



Experiences of midwives on partogram usage in Mamusa municipality, North West Province

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DECLARATION

I **Racoco Kagiso** student number **24420719**, hereby declare that the dissertation “Experiences of midwives on partogram usage in Mamusa municipality in North-West Province” is my own work. I demonstrated the utmost integrity and maintained a high standard of academic honesty in accordance with the NWU policy of academic integrity. All sources used in this study are referenced and acknowledged accordingly.

ABSTRACT

Background: Partogram refers to a labour monitoring graphic tool that is used to enable midwives and obstetricians to detect complications early enough during labour so that action can be taken to provide quality midwifery care. The effective use of a partogram improves birth outcomes. The partogram is divided into two phases, latent and active for maternal and foetal observations. The partogram documents the key aspects such as the foetal condition, maternal condition, contractions, progress of labour and management where applicable.

Midwives generally perceive the partogram as a midwifery record and not necessarily as a labour monitoring tool. Consequently, this attitude has made it difficult for them to identify complications of labour on time. Most cases of maternal mortality and complications could be prevented by using cost effective and affordable health intervention like the partogram.

Objectives: To explore and describe the experiences of midwives on partogram usage in Mamusa municipality, North-West province.

Methodology: A qualitative-explorative and descriptive design was used to meet the objectives of the study. The purposive sampling technique was used to select participants. Unstructured interviews were conducted virtually through google meet. The researcher appointed a co-coder to analyse data. Procedures of trustworthiness were adhered to.

Results: Two main themes emerged which are positive and negative experiences on the use of the partogram. Findings were discussed and integrated with literature.

Conclusion: Improvements on the usage of the partogram were suggested. Recommendations were formulated for nursing practice, education, and research.

Key words: Experiences, labour, maternal mortality, midwives, partogram

DEDICATION

I dedicate this study to all mothers who died while giving birth and all babies who died during birth.



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LIST OF ABBREVIATIONS

WHO	: World Health Organisation
CHC	: Community Health Centre
DOH	: Department Of Health
NWU-HREC	: North West University Health Research Ethics Committee
CPD	: Cephalo Pelvic Disproportion
CTG	: Cardiotocograph

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CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

A partogram is a labour monitoring graphic tool that is used world-wide to enable midwives and obstetricians to detect complications early enough during labour so that action can be taken to provide quality midwifery care (Lavender & Bernitz, 2020:1). The effective use of the partogram improves birth outcomes because it enables pregnant women to receive improved treatment for their babies and for themselves thereby sparing them from life-threatening conditions such as birth asphyxia and post-partum haemorrhage respectively. Moreover, the consistent use and correct interpretation of this tool can save the lives of both mother and child because it helps midwives in the community health centres to make referral decisions timeously (Singh, 2013:1). The purpose of this thesis is to outline the background, problem statement, research question, purpose, objectives, significance, research design and methods that will be used to conduct the research.

1.2 BACKGROUND AND RATIONALE FOR THE STUDY

Lavender and Bernitz (2020:2) state that the partogram is called Friedman curve because in 1952 Dr Emanuel Friedman was stuck on call because he was denied access to witness his first childbirth in the hospital. Dr Friedman recorded cervical dilation examinations in a graphic form (cervicograph) that formed the idea of dividing labour into latent and active phases and presented the idea in 1954. The latent phase in the partogram refers to a stage of labour when the cervical dilation is between 1 (one) centimetre and 4 (four) centimetres, whereas active phase of labour is defined as a stage of labour when cervical dilatation is more than 4 centimetres (NDoH, 2015:46). In 1971, Professor Philpott modified the partogram by adding alert and action lines in the cervicograph. Subsequently, he included maternal vital signs and foetal wellbeing sections. Maternal vital signs include blood pressure, temperature, pulse, and uterine

contractions, whilst the *foetal* wellbeing includes foetal heart rate, caput, moulding of sutures and cervical application (Mathibe-Neke *et al*, 2013:145). The partogram also documents biochemical analysis of urine in terms of protein, ketones, glucose, and urine output versus administered intravenous fluid for fluid balance. Medication administered through any route to the women in labour should be recorded as well, to notify the midwife of the next shift after handover (Rani *et al*, 2015:74).

When the woman falls into labour, the partogram must be started immediately. Signs of labour are uterine contractions, cervical dilations and mucus plug from the cervix, this is the knowledge acquired during training of midwives. Furthermore, midwives should consider the following principles and legal considerations when using the partogram: The latent phase should not exceed 8 (eight) hours, duration between vaginal examinations should be at least between 2 hours and 4 hours, the cervical dilatation should be at least 1 centimetre per hour in active phase of labour, there should be correct and comprehensive recordings, midwives should interpret findings correctly and take action on abnormalities in the recordings (Dippenaar & Da Serra 2018:399).

In 1994 the World Health Organization (WHO) revised and recommended that the partogram be used in all labour wards as part of the Safe Motherhood Initiative to reduce maternal and foetal mortality (Lavender *et al*, 2018:7). However, maternal mortality rate remains high. Globally, the number of maternal mortalities was estimated to be 216 per 100 000 live births in 2015, 99% of these mortalities were caused by obstructed and prolonged labour (Organization, 2015:16). The year 2015 alone accounts for over 303,000 maternal mortalities that occurred worldwide in 183 countries from pregnancy complications and childbirth. The majority of these cases of maternal mortality and complications could be prevented by using cost effective and affordable health intervention like the partogram (Hailu, 2018:1). A study conducted in Bangladesh in 12 obstetric and neonatal facilities revealed that 79 % of respondents knew information needed to be recorded in the partogram, however, less than 50 % were using the partogram tool. Consequently, failure to use the portogram significantly contributed to maternal mortality (Rahman *et al*,2019:3).

According to Lancaster *et al* (2020:403) maternal mortality in sub-Saharan African (SSA) countries is the highest in the world, with most deaths occurring in developing countries.

Among such countries is Ghana with an unacceptable maternal mortality rate of 451 per 100,000 live births because midwives in this country stated that they could not identify the specific time to commence recording on the partogram (Konlan *et al*,2016:1). Mozambique is also one of the (SSA) countries that have not yet managed to reduce maternal mortality. Moreover, Mezmur *et al.* (2017:6) revealed that Ethiopian health care professionals' knowledge was inadequate with regard proper utilization of the partogram resulting in a negative impact on public health institutions. However, it has been suggested that an adequate coverage of skilled midwives is not sufficient to improve maternal and perinatal outcomes (Geelhoed *et al.*, 2018:2). Nevertheless, Yisma *et al* (2013:8) state that inadequate knowledge of utilizing the partogram by midwives could be the reason for the high maternal mortality rates in developing countries. In addition, despite the training provided to the midwives, studies conducted in developing countries including Uganda revealed that partogram use is still low and not effective with lack of documentation of some parameters of the process of labour (Lumadi *et al*, 2015:33; Yisma *et al* 2013:1). On the other hand, quality recording of the partogram was inadequate and recording compliance rates differed among items on the partogram in some African countries (Fujita *et al* 2015:192). The study conducted in Ethiopia revealed that 99 % of midwives knew the partogram as a graph but less than half (21.8 %) knew the importance of the partogram (Mezmur, 2017:2). In support of this, a quantitative cross-over study conducted in Cameroon established that only 30 % out of 100 % of midwives had knowledge about the partogram despite its life saving capability (Rahman *et al*,2019:3). The clinical value of the partogram depends on accurate observations, correct completion, and effective application of findings (Maphasha *et al* .2017:82).

South Africa is not exempted as indicated by the 2013/2014 report on maternal mortality ratio of 310 per 100,000 live births. The National Department of Health (NDoH) has suggested that maternal mortalities could be related to substandard care due to lack of knowledge, poor health care providers' skills, and inadequate use of the partogram as critical factors (NDoH, 2015:13). In addition, midwives generally perceive the partogram as a midwifery record but not as a labour monitoring tool. This attitude makes it difficult for them to identify complications in time (Fernandes, 2015:3). The study conducted in South Africa by Shokane (2011:36) highlighted that those midwives understand the

importance of the partogram, but they do not use it effectively as evidenced by their failure to plot in foetal and maternal sections. Consequently, in South Africa there are provinces that started with intense training of midwives and doctors on the use of the partogram however, poor practice still persists in provinces that include Limpopo, Mpumalanga, and North-West (Mothapo *et al* ,2014:286). In Johannesburg academic hospital, the partogram is poorly used as evidenced by inadequate recording found during labour records' audit and the maternal mortality of 476/100 000 in the hospital (Mathibe-Neke *et al* .2013:146).

According to the annual report on confidential inquiries into maternal mortality, South Africa had 1222 maternal mortality cases in 2017 and the North-West province accounted for 116 deaths in 2014, 96 in 2015, 84 in 2016 and 84 in 2017, which could be related to lack of appropriately trained staff (DoH, 2017:3; Mabaso *et al* 2014 :183). Inadequate use of the partogram does not affect mothers only since there were estimated 2.7 million stillbirths worldwide in the third trimester in the year 2015 mostly due to poor quality care during labour (Lawn *et al* , 2016:587). The major contributory factor to these still births is incorrect use of partograms, since it was established that in Rwanda 85% of partograms were incomplete which is believed to be the baseline cause of foetal distress and eventually still births (Uwimana, 2017:15).

In 2015, South Africa had 13 702 still births and North-West had 1004 deaths (House & Street 2017:12). Therefore, most of the mortality rates are associated with intrapartum complications which emphasizes the importance of proper partogram usage for early screening and identification of complications for intervention to be implemented timeously (Kc *et al* .2016:2). Statistics show that the correct use of the partogram with an agreed labour management protocol reduced prolonged labour from 6.4 % to 3.4 %, emergency caesarean section fell from 9.9 % to 8.3 % and intrapartum still births from 0.5 % to 0.3 % and decreased neonatal intensive care admissions from 17 % to 6 % indicating neonatal outcomes which depicts the effectiveness of the partogram (Zeleeuw & Tegegne, 2018:3; Nagendra, 2012:15). Maternity guideline has instructions on how to use the partogram, and 2017 annual report from Department of Health (DoH) aimed at training nurses and doctors on the use of clinical protocols (DoH,2017: iii). However, despite the training and education received at the universities, nursing colleges and readily available

information in maternity guidelines, the researcher has observed that midwives in Mamusa municipality are not adhering to proper use of the partogram, hence the importance of conducting the study.

1.3 PROBLEM STATEMENT

The partogram is an essential tool that must be used by all midwives because it is an educational requirement during basic education and training of the midwives (Mabasa, 2018:5). The purpose of the partogram is to aid midwives to manage the women in labour by observing the progress and detecting irregularities (Yazbek & Jomeen, 2019:131). However, Lavender and Bernitz, (2020:1) state that there are concerns that the partogram has not reached its full potential in improving clinical outcomes because of high maternal mortality rates. Yisma *et al* (2013:8) state that inadequate knowledge of utilizing the partogram by midwives could be the reason for the high maternal mortality rates in developing countries. Moreover, student-midwives reported that midwifery practitioners completed partograms only after delivery, indicated that practitioners lack understanding in recording data and that the recording is done differently by various midwives in the same unit (Mothapo *et al*, 2014:286). In South Africa, the partogram is underutilized because midwives complain of staff shortage and lack of knowledge to analyse it (Shokane, 2013:166). A study conducted in Kwa-Zulu-natal reported the underutilization of the partogram by midwives as evidenced by obstetric emergencies during labour (Singh 2013, 96). According to the statistics of Mamusa municipality, there is an estimated number of eighty-five deliveries per month, approximately 25 of 85 accumulating to 29% are emergency caesarean section deliveries, 8 of 85 (9.4%) are still births and 15 of 85 (17.6%) are post-delivery complications. From personal experience, the researcher has observed incorrect entries in the partograms, blank partograms for delivered patients and multiple erasures that make the partogram unclear for interpretations from the midwives in Mamusa municipality. In addition, the researcher observed that during auditing and assessments of maternity case records by North-West Provincial department, institutions fail mostly on the partogram section. This has prompted the researcher to undertake this study as a way of highlighting the necessity to explore and describe the experiences of midwives on the use of partograms in Mamusa municipality of the North-West Province.

1.4 RESEARCH QUESTION

What are the experiences of midwives on the use of partograms in Mamusa municipality of the North-West province?

1.5 RESEARCH AIM AND OBJECTIVE

In this section the researcher described the aim and objectives of the study.

1.5.1 Research aim

The aim of the study was to explore and describe the experiences of midwives on the use of partograms in Mamusa municipality to improve clinical labour outcomes.

1.5.2 Research objective

The objective of this study was to explore and describe the experience of the midwives on the use of partograms in Mamusa municipality.

1.6 Significance of the study

The findings of the study might benefit the North-West DoH in Mamusa Municipality by improving and enhancing the skills of midwives in plotting and interpreting partograms correctly. The researcher believed that the study's findings would add value to the existing knowledge on the use of partograms. The recommendations of this study could help all practising midwives and newly qualified midwives on how to utilize partograms correctly. It was hoped that the findings would inspire further research focusing on the use of partograms.

1.7 CONCEPTUAL DEFINITION

Advanced midwives

Refers to midwives with expanded scope of practice (Heale & Rieck Buckley, 2015:422). In this study, an advanced midwife is a nurse practitioner who has advanced diploma in midwifery.

Experiences

Burns and Grove (2011:17), define experience as the knowledge that comes from being involved in an event, situation, or circumstances. In this study, experiences refer to practices and knowledge of midwives on recording the progress of labour, maternal and foetal well-being on the partogram in Mamusa municipality.

Labour

Labour is a process of birth where there are persistent uterine contractions accompanied by change in cervical effacement, dilatation, and presence of show with the aim of expelling products of conception which are foetus, placenta, and membranes (NDoH, 2015:46; Dippenaar & Da Serra 2018:369). In this study, labour is the process of delivering the baby starting from labour pains until delivery of the placenta.

Maternal Mortality

Maternal mortality is the death of a woman while pregnant or within 42 days after delivery or after termination of pregnancy, irrespective of duration and site of the pregnancy from any cause related or aggravated by the pregnancy or its management, but not from accidental or incidental causes (NDoH, 2015:13). In this study, maternal mortality refers to the death of a woman during pregnancy, labour, and puerperium in Mamusa municipality.

Midwives

According to South African Nursing Council act no 33 of 2005, a midwife is a person registered in a caring profession which supports and assists the mother and the baby to achieve and maintain optimum health during pregnancy, all stages of labour, and the puerperium. In this study, midwife refers to all registered midwives working in Mamusa municipality and trained to record in the partogram when progressing a woman in labour.

Partogram

Partogram is simple obstetric tool used to monitor progress of labour (Choudhary & Tanwar, 2019:1500). Partogram is a graphic tool found in the maternity record books of women in labour in which midwives in Mamusa municipality record the progress of labour.

1.8 RESEARCH DESIGN AND METHODS

This section discusses the research design and methods.

1.8.1 Study design

Research design is the set of logical steps followed by the researcher to answer the research question (Brink *et al.* 2016:96). According to Holloway and Galvin (2016:3), qualitative research design is characterised by researchers immersing themselves in the natural setting of the people whose situations, behaviour, and thoughts they wish to explore. In this study, the researcher followed a qualitative research design to explore and describe the experiences of midwives in Mamusa municipality. The Qualitative, explorative, and descriptive design is outlined below.

1.8.1.1 Qualitative

According to Creswell (2014:4) qualitative research is an approach for exploring and understanding the meaning individuals ascribe to social or human problems. The focus of qualitative research is the participant's experiences and the way they make sense of their lives. Qualitative research is a form of social inquiry that focuses on the way people make sense of their experiences and that of the world in which they live (Holloway & Wheeler, 2010:6). The researcher used qualitative research design to explore and describe the experiences of midwives on the use of the partogram in Mamusa municipality.

1.8.1.2 Explorative

Qualitative explorative is a method that allows the researcher to explore a topic with limited coverage within literature and allows the participants of the study to contribute to the development of new knowledge in that area (Hunter *et al.*, 2019:1). In addition, explorative research design is used to probe the topic when the variables and theory base are unknown (Creswell & Creswell, 2018:162). Since the aim of the study was to explore and describe the experiences of midwives on the use of the partogram in Mamusa municipality, the qualitative explorative method assisted the researcher to reach the goal.

1.8.1.3 Descriptive

Qualitative descriptive is a method that provides factual responses to questions about how people feel about a particular space, it is a befitting methodological choice for this

research study because it provides rich descriptive content from the subjects' perspective (Colorafi & Evans, 2016:24). Qualitative descriptive question is usually simple and elicits responses within boundaries to facilitate analysis and reflection. Answers often take the form of a single-story describing participants' lived experiences (Magilvy & Thomas, 2009:299; Polit and Beck 2017:678). The researcher followed qualitative descriptive method to describe the experiences of midwives of Mamusa municipality on the use of the partogram to gain factual responses.

1.9 STUDY CONTEXT

Study context refers to the specific area or place where data will be collected, it is determined by data needed and research question. (Brink *et al.*2016:59). The study was conducted in Mamusa municipality in Dr Ruth Segomotsi Mompati district of the North-West Province. The municipality has one referral community health care (CHC) centre and hospital. The selected municipality hospital is divided into six compartments, that is, female medical ward, paediatric ward, operating theatre, male medical ward, casualty, and maternity ward. The maternity ward is a fifteen bedded unit which comprises three cubicles namely, delivery area with 2 beds, antenatal cubicle with 5 beds and post-natal care cubicle with 8 beds. There is maternity waiting home for high-risk pregnant women to lodge as they are from the neighbouring farms and distant locations which accommodates five beds. The CHC centre operates 24 hours and is the only referral facility with two labour rooms, one antenatal cubicle and one post-natal cubicle.

1.10 POPULATION AND SAMPLING

In this section, the researcher outlined the population and sampling of the research, sampling technique, sample size, selection, and exclusion criteria.

1.10.1 Population

Population is the entire aggregation of cases in which the researcher is interested, and target population is the collective cases in which the researcher would like to generalize findings (Polit & Beck, 2017:365). The study population consists of the individuals to whom the researcher can gain access and who have the appropriate knowledge and

experience about the research question (Holloway & Galvin, 2016:143). In this study, population included all midwives employed in Mamusa municipality maternity wards. There are sixteen midwives and 2 advanced midwives in the selected hospital and CHC centre working in shifts for both night and day in maternity ward. These served as the target population of the study.

1.10.2 Sampling

Sampling is the purposeful selection of an element of the entire population to gain knowledge and information, a sample is the subset of the population elements which are the most basic unit about which data are collected (Holloway & Galvin ,2016:143; Polit & Beck, 2017:368). In this study, the sample was midwives who work in maternity ward both in CHC and in the district hospital in Mamusa municipality.

1.10.2.1 Sampling technique

The researcher used the non-probability sampling approach because it requires the researcher to judge and select participants who know most about the phenomena. Purposive sampling technique refers to selecting participants for a specific purpose of having knowledge about questions at hand (Brink *et al.*2016:141; Holloway & Galvin ,2016:143). In this study purposive sampling techniques was used to select midwives in maternity wards to reach the objective of the study as they use the partogram daily. These midwives have insight and fully understand their challenges and are experienced on the use of the partogram hence the researcher identified purposive sampling as the best technique.

1.10.2.2 Sampling size

Qualitative studies sampling consists of small sample units studied and large sample size is not advantageous therefore data will be collected on participants through individual semi-structured interviews (Brink *et al.* 2016:143; Holloway & Galvin ,2016:152). In this study, data was collected until data saturation is reached. Data saturation refers to a point at which no added information is emerging or obtained during data collection (Polit & Beck, 2017:702). Data will be collected from the participants until data saturation is reached.

1.11 INCLUSION AND EXCLUSION CRITERIA

1.11.1 Inclusion criteria

Inclusion criteria is used to determine whether an individual would be classified as a member of the population with specified characteristics (Polit & Beck, 2017:366).

Table 1:Inclusion criteria

Participants	Justification
<ul style="list-style-type: none">• Midwives working in maternity ward/site	<ul style="list-style-type: none">• Midwives and advance midwives are the target population of the study because they are legally permitted to record on a partogram and interpret findings.• Midwives should have experience of at least 6 months.
<ul style="list-style-type: none">• Advanced midwives	

All midwives and advanced midwives with at least 6 months experience in maternity unit working in the maternity ward of the selected district hospital and midwives from the referring community health care centre working in maternity site was included in the study.

1.11.2 Exclusion criteria

Exclusion criteria is used to determine whether an individual would not be classified as a member of the population with specified characteristics (Polit & Beck, 2017:366).

Table 2:Exclusion criteria

Participants	Justification
<ul style="list-style-type: none">• Enrolled nurses and enrolled assistant nurses	<ul style="list-style-type: none">• These healthcare professionals are not target population of the study as they are not permitted to record on the partogram and interpret findings because it is not within their scope of practice.
<ul style="list-style-type: none">• Midwives from other units of the hospital will not be included e.g., Theatre, casualty, medical etc.	<ul style="list-style-type: none">• They are not allocated to work in maternity ward
<ul style="list-style-type: none">• Doctors	<ul style="list-style-type: none">• They are not the target population of the study.

1.12 RECRUITMENT OF PARTICIPANTS

The researcher contacted the gatekeepers through email and telephone to request permission to gain access and to conduct the study. The purpose of the study was discussed with the gatekeeper who is the Chief executive officer of the hospital and sub-district manager of Mamusa. The researcher identified the mediator who is an employee at the hospital who assisted in recruitment of midwives by obtaining their cell phone numbers to be availed to the researcher and independent person. The mediator was a person with honours degree with research understanding and was requested to sign confidentiality forms. The mediator was requested to recruit participants at least 2 months before data collection. The researcher requested permission from the communication officer of Mamusa to put posters about the research on the facilities (district hospital and CHC) notice boards near maternity wards that include research topic, purpose, significance and contact details of the researcher and supervisor to recruit the participants (Annexure I). The researcher will also make use of social media such as Facebook page

to recruit participants, because recruiting through social networking sites yields a greater percentage of valid consents and a greater percentage providing content specific data (Kapp *et al*, 2013:134). The researcher further appointed an independent person who will obtain informed consent from the participants provided he or she has no connection or relationship with them. The independent person has completed a master's degree at Sefako Makgato health sciences University and awaits results. The contact details of the researcher were included in the recruitment materials in case they needed further clarity.

The researcher had a discussion with the independent person regarding the study before data collection. The independent person was not part of the study but had enough information about the study to explain to the prospective participants.

1.13 PROCESS OF OBTAINING INFORMED CONSENT

Voluntary participation and protection of the participants from harm was done through informed consent which has three major elements namely information needed by the participants, understanding by the participants, and provision of consent by participant (Brink *et al*.2016:38). The researcher requested permission to conduct research by writing a request letter to the Chief Executive Officer of the selected health facility and sub district manager. Subsequent to approval, permission requested from the nursing managers. The researcher appointed an independent person who obtained informed consent from the participants and has no relationship with them. The independent person has completed a master's degree at Sefako Makgato health sciences University and is awaiting results. Clear and comprehensive information was provided to the participants in written form, and they will be allowed to go through the research proposal for a maximum of 14 days to decide whether they wish to participate. The research proposal was sent to participants through email. This was to adhere to Covid-19 preventative measures.

The independent person thoroughly explained the research proposal verbally, using clear audible and understandable language and verified if the participants understood the information given above by asking questions. Participants were told about the benefits of

their input. No participant was forced to participate in the study, and no punishment was given if they refuse to participate. Clear information was provided in the consent form (Annexure J) regarding the purpose of the study, potential benefits, risks, confidentiality, and voluntary withdrawal. Participants indicated their voluntary consent by signing the consent form (Annexure J).

1.14 CONFLICT OF INTEREST

The researcher has no relationship with participants, therefore there was no financial, personal, or physical influence that is anticipated in this research study.

1.15 DATA COLLECTION

The data collection process is discussed below

1.15.1 Data collection tool

Data was collected through unstructured individual interviews from the participants. An unstructured interview is more free flowing interactive conversation and produces more in-depth information from the participants (Brink *et al.*2016:158). The researcher started with broad central questions and used follow-up questions to obtain in depth information. Participants were asked one central question which is: “*What are your experiences in using partogram in the Mamusa municipality as a midwife.*”

The researcher interviewed participants individually particularly when they were off duty to avoid interference with their work schedules. Interviews were conducted virtually (WhatsApp or google meet) to avoid contact with the participants as part of Covid-19 regulations. The researcher provided participants with data of three gigabytes of their preferred networks to assist on virtual individual interviews on the scheduled date.

1.15.2 Data collection process

According to Creswell (2014:189) data collection is a process that includes setting the boundaries for the study, collecting information, and establishing the protocol for recording information. According to Holloway and Galvin (2016:87), health researchers often rely on interviews as the main form of data collection because they want to gain the

insight of the phenomena by asking participants about it and because they find observation difficult. Data was collected by individual unstructured interviews using audio tape recorder with informed consent from the participants. The researcher used follow-up questions to encourage participants to elaborate more on the topic. Non-verbal cues were observed, and the researcher used follow-up questions to mine more information. Paraphrasing was used to expand responses and allowed participants to clarify their answers. Probing follow up questions was used to search for more expanded detailed information from the participants and to elaborate more on the topic. Summarising of the responses was done to assure the participants that the researcher is listening and to ascertain accuracy on captured information. Interview schedules describe all details that was included during data collection (Annexure K).

Field notes were taken because they contain a narrative account of what is happening in the field, that is, the observed events and conversations (Polit & Beck, 2017:736). The researcher will write field notes immediately after an observation is made. This study was conducted virtually to adhere to Covid-19 protocols. Appointments were scheduled with participants who voluntarily agreed to be interviewed. Covid-19 preventative measures will be taken into consideration during data collection. Participants' real names was not used throughout the data collection process.

1.16 DATA ANALYSIS

Data analysis is categorising, ordering, summarising, and describing data to find meaning on it (Brink *et al.*2016:177). After data analysis, the researcher did literature control in order to relate the themes with the current literature. The researcher will searched for articles through different search engines such as Web of Science, Science direct, Google Scholar etc. In this study, data was analysed using Creswell's steps as described below (Creswell, 2014:197):

Step 1: Organise and prepare the data for analysis, this involves transcribing interviews, taking fields notes then arrange data into distinct types. In this study, the researcher recorded data and type field notes for analysis.

Step 2: The researcher read all data from interviews; this provided a general sense of the information, and this reflected the overall meaning of the data on ideas of the participants.

Step 3: Data coding, is the process of organising the data by bracketing chunks and labelling them. It involves taking data gathered segment sentences into categories and labelling those categories.

Step 4: Coding process was used to describe participants' multiple perspectives and describe categories or themes. Description involves detailed rendering of information about people. The described themes will appear as major findings.

Step 5: This step involves detailed discussion of interrelating themes. The researcher narrated the results.

Step 6: Ultimate step of data analysis involves making interpretations of the findings.

With the permission of the participants, interviews were audio-recorded using a tape recorder device. The researcher and the experienced study leader transcribed the interviews verbatim prior to data analysis. The researcher and a skilled co-coder manually analysed data independently according to the above steps. The co-coder was requested to sign confidentiality forms before data analysis. Furthermore, the researcher and the co-coder discussed and reached a consensus on themes and sub themes that emerged.

1.17 RIGOUR / TRUSTWORTHINESS

Rigour in qualitative research refers to openness, relevance epistemological and methodological congruence, thoroughness of data collection and data analysis process (Brink *et al.*2016:126). Polit and Beck (2017:787) suggest the criterion for developing trustworthiness namely, credibility, dependability, confirmability, transferability, and authenticity. The same criterion was used in this study.

Credibility

Credibility refers to confidence in the truth of the data and the interpretation, the researcher will conduct research in a way that the findings will be believed by the readers

(Brink *et al.*2016:172). In this study, credibility resulted from prolonged engagement, persistent observation, triangulation, and member checking.

The researcher maintained prolonged engagement with the participants until data saturation is reached about the experiences of midwives on the use of the partogram in Mamusa. Persistent observation was achieved by consistently pursuing interpretations from participants by probing, paraphrasing, and summarising. During data collection, the researcher asked different questions to gain more insights about the experiences of midwives on the use of the partogram. The researcher used multiple data sources to validate conclusions and for triangulation purposes. Member checking was conducted to eliminate obvious errors, provide additional information, and to give participants feedback about the emerging interpretations to confirm accuracy. In addition, member checking was ensured by calling the participants individually to confirm their ownership of data provided.

Dependability

Dependability refers to stability of data over time and conditions, which means if the research would be repeated by a different researcher, with same participants and similar context the results will be same (Polit & Beck, 2017:787). Dependability was achieved using audit trail (Brink *et al.*2016:173). The researcher ensured that audit trail is achieved by appointing an auditor who examined documentation of critical elements, analyse process of investigation, and make conclusion about the data.

Confirmability

Confirmability refers to the potential for congruency of data in terms of relevance and meaning. Confirmability was accomplished through audit trail and triangulation (Brink *et al.*2016:173). Audit trail was conducted by appointing external auditor to assemble data and review them to find meaning attached to them. Triangulation was reached by using information from different data sources and drawing conclusion based on evidence. Audit

trail and transferability ensure that data provided are from the participants and not created by the researcher (Polit & Beck, 2017:788).

Transferability

Transferability refers to the potential for extrapolation, which is the extent to which findings can be transferred to or have applicability in other settings. Strategies to enhance transferability was thick descriptions, purposive sampling, and data saturation (Brink *et al.*2016:173). The researcher ensured that thick description was achieved by describing research context, participants, experiences, data collection process thoroughly, and drafting a final report. Purposive sampling technique increases information about the selected context because the researcher selected midwives in based on their knowledge and experiences of using the partogram in Mamusa municipality. Data was collected from midwives of Mamusa until saturation is reached.

Authenticity

Authenticity refers to the extent to which researchers fairly and faithfully show a range of realities. It will be achieved by thick descriptions and prolonged engagement (Brink *et al.*2016:127; Polit & Beck, 2017:788). Thick description was achieved by thoroughly describing experiences of midwives, data collection process and authoring a final report. Prolonged engagement built trusting relationship between midwives of Mamusa and the researcher, therefore more data was provided by the participants until data saturation was reached.

1.18 ETHICAL CONSIDERATIONS

Human rights were not violated in this research. The researcher was guided by three fundamental principles to protect human rights (Polit & Beck, 2017:211), described as follows:

- **Principle of respect** – This principle entails right to full closure and self-determination (Polit & Beck, 2017:211). Participants were provided with full information regarding the research and were given enough time to decide whether to participate in the study. The researcher respected the decision of the

participants and refrained from using any form of punishment or coercion if the participants refuse or withdraw from the study.

- **Principle of beneficence** – This refers to imposing duty on researchers to minimize harm and maximize benefit (Polit & Beck, 2017:211). This principle was ensured by securing the well-being of the research participants. There will be no physical, economic, or psychological harm to the participants. The researcher formulated questions cautiously to avoid harm to the participants as outlined on the interview schedule (Annexure K). There was no payment for participation in the study. However, the researcher was responsible for expenses of mobile data that was used during virtual data collection and participants were offered pens and notebooks as a form of appreciation.

- **Principle of justice**

According to Brink *et al.* (2016:37), the principle of justice involves right to fair selection and right to privacy as describe below:

Right to fair selection - The researcher selected participants purposely due to their experiences on the use of the partogram and not because they were readily available or were easily manipulated. During the data collection period, the researcher was always punctual and respected individual cultural differences, gender, language, and beliefs. Participation was voluntary, and participants will be allowed to withdraw anytime from the study without any form of penalisation.

Right to privacy- Information collected from the participants remained anonymous and confidential, no data was be linked to individuals. During data collection, participants were given alphabets for identification purposes instead of using their real names. The researcher maintained a list of participants' alphabets matched with their names. This list was kept safe and not be available to anyone. Interviews were conducted through online virtual platforms e.g., google meet, Microsoft teams, zoom or WhatsApp video call. Participants decided on the platform with which they are comfortable.

1.19 PROBABLE EXPERIENCE OF PARTICIPANTS

This study is based on the midwives and advanced midwives who are working in the labour ward and using partogram in Mamusa municipality, with a minimum of 6 months experience.

1.20 RISK/ BENEFIT RATIO ANALYSIS

Risk and benefit ratio refer to assessing the positive values that the research provides against possibility of harming participants during research (Brink *et al.*2016:42).

Table 3:Risk/benefit ratio analysis

Risks (e.g. physical, psychological, social, legal, economic, dignitary and community) Identify all the possible risks.	Precautions (When describing these precautions be clear on how they will mitigate all the identified risks)
Social harm: family time of the participants might be interfered with during data collection.	Researcher scheduled the date and time of the interview based on the participants' availability.
Economic: Participant's budget might be at risk of paying for the cost of data.	Researcher purchased data for participants.

Direct benefits for participants	Indirect benefits for society at large or the researchers/institution
Increased knowledge and understanding about correct partogram use.	Maternity wards in Mamusa municipality benefited because their problem will be addressed, where the appropriate use of partogram promoted early recognition of complications.

Each participant's self-esteem will be heightened because of their input to the research.	Mamusa community have midwives with accurate skills of recording the partogram. Quality midwifery care is improved.
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1.21 LEGAL AUTHORIZATION

Approval to conduct the research was obtained from nursing scientific committee that is NUMIQ. The approval was subsequently obtained from North-West University health ethics committee (HREC) and North-West provincial DoH. The research proposal was later presented to the sub-district manager of Mamusa and Chief Executive Officer (CEO) of the selected health facilities in Mamusa municipality.

1.22 GOODWILL PERMISSION

Goodwill permission is a process of obtaining consent for the researcher to collect data. Goodwill permission was requested from the gatekeeper who is the person in control of access to an institution. The role of the gatekeeper was to ensure that the participants are protected and not forced to take part in the study. The researcher requested permission to conduct research by writing request letters (Annexures E and G) to the CEO of the hospital and sub-district manager of the selected CHC centre. Upon approval, permission was requested from the nursing managers. The participants were requested to participate voluntarily in the study.

1.23 INFORMED CONSENT

The researcher assigned an independent person who obtained informed consent from the midwives. The independent person has completed a master's degree at Sefako Makgato health sciences University and is awaiting results. The independent person used three major elements to successfully execute informed consent, which are information about the research, degree of understanding, and choice by the participants (Brink *et al.* 2016:38). The independent person used written informed consent (Annexure

J) to request permission from the participants to collect data. Informed consent in Annexure A clearly described the title, purpose of the study, voluntary participation, and precautionary measures. The independent person explained the informed consent to the participants and make sure that they understand before they make choices.

1.24 VULNERABLE PARTICIPANTS

There are no vulnerable participants in this study.

1.25 RESPECT FOR PARTICIPANTS

This principle entails right to full closure and self-determination (Polit & Beck, 2017:211). Participants will be given full information regarding the research such as purpose of the study, potential risks, and benefits. Participants were given enough time (14 days) to decide whether to participate in the study. If participants agreed to participate in the study, they will be requested to sign informed consent (annexure J). Beliefs, culture, and race such as prayer times and attire of the participants was respected and taken into consideration and not violated. The researcher respected decision of the participants and will refrained from using any form of punishment or coercion if the prospective participants refuse or withdraw at any point from the study.

1.26 MEASURES TO ENSURE PRIVACY / CONFIDENTIALITY / ANONYMITY

Measures to ensure confidentiality, privacy and anonymity was ensured as follows

1.26.1 Confidentiality

Confidentiality refers to prevention of data gathered during the study from being linked to individual participants or made available to any other person (Brink *et al.* 2016:37). Information saved in the computer was password protected, and when deleted it will be cleared from the recycle bin. Data recorded was deleted from the device after transcribing. Data written on the papers was destroyed by a shredding machine. Other researchers who might need access to the research information were requested to sign commitment confidentiality agreement.

1.26.2 Privacy

Interviews for this study were conducted online between the participants and the researcher only which further enhances privacy and confidentiality. Additionally, on the informed consent form participants were assured of privacy and confidentiality with which their information was treated. Participants were assured that data shared during interviews will not be disclosed to anyone.

1.26.3 Anonymity

Anonymity means the secure way of protecting confidentiality where the researcher cannot link participants to their data (Polit & Beck, 2017:223). Therefore, in this study the researcher did not use identity names of the participants. Alphabets were used to identify the participants to maintain anonymity throughout the interviews and this is also done to protect rights of the participants. The researcher developed a list containing real identity names of the participants matching with allocated alphabets. This information was kept safely and not available to anyone.

1.27 DATA MANAGEMENT

The data, provided in audio format, was saved on a password-protected computer. The password was created using eight characters, upper-case, special character and lower-case letter was included. Hard copies was stored in a locked cupboard, and only the researcher and the supervisor of the study kept key. Data records will be stored for 5 years thereafter they will be discarded. During discarding, hard copies will be shredded completely and data stored in the personal computer will be deleted and emptied in the recycle bin as well. The researcher will ensure no copies will remain in the computer.

1.28 DISSEMINATION OF RESEARCH FINDINGS

Purpose of dissemination of findings is to publish and present research to colleagues, professional peers, and funding companies but most importantly to share with directly affected people (De Chesnay, 2014:9). The researcher will be disseminating findings at a local conference to colleagues, professional peers, and funding organisation. The researcher will subsequently disseminate findings to the Mamusa municipality health

facilities in maternity units through gatekeepers and to the participants by emails and appointment will be made for virtual presentation of the research study by the researcher. According to Tripathy *et al.* (2017:10) dissemination of research findings also helps policy makers because they can access the research and amend policies. A comprehensive report about the study together with recommendations will be sent to the North West Department of Health.

1.29 MONITORING OF RESEARCH

The researcher always referred to ethics approved proposal when conducting research. The researcher and supervisors met at least every 2 weeks to monitor the progress of the research, and consistently communicated through email and telephones. The researcher and supervisors attended ethics workshops that helped in maintaining ethical standards of research. Annual periodic report was sent to health ethics committee and if anything changed in the study, the researcher would have made application to health ethics committee.

1.30 EXPERIENCE, SKILLS, AND COMPETENCY OF THE RESEARCHER(S)

The researcher has multiple skills that benefited the research project, these include communication, time management, effective planning that was used to conduct interviews successfully. During undergraduate studies, the researcher acquired skills on how to develop research proposals that include research process, scientific writing, research integrity and literature search. The researcher did research methods as a module for a master's course therefore it contributed to the in-depth knowledge about the research. Those skills were used to successfully complete this study. The supervisor has a master's degree in nursing and is currently busy with PhD and is experienced in qualitative research. The co-supervisor has a PhD in nursing and is also experienced in qualitative research and has successfully graduated four masters' and two PhD students.

1.33 RESEARCH REPORT STRUCTURE

Chapter 1: Overview of the study

Chapter 2: Research design and methods

- Chapter 3:* Discussion of findings
Chapter 4: Conceptualization of findings
Chapter 5: Limitations, recommendations, and conclusion

1.34 SUMMARY

This study aimed at exploring and describing experiences of midwives at Mamusa municipality on partogram usage at the selected hospital and community health care centre. This chapter comprises the research question, aim, objectives and further describes research methodology. The design approach was qualitative, exploratory, and descriptive. Study context will be two health facilities in Mamusa. The population of the study was midwives working at Mamusa municipality, sampling technique will be purposive and sample size will be determined by data saturation. The method of recruiting participants, process of obtaining consent from the participants and gatekeepers have been fully elaborated. The researcher was guided by ethical principles to protect human rights such as respect, beneficence, and justice. Trustworthiness was ensured by using dependability, credibility, transferability, authenticity, and confirmability criterion. Data was analyzed using Creswell's six steps.

CHAPTER 2

RESEARCH DESIGN AND METHODS

2.1 INTRODUCTION

Research methods are the techniques researchers use to structure a study and to gather and analyses information relevant to the research question (Polit & Beck .2017:33). This chapter focuses on research design, population and sampling, data collection and data analysis of this study that was followed. Furthermore, measures to ensures privacy, legal authorization, experience of the researchers, risks involved, data management and dissemination of results will be discussed in this chapter. The aim and objective of this study are to explore and describe experiences of midwives on partogram usage in Mamusa municipality.

2.2 RESEARCH DESIGN AND METHODS

2.2.1 Research design

Research designs are types of inquiry within qualitative, quantitative, and mixed method approaches that provide specific direction for procedures in a research study (Cresswell & Cresswell, 2018:49). Polit and Beck (2017:98) explain research design as the plan for obtaining answers to the research questions, it indicates how often data will be collected and where the study will take place. In this study, qualitative explorative and descriptive design was used.

Qualitative research design

Qualitative research is a form of social inquiry that focuses on the way people make sense of their experiences and the world in which they live and is an organized and interactive method that is used to explain life experience (Holloway & Galvin ,2016:3). Qualitative research design was followed to understand the experiences of midwives on partogram

usage in Mamusa municipality instead of quantifying the problem using figures. In addition, qualitative research is method of gathering knowledge from experienced individuals through verbal description (Fain, 2017:7).

Explorative design

Polit and Beck (2017:40) describe exploratory studies as research that begins with an interest to the researcher who subsequently investigates the full nature of the phenomenon, the way it manifested. In this study the researcher used virtual unstructured individual interviews to explore the experiences of midwives in the manner that they used the partogram in Mamusa municipality. According to Leavy (2017:5) exploratory research is used to learn about relatively under researched topics that help in filling the gap and generating new information.

Descriptive design

Qualitative descriptive design is used because it provides information that will enhance understanding of certain experiences from the perspective of the person living the experience (Grove & Gray, 2019:120). Therefore, the researcher followed descriptive research design to seek understanding of midwives' experiences on partogram usage in Mamusa municipality. The main goal of descriptive research design is to obtain comprehensive information from experienced individuals about certain phenomena (LoBiondo-Wood & Haber.2018:233).

2.3 POPULATION AND SAMPLING

2.3.1 Population

Population is defined as a group whose members possess specific attributes or share similar characteristics (Fain ,2017:134; Gray *et al* ,2017:124). In this study, the population was midwives working in Mamusa municipality, which is the entire group of persons that is of the interest to the researcher as they meet the criteria of the study (Brink *et al.*, 2016:131). There were 16 midwives, 2 advanced midwives, however, the researcher interviewed 13 participants. Other nursing categories were working in maternity but only midwives and advanced midwives had the experience of using the partogram. During the

study, population consisted of 9 females and 2 males of midwives and 2 advanced midwives working both night and day duties.

2.3.2 Sampling

Sampling is a procedure through which the researcher determines the category and number of participants who will provide data that will answer research question, location and how they will be selected (Creswell & Clark,2017:264). The sampling technique, sample criteria and sample size are described below.

2.3.3 Sampling technique

Sampling techniques are methods used to gather data about larger groups of people through the sampling of small percentage of the groups (Nieswiadomy & Bailey,2018:148). In this study, the researcher used purposive sampling because in qualitative studies researchers purposely select participants who have the experience about the concept that is explored in the study (Creswell & Clark,2017:264). Purposive sampling also known as judgmental or selective technique falls under non-probability sampling approaches, it involves selecting participants based on their knowledge about the issue under study (Polit & Beck,2018:245; Rai & Thapa ,2015:5). Brink *et al*, (2016:141) and Musa *et al* (2015:2-4) define purposive sampling as deliberate choice of a participant due to the qualities they possess to obtain comprehensive understanding about the question at hand, therefore the researcher chose midwives and advanced midwives as the best sample for this study because they have experience and understanding on partogram usage. Participants were determined by sample criteria discussed as follows.

2.3.4 Sample criteria

Sampling criteria determine characteristics of the participants that form the basis of eligibility(inclusion) or elimination (exclusion) (LoBiondo-Wood & Haber.2018:228). Inclusion criteria are the characteristics those participants must have to be part of the study and exclusion sampling criteria are characteristics that can cause the participants to be disregarded in the study (Gray *et al* ,2017:620).

Inclusion

- Midwives working in maternity wards/units with at least 6 months experience
- Advanced midwives

Midwives and advanced midwives in the inclusion criteria were considered because they are using partogram on daily basis and have experience in maternity units.

Exclusion

The researcher excluded the following health care providers because they do not use partogram on daily basis in their units and some are not trained to use partogram.

- Enrolled nurses and enrolled assistant nurses
- Midwives from other units of hospital such as theatre, casualty, pediatrics etc.

2.3.5 Sample size

Data were collected on 13 participants through virtual platform using unstructured individual interviews until data saturation was reached. The sample size was determined through data saturation in which no additional new information or themes emerged. Stunk and Locke (2019:39) state that data saturation is when the researcher identifies recurrent themes, and no new additional data is arising from the interviews. This view is supported by Cresswell and Cresswell (2018:262) who assert that the idea of saturation comes when there are no categories and themes emerging.

2.4 RECRUITMENT OF PARTICIPANTS

Approval was obtained from the scientific research committee within nursing and midwifery entity (NuMIQ), and the researcher further requested approval from North-West University Health Research Ethics Committee (NWU-HREC) which approved the study-NWU-00019-22-A1. The researcher also requested permission from the department of health provincial office, hospital chief executive officer, Mamusa sub district manager and unit managers. After permission was granted from all levels, the researcher continued to recruit participants. The communication officer was contacted to issue verbal permission for the researcher to stick posters on notice boards about the research that included

research topic, purpose, significance, clause that participation was completely voluntary and contact details of the researcher and the supervisor (Annexure I). Social media was used to recruit participants in Mamusa, because Facebook offers the researcher an opportunity to reach participants easily than using traditional methods (Burgess *et al*,2017:2). Using social media to recruit participants minimizes contact with potential participants in order to adhere to Covid-19 regulations.

The researcher identified the mediator who assisted with recruiting potential participants 2 months before the study commenced based on inclusion and exclusion criteria. After recruitment, the mediator shared the contacts and email addresses of participants with the researcher. Participants were informed about their rights, namely, to withdraw anytime without punishment, to refuse to participate in the study and to remain anonymous.

The researcher appointed an independent person who obtained informed consent from participants who had no relationship with participants. The mediator introduced the participants who were interested in the study to the independent person for further arrangements. The independent person made arrangements to explain informed consent clearly to the participants through telephone calls.

2.5 PROCESS OF OBTAINING INFORMED CONSENT

In the process of informed consent, researcher obtained it in hierarchy form which is explained as follows. Request to conduct research was sent to the department of health provincial office through email, then to the hospital chief executive officer and sub district manager. Upon approval of goodwill permission, the researcher informed the independent person to proceed with obtaining informed consent from participants who were recruited by the mediator. The independent person has a master's degree in nursing which serves as an advantage in research ethics for this study. The independent person contacted participants telephonically to explain informed consent using clear and understandable language and emphasizing the rights of participants mentioned above in sessions that lasted 10 to 15 minutes for each participant.

Participants received informed consent forms (Annexure J) through emails and were given 14 days to go through them and decide whether to participate in the study. The

independent person availed contacts details for questions and clarification. Receiving scanned consent forms through electronic mail played role in avoiding contacts with participants to ensure adherence to Covid-19 rules and regulations. All participants emailed consent forms back to the independent person, and the response was positive as 13 participants agreed to take part in the study.

2.6 DATA COLLECTION

Data collection is a process of acquiring information that is needed to answer research questions, besides, the quality of the study depends on data collection (Brink *et al.*, 2016:148; Polit and Beck, 2017:262).

In this study, the researcher collected data through individual unstructured interviews that were conducted virtually by means of google meet because participants were comfortable with it. According to Tracy (2020:159) unstructured interviews use open ended questions and encourage participants to tell stories using their experiences as witnesses or part of the event. The researcher covered the cost of data for participants to relieve them from financial strain upon joining virtual platforms for interviews. The researcher used the virtual platform to adhere to Covid-19 protocols to minimize contact with participants to limit the spread of the virus. Before the interviews, the researcher contacted participants to ensure that they were in a place free from noise and distraction.

During the unstructured individual interview, researcher emphasized the rights of participants which are, right to withdraw anytime without punishment before and during interviews, right to refuse to participate in the study and right to remain anonymous. The interviews took 30 to 45 minutes and permission was granted by participants for audio recording.

The opening central question that was asked the participants is: *“What are your experiences in using partogram in the Mamusa municipality as a midwife”*.

The researcher used interviews and communication skills such as probing, asking follow-up questions, and summarising to encourage the respondents to elaborate more on the topic (Brink *et al.*, 2016:158). Interviews were conducted until no new themes emerged,

furthermore, field notes such as observational notes and reflective notes were taken during the interview.

2.6.1 Field notes

Taken shortly after observation, field notes in qualitative studies are an essential component because they enhance data and provide rich context for analysis (Grove & Gray, 2019:112). Field notes are discussed in terms of observational notes and reflective notes.

observational notes

According to Polit and Beck (2017:736-737) observational notes are objective description of observed events and conversations, therefore the researcher noted down all the facial expressions observed at the same time listening to the participants.

Reflective notes

Reflective notes help the researcher to document personal experience, reflections, and progress while in the field (Polit & Beck,2017:737), therefore the researcher noted down own feelings and emotions during the interviews.

2.7 DATA ANALYSIS

Data analysis in qualitative studies runs concurrently with data collection and in involves an examination of terms instead of numerical values (Nieswiadomy & Bailey,2018:72). In this study, data were analysed using steps outlined by Creswell as described below (Creswell, 2014:197):

Step 1: Organise and prepare the data for analysis, this involves transcribing interviews, taking fields notes then arranging data into different types. In this study, the researcher recorded data and noted field notes for analysis.

Step 2: The researcher read all data from interviews; this would provide a general sense of the information, and this would reflect the overall meaning of the data on ideas of the participants.

Step 3: Data coding, that is the process of organising the data by bracketing chunks and writing numbers representing a category on the margins. It involves taking data gathered segment sentences into categories and labelling those categories with a term.

Step 4: Coding process was used to describe participants' multiple perspectives and explain categories or themes. Description involves detailed rendering of information about people. Themes described are the ones that appear as major findings.

Step 5: This step involves detailed discussion of interrelating themes. The researcher will narrate the results.

Step 6: Final step of data analysis involves making interpretations of the findings.

For data analysis, the researcher appointed an independent co-coder who holds doctorate degree in nursing and has experience in analysing data. The researcher and the co-coder analysed transcribed data and agreed on the themes that emerged to ensure transparency and fair interpretation.

2.8 MEASURE TO ENSURE TRUSTWORTHINESS

Trustworthiness is a qualitative scientific rigor whose criteria are credibility, transferability, confirmability, dependability, and authenticity (Grove & Gray, 2019:449; Polit & Beck, 2017:241). The criteria for trustworthiness are discussed below.

Credibility

Credibility is ensuring accuracy, expressing reality that is plausibility and soundness of the data in qualitative studies (Creswell & Poth, 2018:337; LoBiondo-Wood & Haber, 2018:502; Tracy, 2020:275). In this study, the researcher used triangulation in the form of member checking, persistent observation, and prolonged engagement to enhance credibility.

Triangulation

Triangulation refers to crossing checking the data and interpretations by asking different questions, using multiple sources, and using different research methods to draw conclusion about the study for accuracy purposes (Brink *et al.*, 2016:172; Polit & Beck,2017:241). Creswell and Creswell (2018:290) further state that triangulation strengthens reliability of the study. Therefore, in this study, data were collected using in-depth unstructured individual interviews whereby the researcher asked participants follow-up questions relevant to the topic and probed more information from the participants. Field notes were taken as part of data collection.

Member checking

Member checking is used to determine the accuracy of the findings by presenting the final report to the participants and confirm whether participants agree to the accuracy of data. This step involves providing an opportunity to the participants to comment on the findings (Creswell & Creswell ,2018:274). In support of this view, Stunk and Locke (2019:29) state that member checking is a requisite part of research conducted to ensure that researcher representation of the participants words reflects the participants lived experiences from their standpoint. In this study the researcher presented findings to the participants so that they could provide feedback on the reliability of interviews, whether the researcher interpreted them correctly.

Persistent observation

Persistent observation refers to researchers focus on the characteristics of the phenomena that is studied. This is important because it produces rich and thick data (Morse,2015:1214; Polit & Beck,2017:791). In this study, the researcher achieved persistent observation by focusing on the characteristics that are relevant to partogram usage in Mamusa municipality.

Prolonged engagement

Prolonged engagement is the strategy that is used to ensure that the findings of qualitative research are rich and is achieved when the researcher stays in the field until data saturation is reached. It helps in gaining an in-depth understanding of the

phenomena such as lived experience and perceptions (Brink *et al*,2016:172). Creswell and Creswell, (2018:275) support this by stating that the more the time the researcher has with participants, the more accurate the findings will be.

Dependability

Dependability refers to stability of findings over time and over conditions. Furthermore, if the study will be repeated using similar participants in the same context, the findings will be the same (Brink *et al*,2016:172; Polit & Beck,2017:430). In this study, dependability was achieved by audit trail and through independent co-coder who analyzed data independently. According to Grove and Gray, (2019:105) audit trail is the record of actions that were taken during data analysis, it helps in increasing confidence in the transparency of the study.

Confirmability

Confirmability is being objective thus referring to the potential congruency of data in terms of accuracy, it ensures that data are representing the information provided by the participants, is not created by the researcher, and is not biased (Brink *et al*,2016:173; Nieswiadomy & Bailey, 2018:71). Confirmability was further achieved by audit trail and triangulation.

Transferability

Transferability is showing that the findings of the study can applied to other contexts or other participants (Brink *et al*,2016:173; Nieswiadomy & Bailey, 2018:71). Fain (2017:593), further states that transferability in qualitative research is described as findings that can be applicable in other settings with similar participants through thick description. In this study, transferability was achieved through thick description and using purposive sampling technique. In addition, the researcher collected sufficient detailed information from the participants in Mamusa municipality area and purposive sampling maximises data collected because participants have insight about the phenomena (Brink *et al*,2016:173; Gray *et al* ,2017:644).

Authenticity

In this study authenticity was ensured by thick description, prolonged engagement, and data saturation. Authenticity is the ability and extent to which the researcher expresses the feelings and emotions of participants and faithfully and fairly show the range of realities (Polit and Beck,2017:788).

2.9 ETHICAL CONSIDERATION

Ethics refer to the study of actions of the researcher when taking precautions not to cause unnecessary harm to the research participants (Stunk & Locke 2019:40). Grove and Gray, (2019:175) further state that the purpose of ethical consideration is to protect the rights of the participants during an investigation, the benefits of the study should be more than the risks and the results should generate useful knowledge for practice. When researchers conduct a study that involves human beings, the following values and principles of ethical conduct should be considered:

2.9.1 Beneficence and Non-maleficence

Beneficence and non-maleficence involve securing well-being of the participants such as physical, psychological, or emotional and protecting them from discomfort and harm (Brink *et al*,2016:35). The researcher fulfilled this principle by considering participants' emotional being and social aspect. Comprehensive information was given to the participants, this included the purpose of the study and full explanation of their rights. Given that data were collected through online platform, participants' rights were still observed. Beneficence emphasizes that the research must do good and the non-maleficence highlight avoiding causing harm, in this study, the researcher did not use physical and psychological demand on participants (Gray *et al* ,2017:321).

2.9.2 Justice

The principle of justice ensures that participants are treated fairly by the researchers (Gray *et al* ,2017:321; Grove &Gray, 2019:134). According to Polit and Beck, (2017:214-215) the principle of justice emphasizes fair treatment of participants and right to privacy, whereby participants should be selected based on inclusion criteria not on availability and

their data should be kept in strictest confidence. The researcher ensured that participants received all information regarding the study to decide whether to take part in the study. Participants' rights were observed throughout. For example, those who wanted to withdraw and those who were not comfortable to be part of the study could do so.

2.9.3 Respect of persons (Autonomy)

Autonomy outlines that participant have the right to be fully informed about what the research entails that is self-determination and that they have right to withdraw anytime from the study without any coercion (LoBiondo-Wood & Haber,2018:150; Nieswiadomy & Bailey,2018:45).

The researcher ensured autonomy through the following:

- The researcher obtained legal approval from the department of health, then hospital chief executive officer and Mamusa clinic manager provided written permission letters. (Annexure D, F & H)
- North-West University issued ethical approval - NWU- NWU-00019-22-S1(Annexure B)
- Participants were afforded enough time (14 days) to decide whether to participate in the study.

2.10 MEASURE TO ENSURE PRIVACY AND ANONYMITY

Anonymity of research participants entails masking the identity of participants and protecting confidentiality (Nduna *et al*,2022:2; Polit & Beck,2017:223). Anonymity needs to be observed as an ethical principle. In this study, the researcher conducted the interviews telephonically thereby masking the participants. The participants were given temporary names, they were allocated alphabetical codes (A, B, C etc.) rather than using their identity names. Participants were assured that data gathered during individual interviews will not be shared to anyone else, except the study supervisor, co-supervisor and co-coder who have signed and are familiar with issues of confidentiality.

Brink *et al*, (2016:37) and Shen *et al*, (2019:8:) define privacy as having full control of the data and who can have access to it. The researcher will ensure that data gathered during

the interviews will not be shared to anyone except the stakeholders mentioned above. Audio recorded interviews are kept in the computer that is locked, whose password consists of capital letter, special character and numbers. Informed consent forms are kept in the supervisors' office in the locked cupboard.

2.11 LEGAL AUTHORIZATION AND GOODWILL PERMISSION

Legal authorization was obtained in the pyramid form which started from department of health provincial, then managers of the facilities and participants. Goodwill permission was obtained in the hierarchy form as well, which started from nursing scientific committee (NuMIQ) then North-West University ethics committee and lastly the participants.

2.12 PROBABLE EXPERIENCE OF PARTICIPANTS

The requirement of study was that participants should have at least 6 months' experience of using partogram, therefore all participants were exposed to partogram for more than 6 months. In this study, the researcher ensured that participants were ready to be interviewed by providing detailed information about the research at hand.

2.13 RISK AND PRECAUTIONS

According to Brink *et al*, (2016:43) risk refers to the chances of participants being harmed during data collection. Before study begins, the researcher should examine the ratio between risks and benefits. Risk assessment means understand the risks society or participants faces with potential probabilities and impact and this also includes framework to mitigate risks (Simons,2017:44). Risk assessment was done in this study by nursing scientific committee and Northwest University ethics committee, and it was graded as a minimal risk study. Furthermore, data was collected through online platform to minimize contact with participants as this is one of the measures to adhere to Covid-19 protocols.

2.14 EXPERIENCE, SKILLS, AND COMPETENCY OF THE RESEARCHER

The researcher studied research as a module during undergraduate studies at the North-West University. In addition, the researcher attended an ethics workshop that emphasized

more on rules and regulations of research. In this study, the researcher used research books to enhance knowledge. The supervisors in this study both have vast experience in providing guidance to postgraduate students.

2.15 DATA MANAGEMENT

All individuals who have access to data collected signed confidentiality agreement. In this study, those individuals are the researcher, supervisor, and the co-coder. Data that are stored electronically are saved in a password protected computer, the password contains capital letters, special characters, and numbers. Hard copies such as informed consent forms are stored in a locked cupboard in the supervisors' office and will remain there for five years. After five years data will be deleted completely from the computer including recycling bin and hard copies will be shredded.

2.16 DISSEMINATION OF RESULTS

According to Purvis *et al* (2017:8) and Stunk and Locke (2019:40) the available literature shows that participants want to receive the results of the study because it may be important for their daily activities, and they believe that when the researcher shares findings with them it shows respect. In this study the researcher will show respect by disseminating results to the participants in a form of presentation and hard copies. A comprehensive report will be sent to the department of health and finally the thesis will be available in the North-West University library.

2.17 MONITORING OF THE RESEARCH

The research proposal of this study was approved by nursing scientific committee and North-West University ethics committee. It was monitored by the researcher and supervisors through meetings, and communication via emails and telephones. An annual report will be sent to North-West University ethics committee.

2.18 CONFLICT OF INTEREST

Conflict of interest refers to any other relationship or activities that readers could perceive to have influenced the study. This study has no financial and personal influence that occurred (Bauchner *et al*,2018:2316).

2.19 CHAPTER SUMMARY

In this chapter the research design and methodology were discussed in detail. In the next chapter results will be discussed including themes and sub-themes.

CHAPTER 3

DESCRIPTION OF FINDINGS REGARDING USAGE OF PARTOGRAM IN MAMUSA MUNICIPALITY IN NORTH-WEST PROVINCE

3.1 INTRODUCTION

In this chapter the researcher discussed the findings of the study of experiences of midwives on partogram usage in Mamusa municipality. Data were collected through individual unstructured interviews and field notes. Participants were asked central broad question:

- *What are your experiences in using partogram in the Mamusa municipality as a midwife?*

Data were gathered from midwives using non-probability sampling, purposive sampling technique was used to select 13 midwives from maternity both from the community health center and the selected hospital. Creswell's six (6) steps (Creswell, 2014:19) of data analysis were used to recognize themes and sub-themes. During data analysis two (2) major themes emerged. This chapter will focus on the description of findings as illustrated in table 3.2.

3.2 DEMOGRAPHIC INFORMATION

Thirteen (13) participants were interviewed in this study, an audio recorder was used, and recordings were transcribed verbatim. Demographic data include gender, years of experience in using partogram, age, institution, and qualifications. Three (3) midwives were working in the local community health center which operated twenty-four hours a day and ten (10) participants were working in the hospital's maternity section. Demographic data are summarized in table 6 below.

Table 4 :Demographic data of participants

NO	PARTICIPANTS	GENDER	YEARS OF EXPERIENCE IN USING PARTOGRAM	AGE	INSTITUTION	QUALIFICATIONS
1	Participant A	Female	2 years	39 years	Hospital	Diploma in nursing and midwifery.
2	Participant B	Female	11 years	35 years	Community health center	Diploma in nursing, midwifery, community, and psychiatry. Diploma in primary health care
3	Participant C	Male	15 years	43 years	Hospital	Diploma in nursing, midwifery, community, and psychiatry.
4	Participant D	Female	6 years	29 years	Community health center	Diploma in nursing, midwifery, community, and psychiatry. Dispensing course
5	Participant E	Male	3 years	28 years	Hospital	Diploma in nursing, midwifery, community, and psychiatry.
7	Participant F	Female	6 years	29 years	Hospital	Diploma in nursing, midwifery, community, and psychiatry.
8	Participant G	Female	7 years	31 years	Hospital	Diploma in nursing, midwifery, community, and psychiatry.

9	Participant H	Female	16 years	54 years	Community health center	Diploma in nursing, midwifery, community, and psychiatry. Advanced diploma in midwifery
10	Participant I	Female	6 years	50 years	Hospital	Diploma in nursing, midwifery, community, and psychiatry.
11	Participant J	Female	6 years	41 years	Hospital	Diploma in nursing, midwifery, community, and psychiatry.
12	Participant K	Female	13 years	51 years	Hospital	Diploma in nursing, midwifery, community, and psychiatry. Advanced diploma in midwifery
13	Participant L	Female	2 years	45 years	Hospital	Diploma in nursing, midwifery, community, and psychiatry.

3.3 RESEARCH FINDINGS

The following two (2) major themes were identified in this study:

- **Theme 1:** Positive experiences on the use of partogram
- **Theme 2:** Negative experiences on the use of partogram

The above themes of experiences of midwives on partogram usage in Mamusa municipality are outlined below in the table 5 with the sub-themes.

Table 5: Themes and sub-themes

Themes	Sub-themes
1. Positive experiences on the use of partogram	1.1 Inservice training 1.2 Guidance and supervision 1.3 Rotation of midwives in labour ward 1.4 Teamwork among doctors and midwives
2. Negative experiences on the use of partogram	2.1 Incorrect plotting on the partogram 2.2 No recording on the partogram 2.3 Inadequate knowledge and skills on use of partogram 2.4 Litigation regarding use of partogram 2.5 Shortage of midwives in labour unit 2.6 Poor infrastructure and lack of equipments

3.4 DESCRIPTION OF FINDINGS: EXPERIENCES OF MIDWIVES ON PARTOGRAM USAGE IN MAMUSA MUNICIPALITY.

The description of findings will be according to the table 5 above and direct quotations from the individual interviews will be presented in italics form. Themes that emerged include positive and negative experiences on the use of partogram as discussed below.

3.4.1 Positive experiences on the use of partogram

Midwives from both facilities explained in detail the importance of partogram in maternity units. Participants explained how the partogram saved lives of the patients and how it helps them to monitor progress of labour and to identify risks timeously. Furthermore, participants expressed that all midwives working in maternity units should adhere to maternity guidelines and knowledge obtained at the learning institutions to assist in plotting and interpretation of the partogram. With this theme the following sub-themes emerged from the data, namely: Inservice training, guidance and supervision, rotation of midwives in labour ward and teamwork among doctors and midwives (table 3.2). The themes are described below.

3.4.1.1 Inservice training

The participants highlighted that they should be retrained often about the partogram as this will minimize mistakes that occur in the partogram. Participants also indicated that newly appointed midwives should receive in-service training about partogram because non-exposure can cause midwives to forget some aspects in the partogram. According to the participants, in-service training will address concerns of midwives about the partogram. The participants further indicated that in-service training should be on the real patients. This was evidenced by the following direct quotations: *Participant A, B, C and I*

I recommend that midwives must receive in-service training once a week regarding maternity case record that has partogram on it, from the beginning to the end.

I was talking about periodic training, on how often we get trained in the institution as a refresher. Just because you are from college or university it does not mean that you are good with partogram, you need to be reminded, so basically in-service training is important that is why I was talking about periodic training.

The issue will be timeous in-service training of midwives, whereby quarterly midwives do drills, to remind midwives on partogram. In this institution we are rotating that is why we need drills quarterly and it will benefit newly appointed midwives.

I would like us to have in-service training for all of us for these 2 facilities (Health centre and the hospital) we address issues such as incorrect recording. So in-service training will help us a lot to improve and to add to what we know.

3.4.1.2 Guidance and supervision

Guidance and supervision were viewed as critical aspects because this is where struggle in partogram usage is addressed. Participants expressed that unit managers, experienced midwives and doctors should guide and supervise newly appointed midwives and midwives from other departments who were not exposed to partogram. Midwives also expressed that through guidance and supervision, the current continuous mistakes will be minimised. This is evident as expressed by: *Participant E, J and J respectively as follows:*

New midwives will be best through guidance from seniors, and partogram will be well plotted and analyzed.

Com-serves should work under supervision.

As a com-serve you need supervision everywhere for at least 2 to 3 months.

3.4.1.3 Rotation of midwives in labour ward

Midwives believed that if they were rotating from ward to ward and clinic to hospital, they would have equal exposure to partogram and that will minimize forgetting partogram plotting. They emphasized that rotation of midwives would also enhance experience on using partogram because other midwives work in maternity only when doing overtime, as expressed by *participant C, I and L.*

Rotation has impact because midwives from other wards usually come to work in maternity for overtime, therefore, they need to be reminded on partogram usage.

Eh, you know what neh in our facility there a rotation of com-serves is for 3 months so that is when we have challenges because we monitor and supervise them.

Participant L asked, is there a way in which clinic nurses can rotate at the hospital? because some of their referrals in the partogram are not good.

3.4.1.3 Teamwork among doctors and midwives

Participants are of the opinion that teamwork amongst doctors and midwives will help them to a large extent because working individually on the partogram will cause many problems such as unnecessary caesarean sections and still births. Midwives believe that findings should be discussed with other midwives, doctors, and specialist doctors before plotting in the partogram as echoed by *participant A, G, J and H*:

What I usually do, I ask for assistance from the senior or doctor before I write on the partogram.

We need teamwork in maternity, whereby other colleagues should be reminded of other things because you find that they had break for 6 months from maternity. Working as a team will bring good results, maternity is a closed book.

When district teams identify persistent problem maybe about partogram, they organize a training such as BANC & ESMOE to address the problem.

I will advise that we integrate on partogram as doctors and midwives, and we should practice what we were taught at school.

3.4.2 Negative experiences on the use of partogram

Participants expressed that partogram is good however, there are factors that make it to appear negative. Midwives explained how factors such as skills, equipment and exposure contributed to negative experience of partogram usage. Other participants are of the opinion that the partogram should be reviewed because mistakes continue to occur in the current partogram, and there is not enough space to record their findings. Most of the participants think that the major negative thing about partogram is that it is time consuming. Within this theme, the following sub-themes emerged from the data analysis, namely: Incorrect plotting on the partogram, no recording on the partogram, inadequate knowledge and skills on use of partogram, litigation regarding use of partogram, shortage of midwives in labour unit and poor infrastructure and lack of equipment. These sub-themes are described and supported by direct quotations from the participants below:

3.4.2.1 Incorrect plotting on the partogram

Participants complain that newly appointed midwives mostly record wrongly in the partogram, sometimes before the onset of labour. According to the participants, incorrect recording portrays wrong interpretation and findings of progress of labour that will eventually lead to wrong management of labour. Other participants revealed that others fake partogram just to create a motive to refer the patient. The major contributory factors to incorrect recording are incomplete assessment, fatigue, and laziness. Incorrect recording is noted mostly when reviews are done on monthly basis. This is evidenced by the following quotes: *Participants A, B, E, H, I and G.*

Remember incorrect plotting can be dangerous, sometimes you find a midwife you [sic] do not care about the partogram, progressing patient and you think patient is dilating well. Midwives are lazy to do their own findings and lazy to plot on the partogram, hence incorrect plotting and patient will be in danger of CPD (cephalo pelvic disproportion) or cord around the neck.

The correlation between the contractions and the progress of labour sometimes do not match [sic], for instance I will say the woman is in latent phase of labour and contractions are intense, at the end of the day, the woman delivers. You end up saying it is precipitated labour, whereas the plotting was incorrect.

Partogram has two lines, that is action line and alert line, so sometimes I will find patient not dilating as expected (1cm per hour) that is why am saying partogram needs skills to get correct findings that will give a clear picture.

In most cases plotting is not good/correct. If you plot correctly there is no need to go and write the notes because it gives you a clear picture of labour.

Nna I normally tell our manager that I would like us to have in-service training for all of us for these 2 facilities (Health centre and the hospital) to address issues such as incorrect recording.

Hee maan midwives from the clinic fake partogram to send patients over.

3.4.2.2 No recording

Participants expressed that most of the partograms are empty for patients who are in labour that is noted during hand over and others are for delivered patients. They mentioned that it is difficult to know the progress of labour when the partogram is empty. Partograms that are empty expose labour patients to dangers and complications of labour. Midwives emphasized that not recording in the partogram is also a risk to their career. This is supported by the following quotations: *Participants A, C, E, F, H and H*

If partogram is not used properly, patient can be danger because you would not know the progress of labour. The other thing, you won't know if the baby is alive or not because you are not plotting.

This shortage of midwives leads to partogram not being used because sometimes as a midwife you will be busy with other commitments whereas time of partogram elapses. Remember partogram plotting is timeous.

It is difficult to plot the partogram in time due to staff shortage, that is why you find blank spaces on the partogram.

The other challenge is some midwives write on the notes and don't plot in the partogram hence I am talking about emphasis of partogram. [sic]

Our problem as midwives is in plotting of the partogram because sometimes we don't plot, you will find delivered patients with empty partogram in the unit.

According to my experience, some don't plot completely.

3.4.2.3 Inadequate knowledge and skills on use of partogram

Skills and knowledge of the partogram are the requirements to complete and interpret the partogram, unfortunately participants report that their skills and knowledge are insufficient to complete partogram. Participants explain that they are given limited time of midwifery during their years of studying hence they expressed that they did not have enough time to acquire skills. One of the reasons why they lack skills is because of lack of exposure to practice midwifery at the clinical services as it is limited. The challenge of inadequate knowledge and skills on the use of the partogram stated above is supported by the following quotes: *Participants B, E, G and I.*

Mhmm, the other challenge is the lack of knowledge, sometimes I will be confusing the latent phase and active phase of labour, and then I will be plotting all the information wrongly so.

If the midwife does not have those skills to assess the patient, obvious[sic] the partogram will give false picture. I can say with my knowledge of using partogram I ended up having more caesarean sections.

Partogram at the college is more of theory whereas in the hospital it's a real practice, that is why if do you not have skills you should be guided by seniors.

I mean that our findings are different, as I said they say patient is 7cm and when I assess the patient, I find 4cm, it is a challenge on assessment because we have different skills that affect plotting on the partogram. Some midwives are incompetent, and some are lazy, they just do not want to do the job, because they'll plot just to get rid of the patient.

Maybe it is because at college we do midwifery in 3rd level not in 4th year, so we come for com-serve we have 1 year space not practicing midwifery that's why we lack some skills. [sic]

3.4.2.3 Litigation regarding use of partogram

Participants revealed that the partogram will vouch for them and save their profession if plotted and interpreted correctly. According to midwives in Mamusa, mistakes such as incorrect recording, no plotting and dirty partogram can be used against them if the patient decide to lay charges, therefore the partogram is regarded as legal document. It was stated that attorneys review maternity records of their clients specifically partogram to find gaps that they can utilize to indict the department of health. Participants further stated that they are threatened about their jobs due to partogram, all this is evident from the following quotes: *Participants A, B, C and D.*

It is helpful because it will alert us when something is wrong about the patient, it also helps on the times of litigations, to show what was happening to the patient, it will show that a midwife was taking care of the patient thoroughly. In other words, I will say

the partogram will serve as advocacy for midwife during litigations, as long as it was done in a right way.

(Taking a deep breath) Iyoooh most of the midwives lost their qualifications because of partogram. Ahhhhhh some are removed from the SANC (South African nursing council) roll/register because of the partogram.

Maternity is the most litigated department because of incorrect plotting of the partogram. When lawyers receive the complaint from the patient, they come to the ward and request the copy of the file and mostly department of health loses cases.

Maternity records are legal records, should something go wrong, partogram will be the first thing to be considered checking if midwives are doing their jobs. Partogram is a legally binding record.

3.4.2.4 Shortage of midwives in labour unit

Shortage of midwives in maternity units is yet another major concern. The participants expressed that the partogram is time consuming and they usually don't plot it according to stipulated times. Midwives also reported that they work with labour, postnatal and neonatal patients hence it is difficult to record and interpret the partogram. According to the participants, labour patients are not monitored thoroughly because of shortage of midwives, and this led to unnecessary caesarean sections operation. The participants also stated that the ratio of midwives to patients makes it difficult for them to record and interpret the partogram. Quotations of the participants are stated below: *Participants C, E, H and F*

This shortage of midwives leads to partogram not being used because sometimes as a midwife you will be busy with other commitments whereas time of partogram elapses. Remember partogram is timeous.

It is difficult to plot the partogram in time due to staff shortage, that is why you find blank spaces in the partogram.

Shortage of midwives leads us to do critical aspects such PV (vaginal exam) in the partogram and leave out others.

What I experienced is that the partogram is time consuming because for instance we will be operating with 3 midwives in the busy ward.

3.4.2.4 Poor infrastructure and lack of equipment's

Participants explained that for the partogram to be plotted, it needs proper working equipment's such as blood pressure machine and sufficient working space. Participants further expressed that they leave some blank spaces in the partogram because they need fully functional apparatus to obtain correct findings. In addition, participants stated that machines in maternity units are not fully serviced and sometimes provide wrong readings. The other challenge is working space, midwives voiced out that they need enough space to assess the patients to plot in the partogram, but space is limited with many patients. Quotations to support this subtheme are indicated as follows: *Participants B, C, E and K*

I will fear to refer because doctor will say I like to refer and keep patient in the clinic. At the clinic we do not have enough resources to manage some conditions.

Maternity ward should be extended as well because there is no space to work in.

Yes, and in addition, structure is failing on us, and we run short of equipment. That is why I am saying we are failing to monitor patients because we only have 2 CTG machines to service many patients. Sometimes we have patients who need continuous monitoring such as fetal distress, so in that case we are serving one patient and failing others as that should be noted in the partogram.

My brother, I believe if the facility had all the resources, we would do the right thing. Before I assess the patient, I collect all the resources such as BP machine, CTG machine etc, to assess and plot in the partogram. So, if I had all the resources, I would fully plot the partogram. Simply I would enjoy my work. Imagine if I had to plot in the partogram and did not have CTG machine, which means my partogram would have blank spaces. I call it half-done job or half-done partogram because of resources.

Yes, akere these machines should be serviced annually, so if this is not serviced it will be a problem like they told us that it should be plugged always to avoid giving us wrong readings.

Mostly ke di advantages, but disadvantages are in the scenario that I have just given you whereby the partogram gave us wrong readings I don't know if it is because the CTG was broken or what.

3.5 SUMMARY

Experiences of midwives in Mamusa municipality on partogram usage have been outlined and described above. The findings revealed two main themes namely: positive experiences on the use of partogram and Negative experiences on the use of partogram that will be integrated with literature in chapter four.

CHAPTER 4

FINDINGS AND LITERATURE INTEGRATION

4.1 INTRODUCTION

The previous chapter focused on a detailed description of the findings on experiences of midwives on the use of partogram in Mamusa municipality. Chapter 4 consists of description of findings and literature integration. In this study, the following 2 major themes emerged with sub-themes as indicated in table 6..

- **Theme 1:** Positive experiences on the use of partogram
- **Theme 2:** Negative experiences on the use of partogram

The themes and sub-themes of experiences of midwives on partogram usage in Mamusa municipality, Northwest province are presented on the table below.

Table 6: Themes and sub-themes

Themes	Sub-Themes
6.1 Positive experiences on the use of partogram	6.1.1 Inservice training 6.1.2 Guidance and supervision 6.1.3 Rotation of midwives in labour ward 6.1.4 Teamwork in labour ward
6.2 Negative experiences on the use of partogram	6.2.1 Incorrect plotting on the partogram 6.2.2 No recording on the partogram 6.2.3 Inadequate knowledge and skills on use of partogram 6.2.4 Litigation regarding use of partogram 6.4.5 Shortage of midwives in labour unit 6.2.6 Poor infrastructure and lack of equipment's

4.2 THEME 1: POSITIVE EXPERIENCES ON THE USE OF PARTOGRAM

Positive experiences on the use of the partogram emerged as the first theme in this study and was integrated with literature. Participants shared their positive understanding of partogram integrating it with their experience in maternity units. They also explained in detail how the partogram assisted them in preventing the death of both the mother and the baby because it provides a guidance and alerts midwives when there is an imminent problem. In support of this theme, Lavender and Bernitz (2020:37) reported that the partogram is a positive tool because its advantages include usefulness during handover at shift changes to promote continuity of maternity patients and this tool teaches student midwives about progress of labour. The partogram is a tool that facilitates responsibility and accountability of a midwife conducting labour (Rachhoya & Barolia,2015:641). Yazbek and Jomeen (2019:128) affirm the positivity of partogram by further stating that a number of maternal deaths in private settings are much lower because all women there are monitored with the partogram during intrapartum phase as recommended by the World Health Organization. Participants also reported that correct use of partogram saves their career because it clearly shows how they managed patients throughout labour in the partogram. It is believed that midwives with more than 7 years' experience are more likely to use partogram to monitor the progress of labour due to prolonged exposure (Markos *et al*,2020:5).

A study conducted in obstetric unit in Bloemfontein revealed that the participants have displayed positive attitudes towards partogram because 91.7 % indicated that the partogram helps them to identify complications early (Brits *et al* ,2020:4). Similarly, Bazirete *et al* (2017:4) revealed that 90.1% acknowledged partogram as a positive tool because it reduces maternal mortality by 87.9 % and reduces newborn mortality. During unstructured interviews participants stated other positivity that partogram reduces caesarean section deliveries, as supported by a study conducted at a high-risk hospital in the Eastern Cape which revealed that the partogram usage reduces deliveries through caesarean sections (Mandaha & Mabenge, 2021 :14).

From positive experiences on the use of partogram four sub-themes were identified namely in-service training, guidance and supervision, rotation of midwives in labour ward and teamwork in labour ward as discussed below:

4.2.1 Sub-theme 1: Inservice training

Participants reported in-service training as a major aspect that will reduce poor partogram usage in maternity unit in Mamusa. Participants revealed that in-service training should be done regularly to enhance skills and correct mistakes in the partogram. This finding is supported by the literature as revealed below.

In-service training refers to a set of measures and strategies to promote competency of midwives for better undertaking of their duties with the aim of achieving goals of the department (Chaghari *et al*,2017:27; Hsieh *et al* ,2022:1). Inservice training is a valued acquisition of knowledge and skills that empowers midwives and student midwives that incorporates peer evaluation to improve performance (Lumadi,2017:37).

In the study conducted in Nigeria by Okusanya (2018:48-52), the findings indicated that in-service training improved partogram utilization from 51.9 % where there was uncertainty on plotting to 99.7% where midwives correctly plotted progress of labour. In addition, research conducted in Odi district hospital in Gauteng revealed that effective use of the partogram by healthcare workers in maternity wards needs formal instruction and ongoing in-service training (Maphashaa *et al*,2017:82). In-service training does not apply only in partogram and midwives, it is suggested that ophthalmic nurses should receive periodic in-service training to update, refresh their knowledge, and practise pre and post operative care (Eldesoky & Awad, 2022:954). Moreover, policy makers in health and hospital managers should consider environmental stressors and personal characteristics when planning to conduct in-service training for nurses (Mesgartehrani *et al*,2022:884). According to the participants and literature stated above, in-service training is important and should be taken as a routine in Mamusa maternity units. Cavale *et al*, (2019:821) recommend that in-service training should be done in the form of video tutorials, use of manuals and graphical tools because it helps understand different aspects of partogram.

4.2.2 Guidance and supervision

Participants noted that midwives from other wards often make mistakes in the partogram when they come to assist in maternity wards. They argued that it should improve with

supervision from management. The partogram that is utilized without supervision by the experienced personnel does not decrease the rate of caesarean section deliveries (Bolbol-Haghighi *et al* ,2015:563). During unstructured interviews, participants stated that newly appointed midwives and community service midwives must be guided and supervised by experienced midwives as this helps them to recall partogram plotting. This view is supported by literature. Supervision refers to direct and indirect guidance of individuals on clinically focused activities to enhance capabilities by experienced clinical personnel (Marlow & Mather 2017:112). Facility level guidance, evaluation, and audit of partograms from experienced midwives, unit manager and obstetricians will enhance the value of the partogram in maternity units for better clinical practice (Dalal & Purandare,2018:11). In addition, supervisors are seen as role models and are important inspirational sources to gain insight into the profession (Voldbjerg *et al*,2022:8).

In support of this, supervision of midwives in health facilities specifically in maternity units has shown positive results in quality improvements on maternal and newborn health service and practices (Sogobile,2021:8). A study conducted in Rwanda also showed that mentoring and guidance of nurses improved quality of care because participants felt more confident to provide care to patients after receiving support and supervision from seniors (Umunyana *et al*,2020:2-7).

4.2.3 Rotation of midwives in labour ward

Rotation of midwives in labour ward emerged as the third sub-theme. In this sub-theme midwives expressed their views that they should rotate with other midwives from different wards for exposure to and practice of the partogram to minimize errors and misinterpretation of the partogram. Rotation is a crucial experience in nursing and midwifery because it helps nurses to transform theoretical knowledge into clinical practice such as partogram use and exposes health care workers to different environments for clinical learning (Adam *et al*,2021:1). Clinical rotation begins from student nurse to obtain competency and to improve nursing skills. During rotations, students are exposed to real life situations with good clinical practices such as partogram interpretation (Byermoen *et al*,2022:13; Lunardelli *et al* , 2021:3373; Namulema,2021:2).

Yamaguchi *et al*, (2022:1) further state that nurses are at risk of chronic fatigue which occurs consequently from insufficient rest, therefore shiftwork and rotation will minimize that. According to Halliday *et al*, (2018:92) and Kluger *et al*, (2020:1444) when medical teams rotate, it provides team stability and improves the functioning of the ward area and rotation is also geared towards minimizing health care workers' fatigue. Participants reported that rotation will also give them relief from maternity units while others are earning experience on partogram usage. In support of this, internal rotation between labour, postnatal, and gynecological wards enhance professional competency (Bäck *et al*,2017:33).

In addition, staff rotation increases the potential strengthening of working relationships between midwives and the working relationships between the rest of the wards by giving a fresh perspective of the different wards around the research site (Doherty & O'Brien ,2022:6). According to the above information, it can be concluded that rotation of midwives provides a psychological and physical relief and plays an important role in learning partogram recording and analysis because all midwives are exposed to all units.

4.2.4 Teamwork in labour ward

During unstructured interviews with midwives, they stated that teamwork is needed in maternity units because mostly workload can be defeated by working together. Teamwork in the health fraternity refers to provision of health care services to patients by at least two or more nurses who work collaboratively sharing skills to accomplish high quality patient care (Harris *et al*,2022:2; Larsson *et al*,2022:2). Furthermore, teamwork has an association with patient safety, staff retention and job satisfaction (Kakemam *et al*,2021:1189-1190).

Failure in teamwork accounts for 72 % of adverse events in maternity section therefore pre-requisites for promoting safe maternity care involves teamwork and good communication (Rönnerhag *et al*,2019:586-591). Participants uttered that teamwork makes their work easy as they remind each other about the aspects that are easily forgotten about the partogram. A mixed method study conducted in Zimbabwe states that teamwork and joint decision making with managers help the team to identify gaps and implement solutions (Gage *et al* ,2022:7-9). Furthermore, a systematic review study

conducted in low-middle income countries revealed that midwives reported that teamwork is important especially during emergencies in maternity units because they will not hesitate to call and assist each other (Chou, 2022:80).

The study conducted from University of California, San Francisco school of medicine reported that teamwork between doctors and midwives successfully reduced the number of caesarean sections (Santana,2019:136). It clearly shows that teamwork in labour ward will eventually improve poor partogram use in Mamusa area, it should be thoroughly emphasized and practiced by all midwives.

4.3 THEME 2: NEGATIVE EXPERIENCES ON THE USE OF PARTOGRAM

Negative experiences on the use of partogram emerged as theme two and was also integrated with literature. The partogram has been used since 1970s and still not utilised effectively because of lack of leaders which results in difficulty in using the partogram to new users (Vlachos *et al*,2015:147). In this theme participants shared their views on partogram use as challenging and their expression portrayed negativity against the partogram. According to Fatouh *et al*, (2015:17) they believe that the partogram is time consuming for overburdened health care workers and too complicated for many midwives. Various factors such as negative perception, high number of patient and lack of guidelines contribute to low usage of partogram. In addition, there are other negative aspects in the partogram such as insufficient space to record findings (Patabendige *et al*,2021:2).

Some participants specified that the partogram is a difficult tool to plot in and mistakes often occur easily. According to Olivier de Sardan *et al*, (2017:72) midwives who fill partogram during labour are a very small minority, often they plot after delivery and overload of work is the main reason given. Agah *et al*, (2018:105) believe that the initial partogram that was produced by Friedman that is used currently needs to be reviewed and improved because obstetric policies have changed, and it was created during revolutionary times. Furthermore, there is no partogram that is customized for twin pregnancy and that labour differs completely from singleton gestation (Hochler *et al*,

2021:1). During the unstructured interviews, participants further stated that there are partograms with missing information for delivered patients. A study conducted in African countries supports the above statement, in Uganda only 24.6 % of partograms were complete and Ethiopia they found 34.4 % complete partograms (Mukisa *et al*,2019:6). In South Asia, it was found that in Bangladesh only 3 % of partograms out of all deliveries were completed in health facilities. This shows negativity in the partogram as a tool (Khan *et al*,2018:3). According to Litwin *et al*, (2018:2) there are various factors that contribute to suboptimal partogram use, that include negative perception of the partogram by birth attendants. Six sub-themes emerged from this theme namely, incorrect plotting on the partogram, no recording on the partogram, inadequate knowledge and skills on use of partogram, litigation regarding use of partogram, shortage of midwives in labour unit and poor infrastructure and lack of equipment's.

4.3.1 Sub-theme 1: Incorrect plotting on the partogram

Participants complain that midwives from the referring clinics record incorrectly in the partogram just to create reasons for referral. This, according to the participants is dangerous for the patient in labour because they cannot monitor labour properly. A study conducted in Britain supports the above evidence, incomplete partogram leads to uncertainty about the stage of labour or labour progress (Rowe *et al* 2020:1669). A study conducted in Kenya also concurs in that it was established that partograms were evaluated in this study were all incorrectly plotted or incomplete, the alert line was crossed in 17% of deliveries with no interventions and it was implemented after 3 to 26 hours (Bahizi *et al*,2022:91). Moreover, one study from Nigeria revealed that less than 10% of midwives routinely used partogram (Khalil *et al*,2022:40). Midwives' educators perceived clinical midwives as incompetent and argued that students were learning incorrect clinical practices from the clinical midwives. Thus, lack of experienced mentors was identified as one of the major factors to inconsistent midwifery practices such as not completing the partogram (Vuso & James,2017:137). The other problem is that intrapartum monitoring using the partogram is a tedious process which takes lot of time, and it is difficult to plot hence mostly when it is used it is done incorrectly leading to incorrect interpretation (Muthusi *et al* ,2019:228; Chiwala,2022:38).

This study shows different aspects that were either incorrectly recorded or incomplete, fetal heart rate 26.7 %, cervical dilatation 51.1 %, fetal head level 40.0% and uterine contractions 31.1% (TÜRKMEN and YÖRÜK ,2021:152).

The incorrect plotting of partogram and failure to identify abnormal labour is the major cause of shoulder dystocia cases in one of the selected Academic Hospital in Gauteng Province (Magwede *et al*,2019:22). According to the literature above and reports from participants, incorrect plotting in the partogram provides wrong findings and eventually leads to inaccurate management of labour.

4.3.2 Sub-theme 2: No recording on the partogram

Participants stated that the results of not plotting are that they cannot trace what went wrong with the patient. In this study, participants reported that some colleagues did not plot on the partogram instead they write clinical notes. No recording in the partogram refers to failure to record or use partogram even if the measurements are done (Kc *et al*,2016:9). A study conducted in Malawi by health care providers revealed that 1070 partographs, foetal heart rate was not recorded in 14.0 % of partograms, maternal blood pressure was 58.6% and temperature was not documented on 65.3% of partograms (Mandiwa & Zamawe,2017:3). According to Silva de Lucena *et al* (2019:223), the partogram is a low cost and effective tool for monitoring labour but health professionals have limited information about its use. This may lead to unnecessary interventions during labour because there is no record of monitoring by completing the partogram.

The traditional paper based partogram is time consuming for overburdened clinicians and is also complicated for midwives and advanced midwives hence no plotting in the partogram (Debdas *et al*,2020:365). In addition, a study conducted by Choudhary and Tanwar, (2019:1502) shows the following reasons for not plotting in the partogram, 45.4 % of participants said it was due to busy ward ,36.3% due to advanced labour and 18.1 % forgot about plotting.

Pregnant women who are not monitored with the partogram are five times likely to encounter obstructed labour (Desta *et al*,2022:5). Consequently, this study confirms that

women who are not monitored with the partogram are at high risk of intra and postpartum death. This highlights the importance of the partogram in tracking labour progress and diagnosing complication early (Diallo *et al*,2020:256; Getachew *et al*,2021:472). It can be concluded that if midwives do not record on the partogram, incidents of labour complications are likely to rise in maternity units.

4.3.3 Sub-theme 3: Inadequate knowledge and skills on use of partogram

In this study, participants revealed that the partogram requires skills from learning institutions such as college or university and integrating these skills with clinical experience. They argue that failure to do so may result in failure to interpret the readings on the partogram. Knowledge of plotting and interpreting the partogram enables midwives to understand progress of labour and further helps them to decide on management of complications (Ayenew *et al*,2020:9). Adequate knowledge and proper utilisation of the partogram reduces maternal mortality which often results from prolonged and obstructed labour (Anokye *et al*,2019:5; Sama *et al*,2020:2). A study conducted in Benha University Hospital in Egypt support this view, 95 % of nurses reported lack of information about the partogram and its use (Asmaa *et al* ,2017:82). The findings of the above quantitative study also affirms that 74.5% of midwives had a fair knowledge about the partogram. The study also revealed that the majority of midwives were diploma graduates when compared to the holders of a bachelor's degree in nursing (Rebirth *et al*,2018:26-27).

The main reasons for not plotting in the partograms are lack of knowledge in its use and wrong perception that labour can be managed without partogram (Gupta *et al*,2020:3086). In addition, a mixed-method study conducted in Tanzania and Ghana reported that only 3,9% of midwives could plot the partogram, the remaining number of midwives complained about inadequate knowledge about partogram utilisation (Chaturvedi *et al*,2015:9).

The participants in this study also stated that most of the newly appointed midwives lack skills in plotting in the partogram and automatically lead to false intervention of labour. They further pleaded for support from the district offices because there are obstetric specialists. In support of this, Sachan *et al*, (2021:3688) concur with the above report by

stating that specialists are the most knowledgeable in terms of partogram use, especially when it comes to active management of the third stage of labour. According to the information above, the partogram requires proper skills and knowledge to be utilized effectively.

4.3.4 Sub-theme 4: Litigation regarding use of partogram

Litigation in health refers to actions taken by families or patients claiming that the medical service provider failed to fulfil certain obligations during labour and therefore seek compensation in return (Zhou *et al* ,2019:87-88). Medical records such as partograms account for 25.3% of litigations (Zhou *et al* ,2019:87-88). The partogram is a legal document that is why midwives in this study are apprehensive that they might lose their jobs through failure to use it since attorneys are aware of the loopholes that result from the inability to use the partogram. It is not only midwives who are in fear of lawsuits, the doctors too are anxious about the increasing number of litigations. This fear causes variations in clinical managements of patients (Kalisa *et al* ,2018:2; Spendlove,2018:36). Participants further stated that maternity is the most litigated area in Mamusa. In support of this view, maternity is the leading department in United Kingdom with 38% of litigation payments (Nowotny *et al*,2019:1437; Renwick *et al*,2021:2; Sonmezer,2020:853). Even though maternity has the highest number of litigation cases, there are other departments such orthopaedic, community postoperative infection and musculoskeletal complications that face lawsuits (Pioger *et al*,2021:1657).

The partogram can be used to identify foetal distress which leads to hypoxic-ischaemic encephalopathy, therefore hospital in Cape town has 34 % cases of foetal distress cases that led to increased number of litigations (Adams *et al* ,2022:87). In addition, a study conducted in Turkey shows that medical litigation could be the cause of high caesarean section deliveries because obstetricians feel insecure to perform vaginal deliveries (Küçük *et al*,2017:105). In selected labour units in Tshwane South Africa, midwives

reported that litigation led to low morale, frustration, discouragement and lack of commitment and confidence (Mathibe-Neke & Mashego,2022:21).

It could therefore for be concluded that midwives work in fear of being dragged to courts as a result of failure to use the partogram correctly. This inevitably causes anxiety and demoralises them, forcing them to view the partogram as an enemy whereas it should be viewed as a lifesaving document.

4.3.5 Sub-theme 5: shortage of midwives in labour unit

Shortage of staff is a concern in maternity units of Mamusa. Most of the participants reported that mostly they operate with 2 (two) staff members in the unit. Staffing in labour unit should consist of three different categories registered by South African Nursing Council, that include advanced midwives, midwives, and staff nurses, ranging between four in each shift (Musie *et al*,2019:3). The labour ward is the unit with most emergencies and with unpredictable medical events. It thus needs an adequate number of staff since the shortage of midwives seems have a negative impact on delivery of services (Lumadi & Matlala, 2019:4).

Participants in Mamusa complain that staff shortage is causing fatigue because they must cover antenatal area, labour patients, postnatal and nursery at the same time. A study conducted in public tertiary hospital in Limpopo concurs with the above statement, midwives reported that staff shortage had negative impact on supporting women in labour because one midwife would care for more than one woman at the same time (Maputle, 2018:2). Furthermore, South Sudan has the worst health indicator globally with maternal mortality ratio of 2.054 per 100,000 because more than 90% of births occur without the help of midwives due to shortage of staff (Alfred & Abdallah,2017:76). The poor usage of the partograph is associated with disconnection between theory and practice, sub-standard teaching, negative role model of seniors in the clinical settings and shortages of midwives (Doris *et al*,2021:21). In addition, shortage of staff is implicated for prolonged waiting time during antenatal and child welfare clinic (Aluko *et al*,2019:10). On-going shortage of nurses to utilize partogram was also worsened by Covid-19, doctors and

midwives became infected which led to partial shutdown of hospitals (Kabesch *et al*,2020:560). If the number of midwives is balanced or increased per shift, the risk of under-utilisation of the partogram will be minimized because staff will not be too busy to record all components (Hagos *et al* ,2020:8).

4.3.6 Sub-theme 6: poor infrastructure and lack of equipment's.

Poor infrastructure and lack of equipment in relation to partogram use in Mamusa is the last sub-theme that emerged. In this sub-theme, participants indicated that for partogram to be fully completed, it requires assessment findings that are obtained with functional apparatuses such as blood pressure and cardiocograph machines. They further stated that the structure of the building is failing them because it is small and with many patients that need attention. A quasi-experimental study conducted in sub-Saharan Africa revealed that equipment shortages such as thermometer prevent midwives from completing the partogram (Lavender *et al*,2019:58). Another study conducted in Ghana in Nadowli district hospital revealed that inadequate medical equipment and infrastructural challenges affect quality and appropriateness of maternal and neonatal health services (Sumankuuro *et al*,2018:1). In addition, a study conducted in South Africa, Cape town reported that shortage of resources such as ambulances to refer patients and lack of physical space create trauma to midwives since they cannot provide quality care (Dutton & Knight,2020:20).

A review of partograms investigated reasons why the partogram did not work as it was intended, one major reason noted is limited resources in hospitals that prevent midwives from fulfilling all aspects in the partogram (Krishnan *et al*,2021:4). Moreover, Malesela, (2021:49) also supports this view by stating that under-resourced birth settings inhibit the ability of health professionals to provide appropriate care.

Lack of availability of maternity guidelines lead to suboptimal partogram use, because midwives have nowhere to refer (Burgod *et al*,2021:5). On the other hand, a study conducted in Southwest Ethiopia revealed that unavailability of printed partograms also contributed to poor utilisation (Tilahun *et al*,2021:3).

The partogram is intended to reduce maternal deaths, however high maternal and perinatal deaths in resource-limited settings are also associated with delayed interventions and inadequate technology that is used to obtain findings for the partogram (Nyamtema et al 2016:1677). Consistent use of partogram and availability of essential drugs contribute to provision of essential neonatal care (Fekadu *et al*,2022:8).

4.4 SUMMARY

The findings of this study on exploring and describing experiences of midwives on partogram usage in Mamusa municipality in North-West Province as well as literature integration were discussed in this chapter. In the next chapter, the researcher discussed the conclusion, limitations, and recommendation in relation to midwifery research, midwifery education and midwifery practice.

CHAPTER 5

LIMITATION, RECOMMENDATIONS AND CONCLUSION

5.1 INTRODUCTION

The previous chapter focused on the findings of the experiences of midwives on partogram usage in Mamusa in North-West Province. The findings were fully discussed and supported with literature. Gerrish and Lathlean (2015:557) define recommendations as suggestions or words of advice provided to develop plans and actions for best practice based on evidence. Recommendations in this study were made based on the themes and sub-themes and the supporting literature. In this chapter, recommendations, evaluation, limitations, and conclusions of the study will be made in relation to nursing practice, nursing education and nursing research.

5.2 LIMITATIONS OF THE STUDY

The following limitations were identified in this study.

- This study was conducted in a specific public hospital and community health centre in the North-West Province. For this reason, there is a need for more research in other health institutions.
- The research focused on midwives only and other categories were excluded. Further research should be extended to other categories such as doctors since they also utilize the partogram.
- Data were collected through virtual platforms which made other participants uncomfortable.

The recommendations are in accordance with main and sub-themes in chapter 4.

5.3 RECOMMENDATIONS TO ADDRESS THE EXPERIENCES OF MIDWIVES ON PARTOGRAM USAGE IN MAMUSA MUNICIPALITY IN NORTH-WEST PROVINCE.

Table 7 : Recommendations in relation to the themes

EXPERIENCES OF MIDWIVES ON PARTOGRAM USAGE IN MAMUSA MUNICIPALITY IN NORTH-WEST PROVINCE		
Themes	Sub-Themes	Recommendations
Positive experiences on the use of partogram	Inservice training	<ul style="list-style-type: none"> • Formulate in-service training schedule for partogram and appoint the coordinator to ensure consistent in-service training. • Management to invite maternity specialists such as obstetrician from district offices to educate midwives on changes of policies regarding partogram. • The area should have combined training of both clinics and hospital midwives to address challenges of Mamusa in details.
	Guidance and supervision	<ul style="list-style-type: none"> • Management should ensure that the maternity unit always has an experienced midwife for close supervision and guidance. • Maternity to have updated guidelines for proper use of the partogram. • Midwives should be given opportunities to advance their careers in order to guide the newly appointed midwives.
	Rotation of midwives in labour ward	<ul style="list-style-type: none"> • Ensure quarterly rotation of midwives for equal exposure of all midwives in Mamusa from ward to maternity units and from clinic to hospital.

	Teamwork in labour ward	<ul style="list-style-type: none"> • Encourage teamwork and support of midwives to create a positive learning environment. • Management should involve maternity staff in planning, for inputs and ideas. • Integration of doctors and midwives in maternity unit.
Negative experiences on the use of partogram	Incorrect plotting on the partogram	<ul style="list-style-type: none"> • Introduce electronic partograms to avoid incorrect recording. • Midwives to plot using pencil first to easily erase when mistakes occur then use pen after confirmation.
	No recording on the partogram	<ul style="list-style-type: none"> • Engage the department of health to increase sizes of the spaces in the graph to ensure proper and clear recording. • Management should act against midwives who do not plot in the partogram. • Management do conduct monthly file reviews to identify empty partograms in time.
	Inadequate knowledge and skills on use of partogram	<ul style="list-style-type: none"> • Identify midwives with lack of knowledge and conduct continuous in-service training on partogram through drills and practice to promote confidence in plotting. • Maternity unit should have visible posters on the walls for direction of partogram use. • Consistent communication between learning institutions and department of health to emphasize more on partogram.
	Litigation regarding use of partogram	<ul style="list-style-type: none"> • Midwives should document their actions in detail to defend themselves with evidence. • Minimize doing invasive procedures such as episiotomy in the presence of family members without explaining and obtaining consent from them to reduce litigations.

		<ul style="list-style-type: none"> • Creating a secure environment for document keeping, to minimize leaking of maternity files to law enforcers.
	Shortage of midwives in labour unit	<ul style="list-style-type: none"> • Liaise with provincial department of health to appoint more midwives for the district from community service nurses to address shortage of staff. • To do community outreach in the schools to create interest for learners to study nursing to increase staff in future.
	Poor infrastructure and lack of equipment's	<ul style="list-style-type: none"> • Extend maternity units to have more antenatal, labour, and postnatal rooms to accommodate more patients. • Order basic resources such as vital signs apparatus, fetal heart rate machine and equipment that are required to fulfil the partogram.

5.4 RECOMMENDATIONS FOR NURSING PRACTICE, NURSING EDUCATION AND NURSING RESEARCH

5.4.1 Nursing and midwifery practice

- Advance midwives should mentor newly appointed midwives by inducting them comprehensively about the objectives and expectations of maternity unit especially in partogram use.
- The department of health in the North-West province should adopt electronic partogram and replace paper partogram because e-partogram is an application that has alarm reminders that prompts the midwives to make plotting's such as fetal heart rate every 30 minutes and has visual alerts in case patient crossed alert or action line (Litwin *et al.*, 2018:2) as shown in *figure 1*. The picture in *figure 1* shows 3 patients being monitored, the first patient is overdue for assessment, fetal heart rate is high, and alarm is ringing to alert the midwife, second patient is about

to be monitored in 13 minutes, fetal heart rate is rising slowly and is reminding the midwife. The last patient is normal, and no action is required.

- The use of ePartogram will afford midwives to become competent and confident in using ePartogram application on a tablet or gadgets. In addition, it is believed that it improves timeliness of care and supports decision making (Sanghvi *et al.*, 2019:522).
- The ePartogram is designed to increase data entry by automatically graphing data and storing it for all patients within the application (Litwin *et al.*, 2018:2).
- Midwives should be encouraged to be responsible and liable for their actions, when they lack information, they must take responsibility to download and read updated maternity guidelines on their own and avoid waiting for management intervention.
- The department of health should review the current partogram, it should have enough spaces to document and increase sizes of the graph boxes for clear visibility.
- The department of health should design a partogram that accommodates twin pregnancy as there is no partogram that accommodate that.
- Midwives should be appreciated by the management and awarded yearly to boost morale and confidence, and hopefully promote good partogram practice.
- The department of health and the nursing education institutions should be in partnership for recruitment of student nurses from high schools by conducting careers exhibitions in the neighboring communities to create interest of learners to curb staff shortage.
- The department of health should encourage midwives to role model the profession by wearing professional attire and behave respectfully towards the community to generate interest of learners to study nursing to mitigate the shortage of midwives in maternity units in future.
- The DoH through its facilities such as hospital and clinics should create a system for tracing patients' documents and develop a safe archiving room with proper monitoring to minimize cases of missing files and to facilitate easy access in the hospitals and clinics to avoid unnecessary lawsuits.

- The DoH through its facilities such as hospital and clinics should create awareness during antenatal visits about frequently done procedures during labour to allay anxiety during labour and to also minimize law charges about partogram mismanagement.
- The DoH through its facilities such as hospital and clinics should provide debriefing sessions to the midwives through psychologists and occupational therapists every 6 months because maternity is a stressful unit.
- The DoH through its facilities such as hospital and clinics should prioritize mental wellness of midwives to manage stressful units and provide coping mechanisms (Ayinde *et al.*, 2022:50).
- The DoH through its facilities such as hospital and clinics should avail basic resources such as cardiotocograph machines, vital signs apparatus as priority on the budget of facilities because this equipment help in obtaining accurate measures that are needed for partogram plotting.

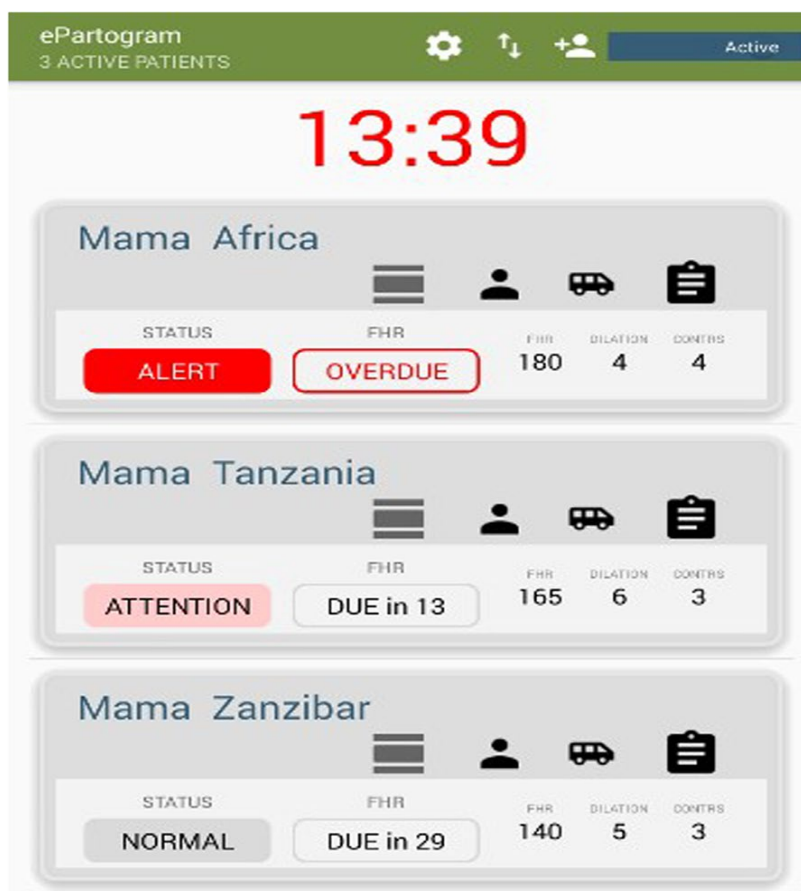


Figure (1): ePartogram

Source: (Litwin *et al.*, 2018:2)

5.4.2 Nursing and midwifery education

- Management should grant study leave to midwives to further their studies, to do advanced diploma in midwifery to be equipped for practice to manage complicated processes of labour that are identified in a partogram. This will reduce referring multitudes of patients from the community health center to the hospital.
- Midwives should be responsible for their own educational progress and apply for short courses that should enhance their skills of partogram plotting and interpretation.
- Advanced midwives should mentor newly appointed midwives by inducting them comprehensively about the objectives and expectations of the maternity unit especially in partogram use.

5.4.3 Nursing and midwifery research

- Quantitative research is recommended on experiences of midwives on partogram usage in Mamusa municipality in North-West Province should be conducted.
- Duplicate the same study on different category that uses partogram which is medical and obstetric doctors to explore their experiences.
- Future research to be conducted on record audit to validate the correct usage of the partogram.

5.5 CONCLUSION

The aim and objectives of this research study was to explore and describe experiences of midwives on the use of partogram in Mamusa municipality in the North-West Province. The aims and objectives of the study were achieved. A qualitative exploratory and descriptive design was used to achieve the objectives. Purposive sampling technique was used to identify participants for in-depth unstructured individual interviews. Data were analyzed using Creswell's steps. Ethical principles and measures of trustworthiness were

applied to ensure quality in the study. Findings related to the positive and negative experiences of the midwives in Mamusa Municipality were described in detail and integrated with the current literature. Recommendations were outlined according to the themes.

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ANNEXURES

Annexure A: Scientific Committee Approval for a research Application Research Using Human Participants



Scientific Committee Approval for a research Application Research Using Human Participants

Scientific Committee Information			
Name of the scientific committee	NuMIQ	Discipline(s)	Nursing
Research Entity	NuMIQ	Contact Person for the committee	Prof Karin Minnie
Faculty	Health Sciences	E-mail address for the committee contact person	Karin.Minnie@nwu.ac.za

Title of the study:	Experiences of midwives on partogram usage in Mamusa municipality: North West Province		
Researchers involved in the study:	Mr K Racoco Ms G Baakeleng Dr M.Matsipane		
Potential risk level for human participants:	No risk	<input checked="" type="checkbox"/>	Motivate: Click here to motivate the risk level
	Minimal risk	<input type="checkbox"/>	
	Medium risk	<input type="checkbox"/>	
	High risk	<input type="checkbox"/>	
Potential risk level for children and incapacitated adults:	No risk	<input checked="" type="checkbox"/>	Motivate: Click here to motivate the risk level
	No more than minimal risk of harm	<input type="checkbox"/>	
	Greater than minimal risk with the prospect of direct benefit	<input type="checkbox"/>	
	Greater than minimal risk with no direct benefit	<input type="checkbox"/>	
Recommendation for the REC:	Review by the research ethics committee required	<input checked="" type="checkbox"/>	Motivate: Click here to motivate
Any additional comments	Motivate: Click here to enter any additional comments		
Chairperson of the committee	Prof K Minnie		

Committee members present during the review (NB, please ensure no conflict of interest)	Prof S Moloko-Phiri Prof T Rabie Dr B Scrooby Ms S Lethale
Date of review	2021/05/10




Signature of Chairperson
 Date: 2021/08/04

Signature of Research Director
 Date: 2021/08/04

Form developed by Prof Minnie Greeff, 1 March 2017
Form updated by Prof Minnie Greeff, 31 January 2019
Form updated by Prof Minnie Greeff, 8 May 2019

Original details: (23239522) G:\My Drive\9. Research and Postgraduate Education\9.1.6.6 Forms\9.1.5.6_SC Approval_Human Participants.docm
 18 June 2019
 File Reference: 9.1.5.6

Annexure B :North-West University ethics committee approval letter of study



Private Bag X1290, Potchefstroom
South Africa 2520

Tel: 086 016 9698
Web: <http://www.nwu.ac.za/>

**North-West University Health Research Ethics
Committee (NWU-HREC)**

Tel: 018 299-1206
Email: Ethics-HRECApply@nwu.ac.za (for human
studies)

1 April 2022

ETHICS APPROVAL LETTER OF STUDY

Based on approval by the North-West University Health Research Ethics Committee (NWU-HREC) on 01/04/2022, the NWU-HREC hereby approves your study as indicated below. This implies that the NWU-HREC grants its permission that, provided the general conditions specified below are met and pending any other authorisation that may be necessary, the study may be initiated, using the ethics number below.

Study title: Experiences of midwives on partogram usage in Mamusa municipality: North West province	
Principal Investigator/Study Supervisor/Researcher: Ms BG Baakeleng	
Student: K Racoco - 24420719	
Ethics number:	N W U - 0 0 0 1 9 - 2 2 - A 1
<small> NWU - 0 1 - Applications: 0 1 0 0 0 1 9 - 2 2 - A 1 NWU - 0 1 - Applications: 0 1 0 0 0 1 9 - 2 2 - A 1 NWU - 0 1 - Applications: 0 1 0 0 0 1 9 - 2 2 - A 1 </small>	
Application Type: Single study	Risk: Minimal
Commencement date: 01/04/2022	
Expiry date: 30/04/2023	
Approval of the study is provided for a year, after which continuation of the study is dependent on receipt and review of an annual monitoring report and the concomitant issuing of a letter of continuation. A monitoring report is due at the end of April annually until completion of the study.	

<p>General conditions:</p> <p><i>While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, the following general terms and conditions will apply:</i></p> <ul style="list-style-type: none"> • <i>The principal investigator/study supervisor/researcher must report in the prescribed format to the NWU-HREC:</i> <ul style="list-style-type: none"> - <i>Annually on the monitoring of the study, whereby a letter of continuation will be provided annually, and upon completion of the study; and</i> - <i>without any delay in case of any adverse event or incident (or any matter that interrupts sound ethical principles) during the course of the study.</i> • <i>The approval applies strictly to the proposal as stipulated in the application form. Should any amendments to the proposal be deemed necessary during the course of the study, the principal investigator/study supervisor/researcher must apply for approval of these amendments at the NWU-HREC, prior to implementation. Should there be any deviations from the study proposal without the necessary approval of such amendments, the ethics approval is immediately and automatically forfeited.</i> • <i>Annually a number of studies may be randomly selected for active monitoring.</i> • <i>The date of approval indicates the first date that the study may be started.</i> • <i>In the interest of ethical responsibility, the NWU-HREC reserves the right to:</i> <ul style="list-style-type: none"> - <i>request access to any information or data at any time during the course or after completion of the study;</i> - <i>to ask further questions, seek additional information, require further modification or monitor the conduct of your research or the informed consent process;</i>

- *withdraw or postpone approval if:*
 - *any unethical principles or practices of the study are revealed or suspected;*
 - *it becomes apparent that any relevant information was withheld from the NWU-HREC or that information has been false or misrepresented;*
 - *submission of the annual monitoring report, the required amendments, or reporting of adverse events or incidents was not done in a timely manner and accurately; and/or*
 - *new institutional rules, national legislation or international conventions deem it necessary.*
- *NWU-HREC can be contacted for further information via Ethics-HRECApply@nwu.ac.za or 018 299 1206*

Special conditions of the research approval due to the COVID-19 pandemic:

Please note: Due to the nature of the study i.e. (online collection of qualitative data via unstructured interviews with midwives in the public health arena), this study will be able to proceed during the current alert level, following receipt of the approval letter. No additional COVID-19 restrictions have been placed on the study except that the researcher must ensure that before proceeding with the study that all research team members have reviewed the North-West University COVID-19 Occupational Health and Safety Standard Operating Procedure.

The NWU-HREC would like to remain at your service and wishes you well with your study. Please do not hesitate to contact the NWU-HREC for any further enquiries or requests for assistance.

Yours sincerely,



Digitally signed by
Prof Petra Bester
Date: 2022.04.01
12:57:30 +02'00'

Chairperson NWU-HREC

Current details:(23239522) G:\My Drive\9. Research and Postgraduate Education\9.1.5.4 Templates\9.1.5.4.2_NWU-HREC_EAL.docm
20 August 2019
File Reference: 9.1.5.4.2

**Annexure C: Request letter to conduct research to North-West Provincial
Department Of Health**

8374 Magogoe Tlhabologo
Mahikeng
2745

Policy, Planning, Research & Evaluation office
North-west provincial Department of Health
Cnr 1st street & Sekame st
Mahikeng
2745

To: Research committee

Title: Experiences of midwives on partogram usage in Mamusa municipality: North-West Province

This letter is compiled by master's student from university of North-West Mafikeng campus Racoco Kagiso to request goodwill permission to conduct the study in North-west province in Mamusa municipality (Schweizer-Reneke district hospital & Mamusa community health centre).

The title of research study is "experiences of midwives on the use of partogram in Mamusa municipality: North-West" and the purpose is to explore and describe the experiences of midwives in Mamusa municipality on the use of partogram. Data will be collected through individual unstructured interview of midwives. Study will commence after approval from North-West Department of Health and gatekeepers of the institutions.

Note that there are no intentional risks associated with this research study. Covid-19 preventative measures will be taken into consideration during interviews. Participation is totally voluntary. Recommendations will be made available to the Mamusa municipality.

Thank you in advance



Racoco Kagiso Masters student (0782025988)

Annexure D: Permission to conduct research from North West department of health



RESEARCH, MONITORING AND EVALUATION DIRECTORATE

Name of researcher: **Mr K. Racoco**
North West University

Physical Address: 83 74 Magogoe Tlhabologo
(Work/ Institution) North West University

Subject: **Research Approval Letter – Experiences of midwives on partgram usage in Mamusa municipality: North West province.**

HEAD OF DEPARTMENT
2022-03-10
NORTH WEST DEPARTMENT OF HEALTH PRIVATE BAG X2068 MMABATHO 2735

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.

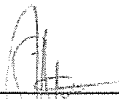
This letter of permission should be signed and a copy returned to the Department. By signing, the Researcher agrees, binds him/herself and undertakes to furnish the Department with an electronic copy of the final research report. Alternatively, the Researcher can also provide the Department with electronic 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 Dr. Ruth Segomotsi Mompoti district.


Dr Ruth Segomotsi Mompoti district

Office of the Chief Director	Office of the District Director
Mr. A. Mvula	Mr. Oupa Moalusi
Ms. Kesaobaka Monchwe (PA)	Mr. Onkarabile Pheko
AMvula@nwpg.gov.za	OMoalusi@nwpg.gov.za
KMonchwe@nwpg.gov.za	GOPheko@nwpg.gov.za
053 928 0506/7 (072 679 6440)	053 928 0502

Kindest regards.



Ms T.P. Tshihwanambi



Researcher

18/03/2022

Date

2022/03/18

Date



Healthy Living for All

Annexure E: Request letter to conduct research to Chief executive office of Schweizer-Reneke district hospital

8374 Magogoe Tlhabologo
Mahikeng
2745

No 1 Hospital Street
Schweizer-Reneke
2780
To: CEO

This letter is compiled by master's student from North-West University, Mafikeng campus, Racoco Kagiso to request goodwill permission to conduct the study in Schweizer-Reneke district hospital.

The title of the research study is "experiences of midwives on partogram usage in Mamusa district: North-West Province" and the purpose is to explore and describe the experiences of midwives in Mamusa district on the use of partogram. Data will be collected through individual unstructured interview from midwives that will be online to adhere to Covid-19 preventative measures. Study will commence after approval from the chief executive officer of the hospital.

Please note that there are no intentional risks associated with this research study. Participation is totally voluntary. Recommendations will be made available to the district.

Thank you in advance



Racoco Kagiso Masters student (0782025988)

Annexure F: Permission to conduct research from Schweizer-Reneke district hospital



health

Department of
Health
North West Province
REPUBLIC OF SOUTH AFRICA

No.1 Hospital Street
Private Bag X04
Schweizer Reneke
2780

Tel: (053) 9631291
Fax: (053) 963 2802
kpitso@nwpg.gov.za
www.nwhealth.gov.za



SCHWEIZER-RENEKE DISTRICT HOSPITAL

TO : Mr Kagiso Racoco
Masters student at NWU

FROM : Dr. S.L.K Pitso
Hospital CEO (acting)

DATE : 12 August 2021

SUBJECT : Willingness to grant permission for your research.

This communicate serves to indicate that our facility will grant you permission to conduct your research on "Experiences of midwives on partogram usage in Mamusa Sub-district; North West Province", upon the receipt of the approval by the departmental research ethics committee at the provincial office.

Hope you find this in order.

Yours faithfully,

Dr. S.L.K. Pitso
Acting Hospital CEO

Annexure G: Request letter to conduct research to Mamusa Sub-district manager

8374 Magogoe Tlhabologo

Mahikeng

2745

Mamusa health sub-district

Schweizer-Reneke

2780

To: Mamusa Sub district manager

This letter is compiled by a master's student from the North-West university, Mafikeng campus, Racoco Kagiso to request goodwill permission to conduct a study in Mamusa district CHC.

The title of the research study is "experiences of midwives on of partogram usage in Mamusa district: North-West Province" and the purpose of the study is to explore and describe the experiences of midwives in Mamusa district on the use of partogram. Data will be collected online through individual unstructured interviews from midwives to adhere to Covid-19 preventative measures. The study will only commence after approval from the district manager.

Please note that there are no intentional risks associated with this research study. Participation is totally voluntary. Recommendations will be made available to the district.

Thank you in advance



Racoco Kagiso Masters student (0782025988)

Annexure H: Permission to conduct research from Mamusa sub-district manager



health
Department of
Health
North West Province
REPUBLIC OF SOUTH AFRICA

Dept. of Health
Sub-District Manager
Mr. O.C. Khonkhobe
Shop. No. 7 & 8
Roshunville Complex
Private Bag X01
SCHWEIZER-RENEKE
2780

Tel: (053) 963 2377/8
Fax: (053) 963 2380 / 1751
Enq:okhonkhobe@nwpq.gov.za /
kerens@nwpq.gov.za



MAMUSA SUB-DISTRICT – OFFICE OF THE SUB DISTRICT MANAGER

To: Mr. K. Racoco
Masters Student at NWU

From: Mr. O. Khonkhobe
Mamusa Sub-District Manager

Date: 16 August 2021

Re: Willingness to Provide Partogram Approval Research

This letter acts as notice that, pending receipt of clearance from the departmental research ethics committee at the provincial office, our facility will offer you permission to conduct your research on "Experiences of midwives on Partogram usage in Mamusa Sub-District; North West Province."

Kind Regards,



.....
MR. O. KHONKHOBE
SUB-DISTRICT MANAGER

DATE: 16/08/2021

Willingness to provide Partogram Approval Research

1

Annexure I : Recruitment material “Invitation to participate in the research study

 NWU | NuMiQ

Invitation
TO PARTICIPATE IN RESEARCH

Recruitment material

INVITATION

Topic: Experiences of midwives on the use of partogram in Mamusa municipality "[North-West](#)"

You are hereby cordially invited to participate in the above-mentioned research by Mr Racoco Kagiso from the North-West University, Mafikeng campus

WHY IS THIS RESEARCH STUDY NEEDED?

The researcher has observed incorrect entries in the partograms, blank partograms for delivered patients and some has multiple erasing that make partogram not clear for interpretations from the midwives in Mamusa district. Aim of this study is to explore and describe the experiences of midwives regarding the use of partograms in Mamusa district of the [North-West](#) Province.

WOULD THIS STUDY BE A GOOD FIT FOR ME?

This study might be a good fit for you if:

- You are a midwife working in [Mamusa](#) "North West"
- Are willing to volunteer and participate in the research study.

WHAT WOULD HAPPEN IF I TOOK PART IN THE STUDY?

If you decide to participate in the research study, you will be required to do the following:

- Be willing to participate in unstructured interview that will be conducted virtually online to respect Covid-19 preventative measures.
- Be willing to spend at least 30 to 60 minutes in the discussion session.
- Be willing to keep whatever discussed in the focus group [confidential](#).
- Be willing to sign a written informed consent form as a proof that your participation is voluntary

PROJECT DATE: 2020 – 2022

BENEFITS OF THE STUDY

Direct benefits research study includes:

- Recommendations will assist midwives to plot and interpret partogram effectively.

DECLINE TO PARTICIPATE/ PRIVACY

- You are free to decline to participate in the research study and no penalty will be imposed on you and
- Your personal details will at no point be made available to anyone who is not a part of the research team, consisting of the researcher, supervisors, and the co-coder.

THE RESEARCHER

Mr Racoco Kagiso is the primary investigator of this research study. He is a clinical preceptor and a [masters](#) student at the School of Nursing of the North West University, Mafikeng Campus. This research study will further be drawn on the expertise of other researcher with specific skills as needed.

CONTACT DETAILS

Mr Racoco Kagiso
E-mail: 24420719@nwu.ac.za
Tel: 078 2025 988

COST

- No payments will be made for [participation](#).

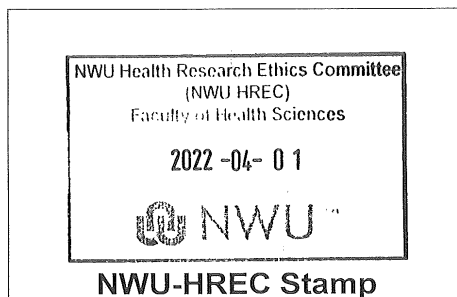
FUNDING

The research study will be self-funded by the researcher.

Annexure J : Informed consent for midwives to participate in the research study



Private Bag X1290, Potchefstroom
South Africa 2520
Tel: +2718 299-1111/2222
Fax: +2718 299-4910
Web: <http://www.nwu.ac.za>



INFORMED CONSENT DOCUMENTATION FOR MIDWIVES IN MAMUSA DISTRICT BEING INTERVIEW

TITLE OF THE RESEARCH STUDY: Experiences of midwives on the use of partogram in Mamusa district "North West province".

ETHICS REFERENCE NUMBERS: NWU-00019-22-A1

PRINCIPAL INVESTIGATOR: Miss GB Baakeleng

POST GRADUATE STUDENT: Mr K Racoco

ADDRESS: 8374 Magogoe Tlhabologo
2745

CONTACT NUMBER: 078 2025 988

You are being invited to take part in a **research study** that forms part of my master's degree in nursing. Please take some time to read the information presented here, which will explain the details of this study. Please ask the researcher or person explaining the research to you any questions about any part of this study that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research is about and how you might be involved. Also, your participation is **entirely voluntary** and you are free to say no to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part now.

This study has been approved by the **NWU-Health Research Ethics Committee of the Faculty of Health Sciences of the North-West University (NWU-00019-22-A1)** and will be conducted according to the ethical guidelines and principles of Ethics in Health Research: Principles, Processes and Structures (DoH, 2015) and other international ethical guidelines applicable to this study. It might be necessary for the research ethics committee members or other relevant people to inspect the research records.

What is this research study all about?

- *We plan to find out the experiences of midwives on the use of partogram in Mamusa municipality.*
- *This study will be conducted through virtual platform and will be done by experienced health researchers trained in North West university. 16 participants will be included in this study.*

Why have you been invited to participate?

- *You have been invited to be part of this research because you have experience in using partogram in Mamusa district.*
- *You will unfortunately not be able to take part in this research if you are not a midwife in Mamusa district and working in labour ward.*

What will be expected of you?

- *You will be expected to be interviewed and data will be collected through individual unstructured interviews using audio tape recorder through virtual platform (WhatsApp or google meet). Participants will be asked one central question which is: "What are your experiences of using partogram in the Mamusa district as a midwife". follow up questions will be asked to encourage participants to elaborate more on the topic. Non-verbal cues will be observed, and the interviewer will use follow up questions in order to understand meaning thereof. Interview will last approximately 30min.No follow up interview to be conducted.*

Will you gain anything from taking part in this research?

- *The gains for you if you take part in this study will be that when recommendations are made, it will be available to you as a participant.*
- *The other gains of the study are for learning institutions because recommendations will be available to them.*

Are there risks involved in you taking part in this research and what will be done to prevent them?

- *The risks to you in this might be inconvenience of family time, because participants will be interviewed after work, therefore researcher will schedule time that is convenient for the participants.*
- *There are more gains for you in joining this study than there are risks.*

How will we protect your confidentiality and who will see your findings?

- *Anonymity of your findings will be protected by Numbers such as Participant 1 will be used to identify the participants and the researcher will develop list containing real identity names of participants matching with numbers and it will be kept safe, not available to*

anyone. Your privacy will be respected by conducting interview through virtual platform, there will be participants and the interviewer only. On the informed consent form participants are assured that their information will be kept private. Participants will be assured that their data shared during interviews will not be disclosed to anyone. Your results will be kept confidential by not linking data gathered to participants and data recorded in an audio tape will be kept safe in a locked cupboard, and it will be available only to primary researcher of the study and the supervisor. Data written on the papers will be destroyed by shredding machine. Only the researchers and study supervisor will be able to look at your findings. Findings will be kept safe by locking hard copies in locked cupboards in the researcher's office and for electronic data it will be password protected. (As soon as data has been transcribed it will be deleted from the recorders.) Data will be stored for 5 years.

What will happen with the findings or samples?

- The findings of this study will only be used for this study.

How will you know about the results of this research?

- We will give you the results of this research after completion of the study by electronic mail.
- You will be informed of any new relevant findings by telephone.

Will you be paid to take part in this study and are there any costs for you?

There will thus be no costs involved for you, if you do take part in this study.

Is there anything else that you should know or do?

- You can contact Racoco Kagiso at 24420719@nwu.ac.za or 078 2025 988 if you have any further questions or have any problems.
- You can also contact the NWU-Health Research Ethics Committee via Mrs Carolien van Zyl at 018 299 1206 or carolien.vanzyl@nwu.ac.za if you have any concerns that were not answered about the research or if you have complaints about the research.
- You will receive a copy of this information and consent form for your own purposes.

Declaration by participant

By signing below, I agree to take part in the research study titled: **Experiences of midwives on the use of partogram in Mamusa district “North West province”**.

I declare that:

- I have read this information/it was explained to me by a trusted person in a language with which I am fluent and comfortable.
- The research was clearly explained to me.
- I have had a chance to ask questions to both the person getting the consent from me, as well as the researcher and all my questions have been answered.
- I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be handled in a negative way if I do so.
- I may be asked to leave the study before it has finished, if the researcher feels it is in the best interest, or if I do not follow the study plan, as agreed to.

Signed at (*place*) on (*date*) 20....

.....
Signature of participant

.....
Signature of witness

Declaration by person obtaining consent

I (*name*) declare that:

- I clearly and in detail explained the information in this document to
.....
- I did not use an interpreter.
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I gave him/her time to discuss it with others if he/she wished to do so.

Signed at (*place*) on (*date*) 20....

.....
Signature of person obtaining consent

Declaration by researcher

I (*name*) declare that:

- I explained the information in this document to or I had it explained by who I trained for this purpose.
- I did/did not use an interpreter
- I encouraged him/her to ask questions and took adequate time to answer them or I was available should he/she want to ask any further questions.
- The informed consent was obtained by an independent person.
- I am satisfied that he/she adequately understands all aspects of the research, as described above.
- I am satisfied that he/she had time to discuss it with others if he/she wished to do so.

Signed at (*place*) on (*date*) 20....

.....
Signature of researcher

Current details: (24420719) . Research and Postgraduate Education\9.1.5.6 Forms\HREC\9.1.5.6_NWU-HREC_ICF_Template_Feb2019.docm
7 February 2019
File reference: 9.1.5.6

Annexure K: Interview schedule



INTERVIEW SCHEDULE

Student Name : Racoco Kagiso

Student No. : 24420719

Project Title : Experiences of midwives on partogram usage in
Mamusa district “North-West”

Date : 2022

Type of interview : Virtual Unstructured individual interview

Venue : None due to Covid-19

Participants number : Allocated number

Questions to be asked

Participants were asked asked one central question:

“What are your experiences of using partogram in the Mamusa district as a midwife?”

- Follow up questions were determined by the response from the participants.
- Paraphrasing were used to expand responses and allow participants to clarify their answers.
- Probing follow up questions were used to search for more expanded detailed information from the participants and to elaborate more on the topic.
- Summarising of the responses from the participants was done to assure the participants that the researcher is listening and concentrating.

Annexure L: Example of a transcript of an individual interview with midwives

Researcher: Good morning mam, my name is Kagiso Racoco a master's student from North-West University. Thank for availing yourself today as a participant, so confidentiality will be maintained throughout the session, and it should last about 30 to 45 minutes. Your name will not appear anywhere. So please allow me to call you participant D. I wish to record this session. Do you allow me to do that?

Participant D: Yes, I allow you.

Researcher: The first question is: What is your experience of using partogram in Mamusa?

Participant D: Partogram is a tool that is used to monitor the progress of the mother and the baby throughout labour, it consists of the name of the patient, age, risks factors, dilation, heart of the fetus and vital signs of the patient. It is used to identify the dangers that might arise during labour. If I identify the danger, I will be able to act accordingly following maternity guidelines. The benefits of the partogram are I am able to prevent maternal death and still birth and lastly partogram ensures that the patient and the fetus are healthy. My own experience with partogram is that we use partogram in the institution and we do not have maternal death because of it, but we have cases of still births due to late response of pregnant patients. The other experience is that I will identify slow progress in the partogram then refer the patient to the hospital, then hospital they don't take partogram serious, their response will be I should have kept the patient in the clinic/community health centre. The reason I referred the patient is clearly stated in the partogram and maternity guideline. I feel like doctors in the hospital do not take partogram serious, they want to act when there is a problem already, whereas they should have listened to us when we refer. Should the baby and the mother die, midwives will be blamed for the death because partogram said you should refer but we did not because of the doctors.

Researcher: You spoke about partogram being used to monitor the patient; can you elaborate more please?

Participant D: Ohhh firstly you monitor BP, pulse, urine, blood glucose and hemoglobin on the mother, then on the fetus I monitor fetal heart rate and liquor if is meconium stained (MSL). Risk factors include cervical dilation where by patient does not dilate, sitting on the same dilation (6cm), so this can be used to suspect obstructed labour. The other issue will be, when the patient is fully dilated for 2 hours and not delivering, I will suspect big baby.

Researcher: You mentioned that partogram can be used to identify dangers in labours, please talk more on that point.

Participant D: Ok, dangers can include elevated blood pressure which is a sign of pre-eclampsia then patient should be referred for further management. The other danger could be cord prolapse and breech during vaginal examination.

Researcher: If I hear you correctly, partogram can be used to identify slow progress, cord prolapse and pre-eclampsia, is that correct?

Participant D: Yes, that is true.

Researcher: Earlier you said, partogram can help you to act accordingly, please elaborate more.

Participant D: Ohh Partogram is used concurrently with maternity guideline. Therefore, it guides the midwives on what to do holistically when they note abnormalities in the partogram.

Researcher: OK, earlier you spoke still births that you had, please take me through that relating it to partogram.

Participant D : I did not experience it personally, but it was my colleague where the mother came to clinic about to give birth then it was meconium stained liquor and the fetal heart rate was low(Tachycardia).Midwife encouraged the patient to push ,but she was uncooperative and baby was dead at birth (*sad voice*).If the patient came early to the clinic ,midwife would have assessed the patient and recorded in the partogram and finally identified the problem and acted accordingly .

Researcher: ok, I am sorry to hear that. How do you refer using partogram as you mentioned?

Participant D: When you refer the patient, I should have recorded all findings in the partogram, so as the receiver can a clear picture on what was happening to the pregnant patient throughout.

Researcher: From the beginning, you feel like in the referring hospital they do not take partogram serious, please elaborate more on that.

Participant D: I think in the referring hospital they are frustrated about the capacity of the wards because when we refer patients, they think we are playing, and by that time partogram is full. We really do not know what to do with such cases because we are following maternity guideline, we are really confused. The hospital staff puts our jobs in danger because should the patient die in

labour, we will be blamed because partogram gave us signs to refer. It is extremely frustrating because in the clinic/community center we work alone as midwives, there are not doctors to advise. If the doctors in the referring hospital do not want to accept our referral, we feel powerless, we do not know what to do. Sometimes we will be keeping the pregnant patient in the clinic for 2 to 3 days in labour because of refusal of referral, which is not good.

Researcher: Ok,so you are saying in the referring hospital they complain about the space not taking into consideration that you used partogram to refer the patient ?

Participant D: Yes, that is what am saying.

Researcher: Do you have anything to add?

Participant D: NO, except that they do not take us seriously when we refer, it is like we are a joke to them. Our duty is to follow partogram and maternity guideline for the healthy mother and the baby.

Researcher: After mentioning all the issues about the partogram, what do you recommend to remedy the situation.

Participant D: I recommend that we receive training on what to do when the patient has surpassed the one-paged partogram, sometimes we get confused and do not plot if it is slow progress .That is frustrating and we feel that we will lose our jobs because of partogram.

Researcher: I heard you mentioning that you are afraid that you will lose your jobs, please take me through that.

Participant D: Yes, maternity records are legal records, should something go wrong, partogram will be the first thing to be considered checking if midwives are doing their jobs. Partogram is a legally bounding record.

Researcher: As we approach the end our interview, you recommend that you receive information on what to do when patient has exceeded the partogram, do you have anything to add?

Participant D: No that is all, except that when we have slow progress and call the doctors who do not take us serious telling us to keep the patient in the clinic BUT the partogram says otherwise. So, we usually keep the patients because we are afraid to be shouted at by doctors because doctors go to the extent of coming to the clinic and shout at us. Doctors are intimidating us.

Researcher: I can see that is not good, sorry to hear that, how do you feel about that.

Participant D: (Taking a deep breath) eiiii It demoralizes me as a midwife, because we went to school and were taught to deliver healthy babies, but I think doctors are not motivated the same as we are. Partogram was emphasized at school, that it should be followed because I will deliver healthy baby as it helps to monitor labour.

Researcher: *(researcher summarizes)* Do you have anything to add, or do you have a question?

Participant D: NO

Researcher: I would like to thank you for sharing your experiences on using partogram in Mamusa. Please be reminded the information will remain confidential.

Annexure M: code of conduct and confidentiality agreement for co-coder

STANDARD NWU CONFIDENTIALITY AGREEMENT



CONFIDENTIALITY UNDERTAKING

Entered into between:

Co-coder

I, the undersigned **Professor (Prof.) Leepile Sehularo** hereby undertake in favour of the **NORTH-WEST UNIVERSITY**, a public higher education institution established in terms of the Higher Education Act No. 101 of 1997

Address: **3084 Portion 62, Unit 9, Mmabatho, 2735**

(Hereinafter the "NWU")

1. **1 Interpretation and definitions**

1.1 In this undertaking, unless inconsistent with, or otherwise indicated by the context:

1.1.1 "Confidential Information" shall include all information that is confidential in its nature or marked as confidential and shall include any existing and new information obtained by me after the Commencement Date, including but not be limited in its interpretation to, research data, information concerning research participants, all secret knowledge, technical information and specifications, manufacturing techniques, designs, diagrams, instruction manuals, blueprints, electronic artwork, samples, devices, demonstrations, formulae, know-how, intellectual property, information concerning materials, marketing and business information generally, financial

information that may include remuneration detail, pay slips, information relating to human capital and employment contract, employment conditions, ledgers, income and expenditures and other materials of whatever description in which the NWU has an interest in being kept confidential; and

1.1.2 "Commencement Date" means the date of signature of this undertaking by myself.

1.2 The headings of clauses are intended for convenience only and shall not affect the interpretation of this undertaking.

2. 2 Preamble

2.1 In performing certain duties requested by the NWU, I will have access to certain Confidential Information provided by the NWU in order to perform the said duties and I agree that it must be kept confidential.

2.2 The NWU has agreed to disclose certain of this Confidential Information and other information to me subject to me agreeing to the terms of confidentiality set out herein.

3. 3 Title to the Confidential Information

I hereby acknowledge that all right, title and interest in and to the Confidential Information vests in the NWU and that I will have no claim of any nature in and to the Confidential Information.

4. 4 Period of confidentiality

The provisions of this undertaking shall begin on the Commencement Date and remain in force indefinitely.

5 Non-disclosure and undertakings I

undertake:

5.1 To maintain the confidentiality of any Confidential Information to which I shall be allowed access by the NWU, whether before or after the Commencement Date of this undertaking. I will not divulge or permit to be divulged to any person any aspect of such Confidential Information otherwise than may be allowed in terms of this undertaking;

5.2 To take all such steps as may be necessary to prevent the Confidential Information falling into the hands of an unauthorised third party;

- 5.3 Not to make use of any of the Confidential Information in the development, manufacture, marketing and/or sale of any goods;
- 5.4 Not to use any research data for publication purposes;
- 5.5 Not to use or disclose or attempt to use or disclose the Confidential Information for any purpose other than performing research purposes only and includes questionnaires, interviews with participants, data gathering, data analysis and personal information of participants/research subjects;
- 5.6 Not to use or attempt to use the Confidential Information in any manner which will cause or be likely to cause injury or loss to a research participant or the NWU; and
- 5.7 That all documentation furnished to me by the NWU pursuant to this undertaking will remain the property of the NWU and upon the request of the NWU will be returned to the NWU. I shall not make copies of any such documentation without the prior written consent of the NWU.

5. 6 Exception

The above undertakings by myself shall not apply to Confidential Information which I am compelled to disclose in terms of a court order.

6. 7 Jurisdiction


This undertaking shall be governed by South African law and be subject to the jurisdiction of South African courts in respect of any dispute flowing from this undertaking.

7. 8 Whole agreement

8.1 This document constitutes the whole of this undertaking to the exclusion of all else.

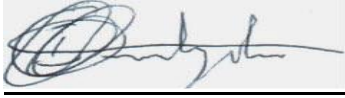
8.2 No amendment, alteration, addition, variation or consensual cancellation of this undertaking will be valid unless in writing and signed by me and the NWU.

Dated at Mmabatho this 12th of September 2022

A handwritten signature in black ink, appearing to read 'M. M. M.', is written over a light grey rectangular background.

Witnesses:

1

A handwritten signature in black ink, appearing to be "D. J. [unclear]", written over a horizontal line.

2

A handwritten signature in black ink, appearing to be "A. [unclear]".

(Signatures of witnesses)

(Signature)

Annexure N:Code of conduct

CODE OF CONDUCT FOR RESEARCHERS

This code of conduct is applicable to all NWU researchers.

As a researcher of the North-West University (NWU), I subscribe to the rules of the NWU Institutional Research Ethics Regulatory Committee (IRERC), all applicable policies of the NWU as well as all national and international laws and regulations applicable to my field of study. Furthermore, I commit myself to abide by the ethical principles and responsibilities as set out in the Singapore statement on Research Integrity (22 September 2010), in any and all research endeavours that I undertake as a researcher of the NWU.

The four major principles of research integrity to which I will adhere and that will guide my research are:

- Honesty in all aspects of research
- Accountability in the conduct of research
- Professional courtesy and fairness in working with others
- Good stewardship of research on behalf of others

Consequently I will also adhere to the following ethical responsibilities:

1. I will take responsibility for the originality and trustworthiness of my research.

2. I will stay abreast of and adhere to all institutional, national, and international laws, regulations, and policies applicable and related to my research.

3. I will at all times employ appropriate research methods, base my conclusions on critical analysis of the evidence and report my findings and interpretations fully and objectively.

4. I will keep clear and accurate records of all research that I have conducted in a manner that will allow verification and replication of my work by others, if applicable.

5. I will, where applicable, share my data and findings openly and promptly, in line with external funding rules. This will be done as soon as possible after I have had an opportunity to establish priority and ownership claims.

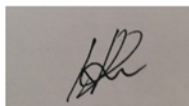
6. I will take responsibility for my own contributions to publications, funding applications, reports and other representations of my research. I will also and only include authors who meet valid authorship criteria.

7. I will acknowledge the names and roles of those who made significant contributions to my research in publications, including writers, funders, sponsors, and others, but do not meet authorship criteria.

8. In my peer reviews, I will provide fair, prompt and rigorous evaluations and I will respect confidentiality when I review others' work.

Name: Racoco Kagiso

Signature:



Date:
2022/09/30

Annexure O : Certificate of editing



Office: 0183892082

FACULTY OF EDUCATION

Cell: 0789175805

Date: 18/11/2022

TO WHOM IT MAY CONCERN

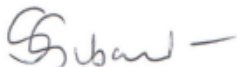
CERTIFICATE OF EDITING

I, **Sifiso Sibanda**, confirm and certify that I have read and edited the entire dissertation: *Experiences of midwives on partogram usage in Mamusa municipality, North West province* by **K Racoco**, Student number: **24420719** submitted in fulfilment of the requirements for the degree *Master of Nursing Science (MNSc)* at the North-West University, which was supervised and co-supervised by Ms B.G Baakeleng and Dr MJ Matsipane of the North-West University.

I hold a PhD in Language and Literature with English and am qualified to edit academic work of such nature for cohesion and coherence.

The views and research procedures detailed and expressed in the dissertation remain those of the researcher/s.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Sibanda', followed by a horizontal line.

Sifiso Sibanda

(PhD, MA, BA Honours, B.Ed., D.Ed. – English)



