reduce the suffering of patients. Pregnant women should be educated about the different types of pharmacological pain relief methods available and asked frequently if they need pain relief. If they require it, the most effective, appropriate and available method of pain relief should be offered. Relieving pain during the intrapartum period often allows labour to progress more rapidly and reduces anxiety (Smith, Levett, Collins, Armour, Dahlen & Suganuma, 2018). It was highlighted in a study done by Nilima, Samuel and Manickam (2012) that women in Nairobi, South Africa and Nigeria are poorly informed about different types of pain relief methods. They are poorly informed that labour can be relieved; their level of knowledge is low.

Therefore, it is suggested that women should be taught about the available optional methods. The study found that antenatal education regarding pharmacological pain relief methods by midwives is poor and educating women and sensitising them about pain relief during the intrapartum period will help them to be better informed and make a well-informed choice about their preferred method of pain relief.

5.2.5. Section E: The midwives' attitude towards pharmacological pain relief

According to the results, midwives had a positive attitude towards pain management because 55.9% of the respondents agreed that pain relief methods are important. The results are in line with the findings from the study done by Bishaw et al. (2020) which showed that midwives with a positive attitude are more likely to use pain relief than those with a negative attitude. Overall use was 8.4% and this is in line with the study done by Sahile et al. (2017). According to the study done by Geltore et al. (2018), 141 of their respondents had a negative attitude compared to 44 who were in favour of pain relief. The negative attitude was attributed to one of the following factors; fear of respiratory distress; delay in the progress of labour and foetal distress.

The study found that 44.1% of the respondents agreed that pain relievers cause problems for the foetus and 31.2% agreed that pain relief during the intrapartum period negatively impacts both the mother and foetus. In a study done by Nguyen, Nguyen, Farber, Phan, Khuat, Nguyen, Dang and Doan (2021) many health care providers were worried about the side effects of pain relief during the intrapartum period. There are misconceptions about pharmacological pain relief methods and one of them is the belief that pharmacological pain relief methods, especially epidurals, cause paraplegia and permanent backaches which could cause muscle weakness.

The study done by Geltore et al. (2018) supported the results, 51.8% of their respondents admitted that using obstetric pharmacological pain relief methods causes respiratory distress, 52.6% agreed that using labour pharmacological pain relief methods influences the progress of labour, 52.6% believed that it causes late presentation and, 52.9% that it causes foetal distress. Whereas in Mulugeta’s study (2016), 33.3% fear foetal distress

and Mousa et al. (2018) reported that 42.3% of the respondents believed that it influences the progress of labour, even though 78.2% believed that pain relief is necessary.

McCauley et al. (2018) indicated that health care providers believed that pharmacological pain relief interferes with the normal progression of labour and that all pain relief methods have side effects for the mother and baby. Health care providers were concerned about missing important signs during the intrapartum period when pharmacological pain relief was used. In a study done by Akunaeziri, Alao, Afolabi, Pam and Igwemadu (2021), fear of pain relief side effects and fear of foetal distress are among the factors highlighted for not using pain relievers during the intrapartum period.

Many studies showed that a lack of knowledge about pharmacological pain relief and its side effects discouraged midwives from giving pain relief during the intrapartum period. This is contrary to the study′s results where most of the respondents, 37.6% strongly agree to be confident in managing the side effects, 41.9% agree and 40.3% strongly agree to be confident in managing pain during the intrapartum period.

5.3 APPLICATION OF THEORY TO THE STUDY

The study adopted the theoretical framework from Alzghoul and Abdullah (2020). The framework looked at the barriers to pain management. There are three factors identified: health care provider's factors, medical system/organizational factors and patient factors. Alzghoul and Abdullah (2020) theoretical framework focused on the health care provider's factors but the researcher also looked at the medical system/organizational barriers in identifying and describing factors contributing to the non-use of pharmacological pain relief methods during the intrapartum period and answering the research question.

5.3.1 Health care provider's barriers

According to Alzghoul and Abdullah (2020) barriers to pain management are related to nurse's knowledge and attitude towards pain management. Samarkandi (2018) have shown that nurses had a limited knowledge of pain management and it was associated with poor attitude towards pain management. In this context, the results of the study revealed that the majority (55.9%) of midwives have a positive attitude towards pain

management. The more positive midwives are towards pain management the more likely to use pain relief during the intrapartum period than those with negative attitude. This was supported by the study done by Bishaw et al. (2020) and Geltore et al. (2018).

Negative attitude towards pain management as highlighted in the theoretical framework is mainly due to the misconceptions of pain relievers especially related to pharmacological management. Midwives from the study have revealed that they have concerns over the side effects pertaining to pharmacological pain management. Fear of respiratory distress, delay in the progress of labour and foetal distress were among the side effects identified by midwives. From the results, 44.1% of the respondents agreed that pain relievers cause problems to the fetus such as fetal distress and 31.2% agreed that they negatively affect the mother's progress. The findings were supported by Nguyen et al. (2021) were many health care providers did not initiate pain management especially the pharmacological pain management during the intrapartum period because they were worried about their side effects.

A nurse's knowledge on pain management can be associated with the qualification and the experience of an individual. Sahile et al. (2017) revealed that low level of qualified health care provider is less likely to use pharmacological pain management during the intrapartum period. The analyzed results indicated that 38% of the respondents were professional nurses with only 22% of advanced midwives. A low level of advanced midwives in labour means that there is a shortage of advanced skilled professionals which could lead to poor pain management. Same context applies to experience, the more years of experience an individual has, the more adequate and accurate knowledge one would have. According to Bishaw et al. (2020), midwives who had adequate knowledge about their work and exposure are more likely to use pain relief during the intrapartum period than midwives with inadequate knowledge and less experience.

The health care provider's barrier also looked at the inadequate training to assess pain and lack of in-service education programs organized by facilities (Aly, 2015). The main purpose of in-service trainings is to facilitate the effective functioning of the health care professionals, to improve the quality of patient's care and to rectify the shortcomings of health care providers in managing patients (Omar, 2014). Terfasa et al. (2022) stipulated

that midwives who had training in pain management during the intrapartum period are more likely to utilize pain relief as compared to those who did not receive training. Some (26.9%) of the respondents strongly disagreed with being exposed to in-service training on pain management in their facilities and this has led to midwives not to practice pain management because they are inadequately trained. This was supported by the study done by Mousa et al. (2018). Drills are also part of training method that midwives can adopt and use to facilitate pain management during the intrapartum period. The results of the study show that 33.3% of midwives reported that drills are not done in their facilities.

5.3.2 Medical system/ organizational barriers

Although the theoretical framework by Alzghoul and Abdullah focused more on health care providers' barrier, the researcher also looked at the medical system/ organizational barriers that contribute to non-use of pharmacological pain relief. Barriers to the health care system included the absence of practice standards and failure to make pain relief a priority (Aly, 2015). Lack of policies and guidelines regarding pain relief management contribute immensely to the non-use of pharmacological pain management. Policies and guidelines help midwives on how to assess, treat and evaluate patient's pain.

According to the study results, 40.9% of the respondents have indicated that their facilities do have protocols on pain management and 48.4% have national guidelines. Therefore, in this context midwives have a guidance to pain management. The results are in contrary to the results found by Gido et al. (2021) and Geltore et al. (2018), in their studies were they found that there are no guidelines and protocols that simulated the practices of pharmacological pain relief method. Although the study results have indicated that facilities do have the policies and guidelines, the researcher also went through the literature and found that the national guideline have no specific management of pain during the intrapartum period, specifically the south African maternity guideline.

The other organizational factor which was highlighted were the availability of pain reliefs in the facilities and availability of equipment which are necessary for assisting in administering pain relief. Some (30.1%) of the midwives have agreed that their facilities do render pain management when pain relief are made available and 46.2% of the

respondents have highlighted that there is shortage of necessary equipment for assisting in the administration of pain relief. The results are in alignment with the study done by Terfasa et al. (2022 and Ekweani and Avidime (2016) which reported that the main factor which contributed to the non-use of pharmacological pain relief in their studies were unavailability of pain relief drugs and equipment.

5.4 CONCLUSION

The theoretical framework helped the researcher in identifying factors contributing to the non-use of pharmacological pain relief by looking at the health care providers' factors and medical system or organizational factors. In conclusion the factors identified were poor or inadequate knowledge of pain management and the midwives' attitude towards pain management. It was found that midwives are inadequately trained as it was reported from the results that drills (29%) and in-service training (26.9%) are poorly done and with facilities not having of protocols and guidelines (28%) and 28% reported not having the necessary equipment in managing pain during the intrapartum period.

Another factors affecting the pain management were the issue of side effects. The results indicated that midwives do not use pain relief adequately because they believe that it prolongs labour; foetal distress; and negatively impact on the progress of the mother and the baby. Therefore, the individual/health care provider's factor and health care system are factors contributing to the non-use of pharmacological pain relief by midwives during the intrapartum period. The next chapter will discuss the summary of the results, limitations and recommendations of the study.

CHAPTER 6

SUMMARY, STRATEGIES, LIMITATIONS AND RECOMMENDATIONS

6.1. INTRODUCTION

Chapter five discussed the data analysis, presentation and interpretation of the results. This chapter presents the summary, recommendations, limitations and conclusion of the study. It will highlight the proposed recommendations based on the results found and analyse factors contributing to the non-use of pain relief during the intrapartum period. From the analysed data, the major factors contributing to the non-use of pain relief during the intrapartum were the unavailability of drugs and equipment, the side effects, poor in-service training and the unavailability of guidelines in facilities.

6.2 RE-STATEMENT OF PROBLEM STATEMENT

During my years of practice as a midwife, I have observed that the use of pharmacological pain relief methods is often neglected and was not the preferred method of pain relief. Midwives helped women to deliver without even offering any method of pain relief, and women would be experiencing excruciating pain for hours. They only encouraged non-pharmacological pain relief methods, which have less effect on alleviating the pain. Some midwives have also verbalised that labour pain is a natural process, and nothing can be done to alleviate the pain.

This has always been the researcher′s concern as to whether or not we are allowed to administer pain relief medication or is given because such is not available. Or is it a lack of insight and knowledge on pain relief methods and how to manage their side effects that limit the availability of such. This is in line with a study conducted by Bitew et al. (2016), which has proven that the poor utilisation of pharmacological pain relief methods was due to a negative attitude of the midwives, the lack of skilled professionals, the unavailability of pain relief methods and the misconceptions of labour pain.

6.3 AIM OF THE STUDY

The aim of this study was: to determine factors contributing to the non-use of pharmacological pain relief methods by midwives during the intrapartum period on nulliparous women in selected Hospitals in the North West Province of South Africa.

6.4 OBJECTIVES OF THE STUDY

The objectives of the study were:

6.4.1. To identify and describe factors contributing to the non-use of pharmacological pain relief methods by midwives during the intrapartum period on nulliparous women

Based on the study results the objective were archived as follows:

Health care providers' factors identified were:

- Inadequate knowledge of pain management and midwives' attitude towards pain management.
- Midwives believes pertaining to the side effects of pain relief methods.
- Midwives qualifications and years of experiences.

Organizational factors were:

- Unavailability of protocols and inadequate information of pain management during the intrapartum period on guidelines.
- Availability of pain reliefs and equipment necessary for administering pain relief.
- Poor and inadequate in-service trainings within the organizations.

6.4.2. To propose recommendations for the use of pharmacological pain relief methods by midwives during the intrapartum period.

The objective was archived as follows:

The recommendations for the study were developed from the overall factors identified. The following are the proposed recommendations for the use of pain relief during the intrapartum period:

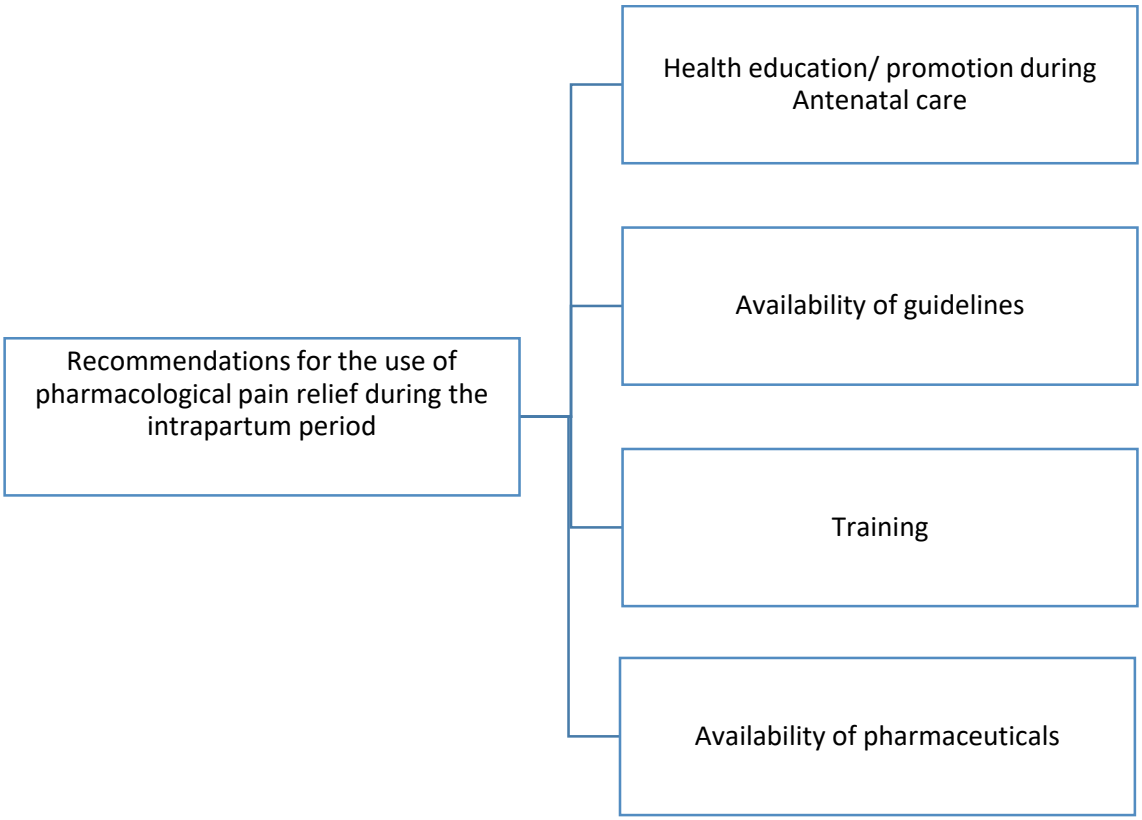


Figure 6.1: Recommendations for the use of pharmacological pain relief during the intrapartum period.

- *Health promotion/education during Antenatal care.*

From the data analysed it was highlighted that midwives do not give fully informed health education to pregnant women due to a lack of information regarding pain relief available during the intrapartum period. Women must be educated during antenatal care, at an early stage of pregnancy, about different types of pain relief during the intrapartum period so that they can prepare themselves. Midwives should be equipped to give women during their antenatal care visits, the correct and accurate information about pain relief methods

for the intrapartum period. Daily health education should be done and the women should be given educational leaflets on pharmacological pain relief during the intrapartum period.

- *Availability of guidelines and protocols*

Respondents have strongly agreed that even though their facilities have maternity guidelines, they do not have a detailed pain management strategy during the intrapartum period and some facilities lack guidelines. Each facility should have available and accessible guidelines and protocols for pain management during the intrapartum period. The national department of health must indicate the management of intrapartum care and possible methods to be used. Management of side effects should be clearly stated in both the guidelines and protocols. Midwives and obstetricians should be involved in the drafting of facility protocols so that they can also give input and implement in-service training in their facilities.

- *Training*

From the results analysed, our respondents have highlighted that there is no in-service training or drills in place in their facilities. This is very concerning because in-service training is the learning platform in the facilities to teach each other and gain more accurate knowledge based on certain conditions. Midwives should be allowed to advance their studies and pursue advanced midwifery. More knowledgeable and skilled midwives should share their expertise and experiences with others. Planned in-service training should be done and the midwives should be allowed to learn from each other. Drills must be made a norm in all delivery facilities and both midwives and obstetricians must be involved. Universities and colleges should place more emphasis on pain management, especially the use of pharmacological methods.

- *Availability of pharmaceuticals*

One of the factors contributing to the non-use of pain relief during the intrapartum period was the unavailability of drugs and equipment. Our respondents have highlighted that

pain relief is important, but the main factor hindering them from providing delivering women with pharmacological pain relief methods was the lack of pain relievers. Midwives do not have problems offering pain relievers if available. The national department of health should collaborate with different pharmaceutical depots to make pharmacological pain relief methods available to all delivery facilities. Pharmacist management should order enough stock from the depot to distribute enough stock to facilities. Enough budget should be allocated to both the depot and pharmacies to avoid stock-outs.

6.5 SUMMARY OF THE RESEARCH FINDING

The majority of the respondents (55.9%) agreed that pharmacological pain relief methods are important during the intrapartum period and 46.2% agreed that mothers should be given pain relief. In conclusion, midwives know that pain management is paramount during the intrapartum period. However, 29% of the respondents disagreed to be administering pain relief. This could be due to fear of the side effects, as highlighted in the results, where 31.2% of the respondents believed that pain relief negatively impacts both the mother and the baby.

The study revealed that the dominant factors contributing to the non-use of pain relief during the intrapartum period were the side effects of pain relief,44.1% believed that it causes respiratory problems, 26.9% prolong the second stage of labour and 31.2% makes women to be inactive and drowsy; then followed by the shortage of pain relief at 37.6%, the unavailability of equipment at 33.3%, the lack of training regarding the availability of pain relief offered or available during the intrapartum in a form of in-service trainings (26.9%) and drills (29%). Therefore, midwives need to educate pregnant women about the different types of pain relief and prepare them for labour. Some of the respondents (40.9%) have agreed that they have policies and protocols. 48.4% have national guidelines which are important because they will assist the midwives to refer to them when managing women in labour.

6.6 RECOMMENDATIONS OF THE STUDY

One of the concepts of Ida Jean Orlando's theory is an improvement resolution, which is the resolution to the factors identified in the study on the non-use of pharmacological pain relief during the intrapartum period. The following are the recommendation of the study on how to improve or enhance the use of pharmacological pain relief management during the intrapartum period.

6.6.1. Nursing management

- Nursing management should regulate in-service training in antenatal care, maternity and post-natal wards about pain relief and the management of their side effects and explain what the advantages are to the patients.
- Those responsible for the in-service training should be instructed to do it at least once every second month. It will help midwives to refresh their knowledge and to bear in mind how important pain relief is to delivering women. Nursing managers should monitor the progress made and the need for improvement.
- Midwives should be encouraged to advance their skills either by pursuing an advanced diploma in midwifery or advanced midwifery-related courses.

6.6.2. Educational system

- The nursing education system should place more emphasis on pain management during their curriculum in midwifery. Pharmacological pain relievers should be strongly recommended and students should know about the different types of them, and how to manage their side effects, and they should not be afraid to use them.
- Study materials should include pain management, pharmacological pain relief methods and not only resorting to non-pharmacological pain management.

6.6.3. National department of health

- According to the maternity case record, there is a pain management section but it is not done regularly. The National Department of Health (NDoH) should normalise

the administering of pain relief/analgesics to women by including detailed pain management during delivery in their guidelines, policies and standard operating procedures. This should be done in a way that midwives will feel more comfortable in giving pharmacological pain relief methods during delivery.

- The study was only based on four hospitals in the North West; therefore, other researchers can do a similar study in other provinces to compare the results and even do other research study based on the findings.

6.7 LIMITATION OF THE STUDY

This study was conducted at four hospitals. Therefore, the results of this study cannot be generalized to other obstetric facilities in the North West Province or to other Provinces in South Africa. Due to the Covid-19 pandemic, hospital ward facilities have instituted skeleton staffing, making it difficult to access midwives and that left many facilities understaffed. Records to verify pain relief methods applied and the types of pain relief methods administered were not explored and that could have added more emphasis on whether pain relief methods are used or not and the types of pain relief methods used, whether pharmacological or non-pharmacological.

6.8 CONCLUSION

In this chapter, the results of research study were presented and discussed. Analysis were performed using SPSS version 24 with the help of a biostatistician. Descriptive statistics were used in terms of percentage and frequency. Data were presented in a form of tables and graphs. Chapter 6 gives the summary and recommendations.

The study identified and described factors contributing to the non-use of pharmacological pain relief by midwives on nulliparous women during the intrapartum period in the North West province, which were; fear of their side effects; unavailability of drugs and certain equipment necessary for assisting in administration of pain relief; poor in-service trainings; shortage of staff; inadequate information in the guidelines and unavailability of policies.

REFERENCES

Abdollahi M.H., Mojibian M., Pishgahi A., Mallah, F., Dareshiri S., Mohammadi, S. & Naghavi-Behzad, M. 2014. Intravenous paracetamol versus intramuscular pethidine in relief of labour pain in primigravida women. *Journal of the Nigeria Medical Association* 55(1):54-7.

Adams, S.M., Varaei, S. & Jalalinia, F. 2020. Nurses' Knowledge and Attitude towards Postoperative Pain Management in Ghana. *Pain Research and Management* 2020:1-7.

Adesoye, A. & Duncan, N. 2017. Acute pain management in patients with opioid tolerance. *US pharmacist* 42(3):28-32.

Akadri, A., Odelola, O. & Adepoju, A. (2019). Labour Analgesia in South West Nigeria: Methods and Self-Reported Effectiveness. *Journal of the West African College of Surgeons 9*(4): 15-20.

Akunaeziri, U.A., Alao, A.I., Afolabi, A.F., Pam, S. & Igwemadu, G.T. 2021. Labour analgesia: A survey of the practice of health care workers in North Central Nigeria. *Pain 2*:3.

Aly, S.E. 2015. Barriers to Pain Management as Perceived by Nurses Working at Surgical Units. *Alexandria Scientific Nursing Journal* 15(2): 128-145.

Alzghoul, B.I. & Abdullah, N.A.C. 2020. Pain Management Practices by Nurses: Application of the Self-Efficacy Theory. *Global Journal of Health Science* 12(9):44-49.

Anarado, A., Ali, E., Nwonu, E., Chinweuba, A. & Ogbolu, Y. 2015. Knowledge and willingness of prenatal women in Enugu Southeastern Nigeria to use in labour non-pharmacological pain relief. *African Health Sciences* 15(2):569-571.

Apuke, O.D. 2017. Quantitative Research Methods a Synopsis Approach. *Arabian Journal of Business and Management* 6(10):40-49.

Aziato, L. 2013. "The Ghanaian surgical nurse and postoperative pain management: a clinical ethnographic insight," *Pain Management Nursing* 19:1,1–8.

Aziato, L., Kyei, A.A. & Deku, G. 2017. Experiences of Midwives on pharmacological and non-pharmacological labour pain management in Ghana. *Reproductive Health* 14(128)1:9.

Aziato, L., Ohemeng, H.A. & Omenyo, C.N. 2016. Experiences and perceptions of Ghanaian midwives on labour pain and religious beliefs and practices influencing their care of women in labour. *Reproductive Health* 13:136.

Barrette-Landau, S. & Henle, S. 2014. Men in nursing: their influence in a female dominant career. *Journal for leadership and instruction* 13(2):10-13.

Bhandari, P. 2021. *Questionnaire Design, Methods, Question Types & Examples*. From: https://www.scribbr.com/methodology/questionnaire/ (accessed 22 June 2022).

Bhandari, P. 2021. *Ethical considerations in Research, types and examples*. From: https://www.scribbr.com/methodology/research-ethics/ (accessed 01 September 2022).

Bishaw, K.A., Sendo, E.G. & Abebe, W.S. 2020. Knowledge, and use of labour pain relief methods and associated factors among obstetric caregivers at public health centers of East Gojjam zone, Amhara region, Ethiopia: a facility based cross-sectional study. *BMC Pregnancy Childbirth* 20:180.

Bitew, A., Workie, A., Seyum, T. & Demeke, T. 2016. Utilisation of Obstetric Analgesia in labor Pain Management and associated Factors among Obstetric Care Givers in Amhara Regional State Referral Hospitals, Northwest Ethiopia: A Hospital based Cross Sectional Study. *Journal of Biomedical Sciences* 5(2):15.

Boama, Y. 2011. Overcoming barriers to pain relief in labor through education. *International Journal of Gynecology and Obstetrics* 114(3):207-208.

Bojanala Platinum District Municipality. [Sa]. *Municipalities of South Africa*. From: https//municipalities.co.za/provincial/view/8/north west (accessed 04 September 2022).

Brink, H., Van der Walt, C. & Van Rensburg, G. 2017. *Fundamentals of Research Methodology for Health care Professionals.* 4th edition. Cape Town: Juta & Company Ltd.

Brucker, M.C. & King, T.L. 2017. *Pharmacology for Women's Health.* 2nd Edition. United State of America. Jones & Bartlett Learning.

Canonizado, I.S. 2021. *When to Use Total Population Sampling in a Research Study.* From: https://discover.hubpages.com/education/When-to-use-total-population-sampling-in-a-research-study (accessed 03/12/2022).

Chantrasiri, R., Wanapirak, C. & Tongsong, T. 2021. Entonox versus Pethidine in labour pain relief: A Randomized Controlled Trial*. International Journal of Environmental Research and Public Health* 18(23):12571.

Chenery-Morris, S. & McLean, M. 2013. *Normal Midwifery Practice*. London: SAGE.

Childbirth pain relief options. 2014. *Better Health Channel*. From: https://www.betterhealth.vic.gov.au/health/HelthyLiving/hildbirth-pain-relief-options (accessed 4 September 2022).

Cooksey, R.W. 2020. *Illustrating statistical procedures: Finding meaning in quantitative data*. 3rd edition. Singapore: Springer Nature.

Collins English Dictionary. 2014. Sv "Factor". 12th edition. United Kingdom: Collins.

Collins, M.R., Starr, S.A., Bishop, J.T. & Baysinger, C.L. (2012). Nitrous oxide for labor analgesia: expanding analgesic options for women in the United States. *Reviews in obstetrics & gynecology* 5:3-4.

Czech, I., Fuchs, P., Fuchs, A., Lorek, M., Tobolska-Lorek, D., Dorsdzol-Cop, A. & Sikora, J. 2018. Pharmacological and Non-Pharmacological Methods of Labour Pain Relief Establishment of Effectiveness and Comparison. *International Journal of Environmental Research and Public Health* 15(2792):1-12.

Datt, S. & Chetty, P. 2016*. How to determine validity for quantitative research.* From: https://www.projectguru.in/determining-validity/ (accessed 04 September 2022).

Dedeli, O. & Kaptan, G. 2013. Spirituality and Religion in Pain and Pain Management. *Health Psychology Research* 1(3).

Eid, T., Manias, E., Bucknall, T. & Almazroo, A. 2014. Nurses' knowledge and attitudes regarding pain in Saudi Arabia*. Pain Management Nursing* 15 (4): 25–36.

Ekim, A. & Ocakcı, A. F. 2013. Knowledge and attitudes regarding pain management of pediatric nurses in Turkey. *Pain Management Nursing* 14 (4):262–267.

Ekweani, J.C. & Avidime, S. 2016. The awareness of pain relief in labour among pregnant women in Zaria. *Port Harcourt Medical Journal* 10(3):115-118.

Garlock, A.E., Arthurs, J.B. & Bass, R.J. 2017. Effects of Comfort Education on Maternal Comfort and Labor Pain. *Journal of Perinatal Education* 26(2):96-104.

Geltore, T.E., Kelbore, A.G. & Angelo, A.T. 2019. Perception of obstetric analgesia: a qualitative study among midwives attending normal vaginal deliveries in Durame Hospital, Southern *Ethiopia. Journal of Pain Research* 12:2187-2192.

Geltore, T.E., Taye, A. & Kelbore, A.G. 2018. Utilisation of obstetric analgesia in labor pain management and associated factors among obstetric caregivers in public health facilities of Kembata Tembaro Zone, Southern Ethiopia. *Journal of Pain Research* 6(11): 3089-3097.

Gido, R., Yadeta, T.A. & Tura, A.K. 2021. Utilisation of Obstetric Analgesia for Labor Pain Management and Associated Factors among Obstetric Care Providers in Public Hospitals of Addis Ababa, Ethiopia: A Cross-Sectional Study. *Obstetrics and Gynecology International* 1:6.

Grant, C. & Osanloo, A. 2014. Understanding, Selecting and Integrating a Theoretical Framework in Dissertation Research: Creating the blueprint for your "House". *Administrative Issues Journal* 4(2):12-29.

Halliday, L., Nelson, S.M. & Kearns, R.J. 2022. Epidural analgesia in labor: A narrative review. *International Journal of Gynecology & Obstetrics*.

Hasan, M.S., Alsaadi, A.Z., Abbas, M.A. & Algoraby, J.M. 2016. Awareness and Attitude of Pregnant Women towards Labour Analgesia in Babil Province. *Medical Journal of Babylon* 13(1):95-104.

Holcomb, Z. 2017. *Fundamentals of descriptive statistics*. New York: Routledge.

Hufford, B. 2021. *The 4 types of Research Design.* From: https://www.activecampaign.com/blog/validity-in-research-design (accessed 05 September 2022).

Hurley, J. 2020. *What Is a Midwife?* From: https://www.webmd.com/baby/what-is-a-midwife-twins (accessed 16 June 2022).

Hurst, S., Arulogun, S., Owolabi, A.O., Akinyemi, R., Uvere, E., Warth, S. & Ovbiagele, B. 2015. Pretesting Qualitative Data Collection Procedures to Facilitate Methodological Adherence and Team Building in Nigeria. *International Journal of Qualitative Methods* 14:53-64.

Johnson, D. 2022. *What is Data Analysis? Research, Types & Example.* From: https://www.guru99.com/what-is-data-analysis.html (accessed 05 October 2022).

Kadirogullari, P., Yalcin Bahat, P., Karabuk, E., Bagci Cakmak, K. & Seckin, K.D. 2021. Effect of analgesia with pethidine during labour on false positivity of newborn hearing screening test*. The Journal of Maternal-Fetal & Neonatal Medicine* 1:6.

Kakaland, C. 2015. *Emergency preparedness and disaster recovery in school libraries. Creating a safe haven*. United State of America: Libraries unlimited.

Karn, S., Yu, H., Karna, S., Chen, L. & Qiao, D. 2016. Women's Awareness and Attitudes towards Labor Analgesia Influencing Practice between Developed and Developing Countries. *Scientific Research Publishing* 4:46-52.

Kennedy, B. & Baird, S. 2017. *Intrapartum Management Modules*. 5th edition. China: Wolters Kluwer.

Kothari, C.R. & Garg, G. 2020. *Research methodology methods and techniques*. 4th edition. New Dehli: New Age International Publication.

Lesia, N.G. & Roets, L. 2013. *The utilisation of advanced midwives in the Free State province of South Africa.* From: https://journals.co.za/doi/pdf/10.10520/EJ146322 (accessed 05 September 2022).

Letvak, S., Gupta, L. & Ruhm,C. 2013. Differences in health productivity and quality of care in younger and older nurses. *Journal of nursing management* 21(7): 914-921.

Lori, J.R., Livingston, L., Eagle, M., Rominski, S., Nakua, E.K. & Agyei-Baffour, P. 2014. Rural origin and exposure drives Ghanaian midwives reported future practice. *African Journal of Reproductive Health* 18(3):95-100.

Lowe, N.K. 2019. What Is a Pilot Study? *Journal of Obstetric Gynecologic and Neonatal Nursing* 48(2):117-118.

Lynn, R.R. & Galinkin, J.L. 2018. Naloxone dosage for opioids reverse: current evidence and clinical implications. *Therapeutic Advances in Drug Safety* 9(1): 63-88.

Maeda, Y., Takahashi, K., Yamamoto, K., Tanimoto T., Kami, M. & Crump, A. 2019. Factors affecting the provision of analgesia during childbirth, Japan. *Bull World Health Organ* 97 (9):631-636.

Mahrooi, F. 2020. *Research methodology. A guide for a literature review*. Munich: GRIN Verlag.

Majid, U. 2018. Research Fundamentals: Study Design, Population, and Sample size. *Undergraduate Research in Natural and Clinical Science and Technology Journal* 2:1-12.

Manti, S. & Licari, A. 2018. How to obtain informed consent for research. *Breathe (Sheff)* 14(2): 145–152.

Mao, A., Cheong, P.L., Van, I.K. & Tam, H.L. 2021. "I am called girl, but that doesn't matter"-perspectives of male nurses regarding gender-related advantages and disadvantages in professional development. *BMC Nursing* 20(1):24.

Marshall, J.E. & Raynor, M.D. 2014. *Myles Textbook for Midwives*. 6th edition. China: Churchchill Livingstone Elsevier.

McCauley, M., Stewart, C. & Kebede, B. 2017. A survey of health care provider's knowledge and attitudes regarding pain relief in labor for women in Ethiopia. *BMC Pregnancy and Childbirth* 17(56):1-8.

McCauley, M., Actis Danna, V., Mrema, D. & Van den Broek, N. 2018. “We know its labour pain, so we don’t do anything”: health care provider’s knowledge and attitudes regarding the provision of pain relief during labour and after childbirth. *BMC Pregnancy Childbirth* 18, 444.

Melesse, G.T., Wayessa, Z.J. & Bonkiye, A.J. 2020. Labor Pain Management Practice and Associated Factors Among Obstetric Care Workers in Public Health Facilities of West Guji Zone, Southern Ethiopia, 2020. *Research square* 1:20.

Middleton, F. 2019. *The 4 Types of Validity in Research, definitions and examples.* From: http://www.scribbr.com/author/fionamiddleton/ (accessed 05 S[tember 2022).

Mousa,O., Abdelhafez, A.A., Abdelraheim, A.R., Yousef, A.M., Ghaney, A.A. & El Gelany, S. 2018. Perceptions and Practice of Labor Pain-Relief Methods among Health Professionals Conducting Delivery in Minia Maternity Units in Egypt.*Obstetric and Gynecology International* 3: 1-6.

Mudallal, R.H., Othman, W.M. & Al Hassan, N.F. 2017. Nurses' Burnout: The Influence of Leader Empowering Behaviors, Work Conditions, and Demographic Traits. *The Journal of Health Care* 54: 1–10.

Mulugeta, H. 2016. *The practice of Labor Analgesia and its Percieved Barriers among Health Care Working in Public Hospitals of Addis Ababa, Ethiopia. Master's thesis, Addis*

Ababa University. From: http://thesisbank.jhia.ac.ke/id/eprint/6377 (Accessed 16 June 2022).

Murray, S.S. & McKinney, E.M. 2014. *Foundations of Maternal-Newborn and Women's Health Nursing.* 6th edition. United State of America. Elsevier Saunders.

Murray-Davis, B., Hutton, E.K., Carty, E., Kaufman, K.E. & Butler, M. 2020. *Comprehensive Midwifery: The role of the midwife in health care practice, education, and research.* Foundry @ McMaster University.

Nilima, J.J., Samuel, P.K. & Manickam, P. 2012. Awareness and attitudes towards labour pain and labour pain relief of urban women attending a private antenatal clinic in Chennai, India. *Indian Journal of Anaesthesia* 56(2):195-198.

Nguyen, L.D., Nguyen, A.D., Farber, M.K., Phan, C.T., Khuat, L.T., Nguyen, H.T., Dang, T.M. & Doan, H.T.N. 2021. Sociodemographic Factors Associated with Request for Labor Epidural Analgesia in a Tertiary Obstetric Hospital in Vietnam. *Biomed Research International* 2021:1-5.

O'Brien, D., Coughlan, B., Thompson, S., Carroll, L., Sheehy, L., Brosnan, M., Cronin, M., McCreery, T. & Doherty, J. (2022). Exploring midwives' experiences of implementing the Labour Hopscotch Framework: A midwifery innovation. *European Journal of Midwifery* 6:1-8.

Ohaeri, B., Owolabi, G. & Ingwu, J. 2019. Skilled health attendants' knowledge and practice of pain management during labour in health care facilities in Ibadan, Nigeria. *European Journal of Midwifery* 3(3):1-7.

Ojo, A., Olubukola, E. & Owopetu, C.A. 2020. Assessment of factors influencing Midwives management of labour pain at tertiary Hospital in Ekiti State, Nigeria. *International Journal of Scientific and Research Publications* 10(4):805-812.

Oladapo, O.T., Tunçalp, Ö., Bonet, M., Lawrie, T.A., Portela, A., Downe, S. & Gülmezoglu, A.M. 2018. WHO model of intrapartum care for a positive childbirth

experience: transforming care of women and babies for improved health and wellbeing. *An International Journal of Obstetrics and Gynaecology* 125(8):918-922.

Omar, C.M.Z.C. 2014. The need for in-service training for teachers and its effectiveness in school. *International journal for innovation education and research* 2(11):1-9.

Öztürk, S., Tüfekci, F.G. & Karakaya, N. 2019. The Assessment of Perceptions and Feelings of Women Related to Labor Pain. *Sakarya Medical Journal* 9(2):302-309.

Perry, S.E., Hockenberry, M.J., Lowdermilk, D.L., Wilson, D., Lindsay, L.K. & Sams, CA. 2017. *Maternal child nursing care in Canada*. 2nd edition. Canada: Elsevier.

Ranganathan, P. & Aggarwal, R. 2018. Study designs: Part 1-An overview and classification. *Perspectives in clinical research* 9(4):184–186.

Resnik, D. B. 2020. *What Is Ethics in Research & Why Is It Important? National Institute of Environmental Health Sciences*. From: https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm (accessed 08 September 2022).

Rheeder, A.L. 2018. Respect for privacy and confidentiality as a global bioethical principle: own reasons from a protestant perspective. *http://www.indieskriflig.org.za/* (accessed 04 September 2022).

Ross-Davie, M. 2012. *The royal college of midwives. Evidence-based guidelines for midwifery led care in labour*. From: RCM-Guidelines_2012.pdf (waterbirth.org) (accessed 03 Novemebr 2022).

Rowe, F. 2014. What literature review is not: diversity, boundaries and recommendations. *European Journal of Information Systems*. 23: 241–255.

Rudolph, L., Caplan, J., Ben-Moshe, K. & Dillon, L. (2013). *Health in All Policies: A Guide for State and Local Governments.* Washington, DC and Oakland, CA: American Public Health Association and Public Health Institute.

Sabaratman, A. 2016. *Best Practice in Labour and Delivery*. 2nd edition. United Kingdom: Cambridge University Press.

Sahile, E., Yemaneh, Y., Alehegn, A., Niguse, W., Salahuddin, M., Yekoye, A. & Gebeyehu, N. 2017. Practice of Labour Pain Management Methods and Associated Factors among Skilled Attendants Working at General Hospitals in Tigray Region, North Ethiopia: Hospital Based Cross-Sectional Study Design. *Health Science Journal* 11 (4):516.

Samarkandi, O.A. 2018. Knowledge and attitudes of nurses toward pain management. *Saudi Journal of Anaesthesia* 12(2):220-226.

Saunders, H. 2015. Translating knowledge into best practice care bundles: A pragmatic strategy for EBP implementation via moving post procedural pain management nursing guidelines into clinical practice. *Journal of Clinical Nursing* 24 (13-14): 2035–2051.

Sawhney, M. 2012. Epidural analgesia: What nurses need to know. *Nursing* 42(8):36-41.

Schütz, S. 2021. *Ageing Nurse: A crisis on the horizon.* From: http://www.spotlightnsp.co.za/2021/10/07/ageing-nurses-a-crisi-on-the-horizon/ (accessed 05 September 2022).

Shamrani, H.M., Shamrani, A.F., Almagrabi, F.J., Tayeb, S.O., Bukhari, R.S. & Harakeh, S.M. 2017. Epidural analgesia during childbirth: Women's perspective in Saudi Arabia. *Saudi Journal of Internal Medicine* 7(1):13-23.

Shiferaw, A., Temesgen, B., Mekonnen, N., Wubie, T. & Worku, Y. 2020. Utilisation of labor pain management methods and associated factors among obstetric care givers at public health institutions of East Gojjam Zone, Amhara region, Ethiopia, 2020: a facility based cross-sectional study*. Europe PMC* 1-20.

Shukla, S. 2020. *Concept of population and sample*. From: https://www.researchgate.net/publication/346426707 (accessed 05 September 2022).

Smith, C.A., Levett, K.M., Collins, C.T., Armour, M., Dahlen, H.G. & Suganuma, M. 2018. Relaxation techniques for pain management in labour. *Cochrane Database System Reviews* (3).

Smith, J. & Noble, H. 2014. Bias in research. *Evidence-Based Nursing* 17(4):100-101.

StatsSA. 2020. *Maternal Health Indicators*. From: https://www.statssa.gov.za/?p=13100 (accessed 04 September 2022).

Stehlik-Barry, K. & Babinec, A.J. 2017. *Data analysis with IBM SPSS statistics*. Birmingham: Packt Publishing Ltd.

Stewart, M. 2020. *Pethidine for pain relief*. From: https://patient.info/medicine/pethidine-for-pain-relief *(*accessed 16 June 2022*).*

Surbhi, S. 2022. *Difference Between Probability and Non-Probability Sampling*. From: https://keydifferences.com/difference-between-probability-and-non-probability-sampling.html (accessed 05 September 2022).

Swihart, D.L., Yarrarapu, S.N.S. & Martin, RL. 2021. *Cultural Religious Competence In Clinical Practice.* From: https://www.ncbi.nlm.nih.gov/books/NBK493216/ (accessed 05 September 2022).

Terfasa, E.A., Bulto, G.A. & Irenso, D.Y. 2022. Obstetric analgesia utilisation in labor pain management and associated factors among obstetric care providers in the West Shewa Zone, Central Ethiopia. *SAGE Open Medicine* 10:1-9.

Trehan, G., Gonzalez, M.N. & Kamel, I. 2016. Pain management during labor part 2: Techniques for labor analgesia. *Topics in Obstetrics & Gynecology*, 36(12),1-9.

UKEssays. 2018. *Biography of Nursing Theorist Ida Jean Orlando*. From: https://www.ukessays.com/essays/nursing/biography-of-nursing-theorist-ida-jean-orlando-9499.php?vref=1X (accessed 24 June 2022).

Voshall, B., Dunn, K.S. & Shelestak, D. 2013. Knowledge and attitudes of pain management among nursing faculty. *Pain Management Nursing* 14 (4): e226–e235.

Wakgari, N., Mekonnen, M., Lema, B., Negasu, A., Lulu, B. & Abebe, E. 2020. Labour pain management practices among obstetric care providers in Hawassa city, Ethiopia. *African Journal of Midwifery and Women's Health* 14(2):1-12.

Wang, E. 2016. Request for cesarean deliveries: the politics of labour pain and pain relief in Shanghai, China. *Social Science and Medicine* 173:1-8.

Wigert, H., Nilsson, C., Dencker, A., Begley, C., Jangsten, E., Sparud-Lundin, C., Mollberg, M. & Patel, H. 2020. Women's experiences of fear of childbirth: a metasynthesis of qualitative studies. *International Journal of Qualitative Studies in Health Well-being* 15 (1).

Workie, M.M., Chekol, W.B., Fentie, D.Y., Ahmed, S. & Bizuneh, Y.B. 2020. Assessment of Awareness, Attitude and Desire for Labor Analgesia and Associated Factors Among Pregnant Women in Ethiopia: A Cross-Sectional Study. *Pain and therapy* 10(1), 363–376.

World Health Organization. 2018. *WHO recommendations: intrapartum care for a positive childbirth experience.* From: https://apps.who.int/iris/bitstream/handle/10665/260178/9789241550215-eng.pdf (accessed 05 September 2022).

Yamane, T. 1967. *Statistics: An Introductory Analysis*. 2nd edition. New York: Harper and Row.

Zhou, L., Liu, X.L., Tan, J.Y., Yu, H.P., Pratt, J. & Peng, Y.Q. 2015. Nurse-led educational interventions on cancer pain outcomes for oncology outpatients: A systematic review. *International Nursing Review* 62 (2): 218–30.

APPENDICES

APPENDIX 1: RESEARCH QUESTIONNAIRE

Research Questionnaire

This study is intended on identifying factors contributing to non-use of pharmacological pain relief methods by midwives on nulliparous women during the intrapartum period at four selected hospitals in the North West Province of South Africa.

INSTRUCTIONS TO THE MIDWIVES IN ANSWERING THE QUESTIONNAIRE

1. **Do not write your name on the questionnaire.**
2. **Do not write your hospital name on the questionnaire.**
3. **Use a black or blue pen to answer the questionnaire.**
4. **Answer the following question with an "X"**

SECTION A DEMOGRAPHIC DATA

Age in years

…. years

Gender

	1	2
Male		
Female		

Religious belief

	1	2
Cultural belief		
Christianity		
Other		

Non-affiliated		

Highest Qualification

	1	2
Diploma in nursing		
Bachelor's Degree in Nursing sciences		
Master in Nursing		
Advanced Midwifery		

Current position

	1	2
Professional nurse		
Midwife		
Advanced midwife		
Community service nurse		

Year(s) of Experience

	1	2
0-3		
4-7		
8-11		
12-15		
>16		

Currently working at:

	1	2
Antenatal		
The latent phase of labour		
The active phase of labour		

SECTION B: SKILLS AND EQUIPMENTS

Please answer the following statements by marking with an "X" on the appropriate box to indicate the extent to which you agree and disagree

Strongly Agree=1	**Agree=2**	**Disagree=3**	**Strongly Disagree=4**

	SA	**A**	**D**	**SD**
There is in-service training in place in our facility regarding pain management during the intrapartum period				
Drills are being done with regard to pain relief management in our facility				
There are policies and protocols on the use of pain relief methods during the intrapartum period				
Midwives and obstetricians are involved in drafting protocols on pain relief management				
National guidelines do have pain management during intrapartum period				
There are strategies on the management of pain relief side effects				
The facility has the necessary equipment in the management of pain the during intrapartum				

SECTION C AVAILABILITY OF PAIN RELIEF METHODS TO THE NULLIPAROUS

Strongly agree=1	**Agree=2**	**Disagree=3**	**Strongly disagree=4**

Availability	SA	A	D	SD
Pain relief methods are available to all the delivering mothers				
When there is enough stock of pain relief, the nulliparous have been given during the intrapartum period				
Pain relief is offered to all the nulliparous women				
Pain relief methods are commonly and routinely used to the nulliparous during intrapartum period				
Midwives give education regarding the availability of pain relief methods				
The nulliparous are encouraged to request any pain relief methods during the intrapartum period				
Midwives do give prescribed pain relief methods during the intrapartum period				

SECTION D MIDWIVES CONFIDENCE TOWARDS PAIN RELIEF MANAGEMENT

Strongly agree=1	**Agree=2**	**Disagree=3**	**Strongly disagree=4**

Confidence	SA	A	D	SD
I know about the availability of different methods of pain relief				
I am confident to give education about different types of pain relief methods				
I am skilled and competent in managing pain with the use of pharmacological methods during intrapartum period				
I am confident to manage pain to the nulliparous during the intrapartum period				
I am confident to give pain relief to the nulliparous during the intrapartum period				
I am confident to manage side effects of any pain relief methods				

If policies were to be available on pain management, pain relief methods would be given				

SECTION E MIDWIVES ATTITUDE TOWARD PAIN RELIEF METHODS

Midwives attitudes	SD	A	D	SD
Pain relief methods are not important				
Pain relief methods during labour are necessary				
Pain relief methods have a negative impact on both the mother and the foetus				
Pain relief delays labour				
Pain relief methods causes respiratory problems to the foetus				
Pain relief methods prolong the second stage of labour				
Pharmacological pain methods are not given because they cause women to feel drowsy and inactive				
Nulliparous should bear the pain and not being given any method of pain relief				
It is unacceptable culturally to give pain relief				
Every nulliparous should be given pain relief				
Educating nulliparous about methods of pain relief is important				
Non-pharmacological pain management is better than pharmacological pain management				
Pharmacological methods causes more complication than none pharmacological pain methods				
The high influx of patients causes midwives not to give pain relief method				
Shortage of staff contribute to inadequate pain management during intrapartum				
Shortage of pain relief contribute to non-use of pain relief during intrapartum				
Unavailability of protocols and guidelines on how to use pain relief methods contribute to inadequate pain management				

Shortage of materials and equipment contribute to non-use of pain relief during intrapartum				

APPENDIX 2: CONSENT FORM

CONSENT FORM

UNIVERSITY OF LIMPOPO (Turfloop Campus) ENGLISH CONSENT FORM

Name of study:

Factors Contributing to the Non-Use of Pharmacological Pain-Relief Methods by Midwives on Nulliparous Women during Intrapartum Period at Selected Hospitals in North West Province, South Africa.

I have heard the aims and objectives of the proposed study and was provided the opportunity to ask questions and given adequate time to rethink the issue. The aim and objectives of the study are sufficiently clear to me. I have not been pressurized to participate in any way.

I am aware the results of this project may be used in publications which will be electronically available throughout the world. I give consent to this provided that my name will not revealed.

I understand that participation in this study is completely voluntary and that I may withdraw from it at any time and without supplying any reasons.

I know that this study has been approved by the Turfloop Research and Ethics Committee (TREC), North West Department of Health. I am fully aware that the results of this study will be used for scientific purposes and may be published. I agree to this provided my privacy is guaranteed.

I hereby give consent to participate in this study.

…… .....

Name of Midwife *Signature of Midwife*

....

Place *Date*

Declaration by the researcher:

I have explained the aim and objectives of the study to the respondents. I have explained to the respondents that they have the right to withdraw from the study without any harm

I have allowed the respondent to ask questions where he/she did not understand

....
Name of the Researcher *Signature of the Researcher*

....
Place *Date*

APPENDIX 3: PERMISSION LETTERS

Request for Permission to Conduct Research (North West Department of Health)

University of Limpopo

Faculty of health sciences

School of health care sciences

Private bag X1106

Sovenga

0727

National Department of Health

North West province

Private Bag X2068

Mmabatho

2735

Re: REQUEST FOR PERMISSION TO CONDUCT RESEARCH PROJECT

I hereby request permission to conduct a research in one of your sub-district, Rustenburg sub-district hospitals. The research topic is: **Factors Contributing to the Non-Use of Pharmacological Pain-Relief Methods by Midwives on Nulliparous Women during the Intrapartum Period at Selected Hospitals in North West Province, South Africa**. Hospitals selected are classified as Hospital A, B, C and D. The aim of this study is to determine factors contributing to non-use of pharmacological pain-relief methods during the intrapartum period and to propose recommendations on the use of pharmacological pain relief methods.

I hope my request will be taken into consideration

Best regards: Mashala Nthabiseng Jeniffer

Request for Permission to Conduct Research (Job Shimankana Tabane Hospital

University of Limpopo

Faculty of health sciences

School of health care sciences

Private bag X1106

Sovenga

0727

Job Shimankana Tabane Hospital

Private Bag X82079

Rustenburg

0300

Re: REQUEST FOR PERMISSION TO CONDUCT RESEARCH PROJECT

I hereby request permission to conduct a research in your hospital. The research topic is: **Factors Contributing to the Non-Use of Pharmacological Pain-Relief Methods by Midwives on Nulliparous Women during the Intrapartum Period at Selected Hospitals in North West Province, South Africa**.

The aim of the study is to determine factors contributing to non-use of pharmacological pain-relief methods during the intrapartum period and to propose the recommendations on the use of pharmacological pain relief methods.

I hope my request will be taken into consideration

Best regards

Mashala Nthabiseng Jeniffer

Request for Permission to Conduct Research (Moses Kotane Hospital)

University of Limpopo

Faculty of health sciences

School of health care sciences

Private bag X1106

Sovenga

0727

Moses Kotane Hospital

Private Bag X02

Sun City

0316

Re: REQUEST FOR PERMISSION TO CONDUCT RESEARCH PROJECT

I hereby request permission to conduct a research in your hospital. The research topic is: **Factors Contributing to the Non-Use of Pharmacological Pain-Relief Methods by Midwives on Nulliparous Women during the Intrapartum Period at Selected Hospitals in North West Province, South Africa**.

The aim of the study is to determine factors contributing to non-use of pharmacological pain-relief methods during the intrapartum period and to propose the recommendations on the use of pharmacological pain relief methods.

I hope my request will be taken into consideration

Best regards

Mashala Nthabiseng Jeniffer

Request for Permission to Conduct Research (Brits Hospital)

University of Limpopo
Faculty of health sciences
School of health care sciences
Private bag X1106
Sovenga
0727

Brits Hospital
Private Bag X5030
Brits
6259

Re: REQUEST FOR PERMISSION TO CONDUCT RESEARCH PROJECT

I hereby request permission to conduct a research in your hospital. The research topic is: **Factors Contributing to the Non-Use of Pharmacological Pain-Relief Methods by Midwives on Nulliparous Women during the Intrapartum Period at Selected Hospitals in North West Province, South Africa**.

The aim of the study is to identify factors contributing to non-use of pharmacological pain-relief methods during the intrapartum period and to propose the recommendations on the use of pharmacological pain relief methods.

I hope my request will be taken into consideration
Best regards
Mashala Nthabiseng Jeniffer

Request for Permission to Conduct Research (Koster Hospital)

University of Limpopo

Faculty of health sciences

School of health care sciences

Private bag X1106

Sovenga

0727

Koster Hospital

Private Bag X0348

Koster

0348

Re: REQUEST FOR PERMISSION TO CONDUCT RESEARCH PROJECT

I hereby request permission to conduct a research in your hospital. The research topic is: **Factors Contributing to the Non-Use of Pharmacological Pain-Relief Methods by Midwives on Nulliparous Women during the Intrapartum Period at Selected Hospitals in North West Province, South Africa**.

The aim of the study is to determine factors contributing to non-use of pharmacological pain-relief methods during the intrapartum period and to propose the recommendations on the use of pharmacological pain relief methods.

I hope my request will be taken into consideration

Best regards

Mashala Nthabiseng Jeniffer

APPENDIX 4: TREC LETTER

University of Limpopo
Department of Research Administration and Development
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 3935, Fax: (015) 268 2306, Email: makoetja.ramusi@ul.ac.za

TURFLOOP RESEARCH ETHICS COMMITTEE

ETHICS CLEARANCE CERTIFICATE

MEETING: **24 March 2021**

PROJECT NUMBER: **TREC/54/2021: PG**

PROJECT:

Title:	Factors contributing to the non-use of Pharmacological pain –Relief methods by Midwives during intrapartum period on nulliparous women in North West Province, South Africa.
Researcher:	NJ Mashala
Supervisor:	Prof MK Thopola
Co-Supervisor/s:	N/A
School:	Health Care Sciences
Degree:	Master of Nursing Science

PROF P MASOKO
CHAIRPERSON: TURFLOOP RESEARCH ETHICS COMMITTEE
The Turfloop Research Ethics Committee (TREC) is registered with the National Health Research Ethics Council, Registration Number: **REC-0310111-031**

Note:

i) **This Ethics Clearance Certificate will be valid for one (1) year, as from the abovementioned date. Application for annual renewal (or annual review) need to be received by TREC one month before lapse of this period.**

ii) **Should any departure be contemplated from the research procedure as approved, the researcher(s) must re-submit the protocol to the committee, together with the Application for Amendment form.**

iii) **PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES.**

Finding solutions for Africa

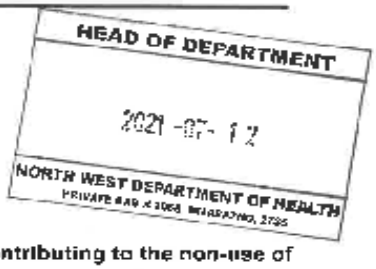
APPENDIX 5: APPROVAL LETTER FROM NWDoH

health
Department of
Health
North West Province
REPUBLIC OF SOUTH AFRICA

Cnr Sekame & Flint Street
New Office Park
Mafikeng, 2745
Private Bag X2068
MMABATHO 2735

Enq: Ms. Tshiamo Mokate
Tel: 018 391 4501
TMokate@nwpg.gov.za
www.nwhealth.gov.za

RESEARCH, MONITORING AND EVALUATION DIRECTORATE



Name of researchers: **Ms. N.J. Mashala**
University of Limpopo

Physical Address (Work/ Institution) _____

Subject **Research Approval Letter – Factors contributing to the non-use of pharmacological pain-relief methods by midwives during Intrapartum period on nulliparous women in North West Province, South Africa.**

This letter serves to inform the Researcher that permission to undertake the above mentioned study has been granted by the North West Department of Health. The Researcher must arrange in advance a meeting with the District Chief Director and District Director to introduce their research team/members on the proposed research to be undertaken. Further to the above the researcher must produce this letter to the District and chosen facilities as proof that the research was approved by the NWDoH.

This letter of permission should be signed and a copy returned to the Department. By signing, the Researcher agrees, binds him/herself and undertakes to furnish the Department with an electronic copy of the final research report. Alternatively, the Researcher can also provide the Department with electronic summary highlighting recommendations that will assist the Department in its planning to improve some of its services where possible. Through this the Researcher will not only contribute to the academic body of knowledge but also contributes towards the bettering of health care services and thus the overall health of citizens in the North West Province.

Below are the contact details of Office of the Chief Director and District Director of Bojanala district.

APPENDIX 6: APPROVAL LETTER FROM DISTRICT OFFICE

health
Department of
Health
North West Province
REPUBLIC OF SOUTH AFRICA

Boom street
1st Floor, Absa Building
P/Bag X82079
Rustenburg
0300

Enq: N Masango
Tel: (014) 592 8906

email:
JTumbo@nwpg.gov.za
NMasango@nwpg.gov.za

2030 NDP

BOJANALA DISTRICT

To: Ms NJ Mashala

1119 Tshukudu Gardens

Thekwane

15/July/2021

REF: PERMISSION TO UNDERTAKE RESEARCH IN FACILITIES IN BOJANALA DISTRICT

Permission is hereby granted to Ms. NJ Mashala to undertake research entitled "Factors Contributing to the non use of pharmacological pain relief methods by midwives during intrapartum period on nulliparous women in North West province, South Africa " at selected Facilities in Bojanala district.

The research protocol has been granted ethical clearance by the University of Limpopo and permission by the director, Policy Planning and knowledge management of Health North West Province.

Please facilitate access of the researchers to the targeted participants and information.

Thank You

Prof J M Tumbo District

Family Physician and research coordinator

APPENDIX 7: APPROVAL LETTERS FROM HOSPITALS

health
Department of
Health
North West Province
REPUBLIC OF SOUTH AFRICA

Private Bag X2
Sun City
0316
Tel: (014) 555 2310
edmoromane@nwpg.gov.za
www.nwhealth.gov.za

Moses Kotane Hospital

MOSES KOTANE HOSPITAL: CHIEF EXECUTIVE OFFICE

Enq : Ms R Maifala
Tel : 0145552304
email : rmaifala@nwpg.gov.za

TO : **Ms N.J Mashala**
University of Limpopo

FROM : **DR M Dikgang**
Acting Chief Executive Officer
Moses Kotane Hospital

DATE : **05 January 2022**

SUBJECT : **Approval to conduct research: Factors contributing to the non-use of pharmacological pain-relief methods by midwives during intrapartum period on nulliparous women in North West Province, South Africa**

This letter serves to inform you(Ms N.J Mashala) that permission to undertake the above mentioned study has been granted by Moses Kotane Hospital Management as per approval from North West Department of Health Provincial Office. You are expected to arrange in advance with the units and issue this letter as proof that permission is granted by the Institution(Hospital)This communique serves as a response to the above request.

This letter of permission should be signed and a copy to be returned to the hospital as a proof that you agree, bind yourself and undertakes to furnish the hospital with final research report.

Approved/ ~~not approved~~

Dr M. Dikgang
Acting CEO
Moses Kotane Hospital

05/01/2022
Date

I.....Nthabiseng Jeniffer Mashala.....(Researcher) agree with the contents of this letter.

"Serving With Pride"

health
Department of
Health
North West Province
REPUBLIC OF SOUTH AFRICA

Cnr Hedrick Verwoerd & Van Velden
Brits, 0250
Private Bag X5030
BRITS, 0250

Tel: (012) 3817105
TRMaswanganyi@nwpg.gov.za
www.nwhealth.gov.za

BRITS DISTRICT HOSPITAL

BRITS DISTRICT HOSPITAL

To: Head of Department
Faculty of Health Science
University of Limpopo

From: Ms Maswanganyi T.R
Nursing Service Manager
Brits District Hospital
30 March 2022

RE –REQUEST TO CONDUCT RESEARCH PROJECT: MASHALA N.J

This letter serves to confirm that Mashala N.J conducted research in maternity at Brits District Hospital from the 29th October to 4th December 2021.

She collected data as per research topic:" Factors Contributing to the Non-Use of Pharmacological Pain-Relief Methods by Midwives on Nulliparous Women during the Intrapartum Period ".

Hope the data collected will assist in the improvement of care of women during intrapartun period in this hospital and other facilities rendering maternity care.

Kind regards

Ms Maswanganyi T.R
Nursing Service Manager

Signature..... **Date:** 30/03/2022

DEPT. OF HEALTH - NORTH WEST PROVINCE
BRITS HOSPITAL/HOSPITAAL
DEPUTY DIRECTOR - NURSING
2022 -03- 30
Signature:
PRIVATE BAG X5030, BRITS 0250
TEL: (012) 381 7000 • FAX: (012) 381 7282

health
Department of
Health
North West Province
REPUBLIC OF SOUTH AFRICA

Cnr Heystek & Bosch Str.
Private Bag X 82079
RUSTENBURG
0300
Tel: (014) 590-5100
Ext5401
Fax (014) 590-5
omonageng@nwpg.gov.za

Job Shimankana Tabane Hospital

2030 NDP

JOB SHIMANKANA TABANE HOSPITAL: OFFICE OF THE CEO

To : **Ms. N.J. Mashala**
University of Limpopo

From : **AP Mvula**
Chief Executive Officer
Job Shimankana Tabane Hospital

Date : **01 October 2021**

Re : **Approval to conduct research: Factors contributing to the non-use of pharmacological pain-relief methods by midwives during intrapartum period on nulliparous women in North West Province, South Africa**

This letter serves to inform you (Ms. N.J. Mashala) that permission to undertake the above mentioned study has been granted by Job Shimankana Tabane Hospital Management as per approval from North West Department of Health Provincial Office. You are expected to arrange in advance with the units and issue this letter as proof that permission is granted by the Institution (Hospital).

This letter of permission should be signed and a copy returned to the hospital as a proof that you agree, bind yourself and undertakes to furnish the hospital with final research report.

Approved/~~not approved~~

AP Mvula
CEO-JST Hospital

01/10/2021
Date

I Mashala Nkotsoeng Joyce (Researcher) agree with the contents of this letter.

1

health
Department:
Health
North West Provincial Government
REPUBLIC OF SOUTH AFRICA

Noord Street
Koster
Private Bag X24
Koster
0348

Tel: (014) 5438500
Fax: (014) 5432581
Enq ;TS Isaacs
Email:isstsisaacs@gmail.com

KOSTER DISTRICT HOSPITAL: OFFICE OF THE CEO

To : Ms NJ Mashala

1119 Tshukudu Gardens

Thekwane

Re: PERMISSION TO UNDERAKE RESEARCH IN KOSTER DISTRICT HOSPITAL

Permission is hereby granted to Ms NJ Mashala to conduct her research at Koster District Hospital for her studies. Approval has been granted by the Provincial and district offices respectively.

Access to information therefore granted accordingly

Regards:

T.S Isaaacs

CEO: Koster District Hospital

APPENDIX 8: LETTER FROM LANGUAGE EDITOR

JvH Consulting
Teaching, Training, and Development

JONI van HEERDEN (FHEA)
(c) 083 286 7807
(e) joni.vanheerden@gmail.com

Certificate of Editing

This is to certify that the manuscript with the title:
Factors contributing to the non-use of pharmacological pain relief methods by midwives during the intrapartum period on nulliparous women in North West Province, South Africa;

to be submitted by the author(s),
Mashala Nthabiseng Jeniffer

has been edited for grammar, punctuation and spelling. Neither the research content nor the author's intentions were altered in any way during the editing process.

Editors can contact us for a copy of the edited document that was submitted to the author.

Editor:
Ms. Joni van Heerden
Joni.vanheerden@gmail.com

Date Issued:
19 October 2022

APPENDIX 9: RETRIEVED PAGE OF MATERNITY CASE RECORD

SUMMARY OF LABOUR

FROM FULL DILATATION TO DELIVERY

Method of delivery: NVD | Breech | Twins | Caesarean section | Instrumental | Other: .....

Delivered by: ..... Assisted by: .....

Complications: .....

Maternal position during labour: .....

Fetal monitoring: normal ☐ abnormal ☐ if abnormal specify:

SUMMARY OF DURATION OF LABOUR

	STARTED AT:		DURATION:		MEMBRANES	
	Date	Time	Hours	Minutes	AROM	SROM
Latent phase					Time of ROM:	
Active phase (≥5cm)						
Full dilatation					Time of delivery:	
Bearing down					Duration of ROM:	
Third stage						
Total duration of labour:						

PAIN RELIEF

Entonox | Opioid | Local | Pudendal | Epidural | Non-pharmacological pain relief used

Given by: ..... Detail: .....

NEONATAL DETAIL

Resuscitation done: Yes | No Describe: .....

Birth injuries: Yes | No Describe: .....

Neonate	Male	Female	Alive	FSB	MSB	NND	Weight	ID band on?	Cord clamp?
1.							g		
2.							g		

Konakion: Yes | No Eyedrops Yes | No Type: ..... Given by: .....

THIRD STAGE- PLACENTA, MEMBRANES AND CORD

Oxytocin 10 units given intramuscularly: Yes | No By ..... At .....

Method of delivery: Active | Spontaneous | Manual Cord around neck? Yes | No

Placenta Normal | Abnormal Complete | Incomplete Membranes Complete | Incomplete

No of vessels in cord: ..... Placental weight: ..... g Retroplacental clot Yes | No Histology Yes | No

Delayed cord clamping done ☐ If delayed cord clamping not done, explain why: .....

Result of cord blood gas (if indicated)

FOURTH STAGE (FIRST TWO HOURS AFTER DELIVERY- COMPLETE OBSERVATIONS ON SEPARATE PAGE)

Time of observation: ..... Observed by: .....

Temp: ..... Resp: ..... Pulse: ..... BP: ..... Urine passed: Yes | No Catheter: Yes | No

Uterus contracted: Yes | No Uterus ruptured: Yes | No Cord/maternal blood taken: Yes | No

Cervical tears Yes | No Details: .....

Perineum: Intact | 1st ° tear | 2nd ° tear | 3rd /4th ° tear | Episiotomy Repaired by: .....

Detail of repair: All swabs/tampons removed from vagina: Yes

Blood loss: Normal ☐ Excessive ☐ If excessive give details of management: .....

Feeding initiated Yes | No Breast feeding initiated if method of choice: Yes | No If no, give reasons: .....

Situation in labour ward at time of delivery:

TRANSFERRED TO WARD BY: **RECEIVED IN WARD BY:** **TIME:**

Condition satisfactory: Mother Yes | No Baby Yes | No

Further management, mother and/or baby .....

Maternity Case Record Page 41