DEVELOPMENT OF STRATEGIES TO FACILITATE THE REFERRAL SYSTEM OF HIGH-RISK PREGNANT WOMEN BETWEEN PUBLIC SECTORS IN BOJANALA DISTRICT, NORTH WEST, SOUTH AFRICA

by

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DECLARATION

I declare that the dissertation “Development of strategies to facilitate the referral system of high-risk pregnant women between public sectors in Bojanala District, North West, South Africa*”* hereby submitted to the University of Limpopo, for the degree of Masters of Nursing has not previously been submitted by me for a degree at this or any other university; that is my own work in design and in execution, and that all material contained herein has been duly acknowledged.

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RASEKELE, M.N (MS) DATE

DEDICATION

The study is dedicated to my parents, Nelson Rasekele and Esther Rasekele; my daughter, Orefile; and my siblings, Eunice, Vinolia, Mahlodi and Kamogelo Rasekele.

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- The North West Department of Health, for giving me permission to conduct the study.
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ABSTRACT

Background: The referral system is an essential component of the health system. The system meant to complement the Primary Health Care (PHC) principle of treating patients close to their homes at the lowest level of care with the needed expertise.

Aim of the study: The aim of the study is to develop the strategies that will facilitate the referral system of high-risk pregnant women in between public sectors in the Bojanala district, North West Province, South Africa.

Objectives of the study:

- To explore the referral system of high-risk pregnant women between public sectors within the Bojanala District, North West Province, South Africa.
- To develop strategies that will facilitate the referral system of high-risk pregnant women in the Bojanala District, North West Province, South Africa.

Methods: The researcher first obtained permission from the University of Limpopo Turfloop Research Ethics Committee (TREC), and further requested permission from the North West Department of Health, Bojanala District to conduct the study and was granted the permission. Qualitative, exploratory and descriptive designs were used to explore the referral system of high-risk pregnant women and to describe the strategies to facilitate the referral system of high-risk pregnant women in between public sectors in the Bojanala District, North West, South Africa. Non-Probability Purposive sampling method was used to select the midwives and obstetricians to participate in the study until data saturation was reached. Data were collected through one-on-one interviews using semi structured Interview Guide. The data were analysed using Tesch's eight steps of data analysis.

Results: The results of this study revealed that the participants are knowledgeable about the referral system though they are many challenges that they encounter when managing high-risk women and having to refer them. They are aware of the current state of referral system and made their own suggestions on how to improve the referral system.

Recommendations: Recommendations were made to facilitate the referral system of high-risk pregnant women in the North West Province, Bojanala District. The Department of Health must prioritise the provision of human and material resources to the district in order to achieve a better referral system and reducing the maternal and neonatal mortality as one of the millennium developmental goals.

Conclusion: The referral system of high-risk pregnant women in the Bojanala District still has some challenges that need the intervention of the North West Department of Health to provide enough material and human resources to the Maternity Section in order to improve current status and to have an effective referral system.

Key Concepts: Development, Referral System, High-Risk Pregnancy, Strategies, Women and Public Sectors.

DEFINITION OF CONCEPTS

Development

'Development' is seen as a progress towards complex goals and positivity such as elimination of poverty (Abuiyada, 2018). In this study,' development' refers to creation of new ways and strengthening of referral pathways of high-risk pregnant women.

High-risk pregnancy

According to Lee (2014), a 'high-risk pregnancy' is one that threatens the health or life of the mother or her foetus, which often requires specialized care from specialty trained providers. In this study, 'high-risk pregnancy' refers to the pregnancies that possess risk to the foetus and the health of the mother.

Public sectors

According Popa (2017), 'public sectors' refers to all government and publicly funded contractors and businesses. In this study, 'public sectors' refers to the Primary Health Care Centres and hospitals owned by the state.

Referral system

'Referral system' is defined as a process in which a health worker at one level of health system having insufficient resources to manage a critical condition seeks the assistance of a better or differently resourced facility at higher level of care to take over in management (Abrahim, Linnander, Mohammed, Feteni & Bradley, 2015). In this study, the 'referral system' refers to the actions, channels and steps taken during the process of directing high-risk pregnant women to the other level of care.

Strategies

According to the *Oxford English Dictionary* (2014), 'strategies' are defined as plans of action to achieve a long-term or overall aim. In this study, 'strategies' refers to ways that will improve the referral system of high-risk pregnant women.

Women

‘Women’ are defined as adult human females (*Oxford English Dictionary*, 2017). In this study, ‘women’ refers to females who carry a high-risk pregnancy.

LIST OF ABRREVIATIONS/ACRONYMS

ANC	African National Congress
BANC	Basic Antenatal Care
BEmOC	Basic Emergency Obstetric Care
CHCs	Community Health Centres
CTG	Cardio Toco Graph
Dr	Doctor
DoH	Department of Health
EMOCs	Emergency Obstetric Centres
EMRS	Emergency Medical Response Services
ESMOE	Essential Steps in the Management of Obstetric Emergencies
FHDC	Faculty Higher Degrees Committee
HB	Haemoglobin
JST	Job Shimankana Tabana Hospital
MDG	MillenniumDevelopmental Goal
MMR	Maternal Mortality Rate
NDoH	National Department of Health
PHC	Primary Health Centre
UNICEF	United Nations International Children's Emergency Fund
UNPF	United Nations Population Fund
US	United States
SBA	Skilled Birth Attendants
SOP	Standard Operating Procedure
TREC	Turfloop Research Ethics Committee
WHO	World Health Organization

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CHAPTER 1
OVERVIEW OF THE STUDY

1.1 Introduction and Background

The referral system is an essential component of the health system. The health system is meant to save lives and ensure both the continuum and quality of care. Therefore, as emphasized by Kamau, Osuga and Njuguna (2017), potentially life-threatening complications require skilled health-care workers, management and accessible higher institutions of care. This back-up function of referral is of particular importance in pregnancy and child birth. The World Health Organization (WHO) has identified three building blocks of a health system in its framework for action, namely, family/community, Health Care Centres and hospitals (WHO, 2016a). High-risk pregnant women within the Primary Health Care (PHC) facilities require a linked referral system to be effective in reducing maternal death.

Worldwide it is estimated that 287,000 women die every year and the majority of those deaths are due to obstetric-related causes (Ntuli & Ogunbanjo, 2014).The WHO report indicated that, globally, in 2015, an estimated 303,000 women died due to obstetric complications (WHO, UNICEF, UNFPA, World Bank, 2019). Most of the maternal death occurred in the developing countries, with about two thirds of the death occurring in the sub-Saharan countries (WHO, 2016b). According Graham, Devarajan and Data (2014), most complications, except for abortion-related causes, occurring in early pregnancy are common and they are usually life threatening, some complications occur during labour and post delivery, to prevent this, Primary Health Care facilities need timely diagnoses, treatment and appropriate referral systems to the Basic Emergency Obstetric Care (BEmOC) or secondary level of care to achieve the best fetal and maternal outcomes.

Over the years, the referral system of high-risk pregnant women in rural areas remained a crisis, especially in Sub-Saharan Africa, affecting rural Primary Health Centres. The Sample Registration System (2011-13) indicated that India accounts for fifth of annual global maternal death (56,000) (1) and the Maternal Mortality Rate (MMR) is estimated to be 167/100000 live births. Maternal death reviews showed that women have gone through several referrals before reaching appropriate facility

(Singh, Murthy, Thippaiah, Upadhyaya, Krishna & Shukla, 2015). A preliminary review of the Indian health policies and reproductive health programme was also done and it revealed that there were no standard procedures or referral protocols for obstetric emergencies and complications in India. The SBA Training Manual contains the clinical criteria for referral but these guidelines are not supported by appropriate resources in the health care system. According to Mash, Steyn, Bello, Pressentin, Rossouw et al., (2019) the limited records relating to referrals between institutions was becoming a theme. There was also no communication about referred cases provided to the next level of care and reasons for not sending feedbacks was stated as; more workload, shortage of staff, some referrals illegible or that the specialist at the higher level of care did not think the primary care providers will understand the feedback.

In Mozambique, healthcare is mainly provided by highly trained health-care workers in the national health services. The Mozambican government also had clear referral guidelines and policies within the national health services. The strategies to improve the referral system included having access to health facilities restricted to a limited radius to avoid patients bypassing one level of care; and monthly interactions with the communities to educate them about the referral system and the services that are provided the Primary Health Care facilities. This practice has thus enhanced the need for referral systems and good communication between all parties involved in the process (Give, Ndima, Steege, Ormel, McCollum et al., 2017).

Eskanderi, Abbaszadeh and Borhani (2013) state that the Primary Health Care is used as the main strategy to meet patients' needs in rural areas across the world. Although there was little proof of its use or implementation, there have been so many challenges in regard to the Primary Health Care programmes, which resulted in the referral system being unsuccessful and lack of necessary adequacy.

According to Mashishi (2012), prior to 1994 the health care in South Africa was fragmented and focused mainly on centralized and curative hospital-based services rather than focusing on the primary level of prevention in the communities. It was only after 1994 that the country adopted a unified national system that was based on the African National Congress' (ANC) National Health Plan for South African; and in

line with international standards that consider the PHC approach to the delivery of health services. The government adopted the PHC approach, stipulated different levels of care and developed referral systems to improve communities' access to health care services and appropriate levels of care (Abraham, Linnander, Mohammed, Feteni & Bradley, 2015).

According to Richard and Jacquet (2012), a well-organized referral system is an essential in any health organization whereby low-risk conditions are managed in the clinics and high-risk clients are referred and managed in the secondary and tertiary levels of care according to their needs. For the sake of clarification, the referral system is explained using a pyramid to emphasize the level of care and referral pathways whereby clinics are at the entry point for the majority of patients seeking both primary and emergency care and hospitals at the end point offering specialized care to patients.

Richard and Jacquet (2012) also stated that the health care system in South Africa follows the tiered system, like many other countries, to name few, Tanzania and India, whereby CHCs serves as the point of entry to patients seeking primary and emergency care. The Department of Health (2016a) also gives information on the types of services offered at each type of level of care; defines the referral pathway regarding which conditions to refer to the next level of care; and provides health-care workers with guidance of the appropriate management of pregnant women at each level of care.

For maternity services, the level of maternity care specified by the National Department of Health (NDoH) in South Africa are the clinics, whereby a doctor only visits once a week; followed by CHCs; then the district hospital, where there are better equipment and doctors readily available to offer specialized care and then central hospital in each province. These levels are relevant for the services provided and maternity services follow these levels of care for referrals (Department of Health, 2016a).

In the North West Province, the healthcare system was reported to have been experiencing a lot of challenges in many years. With the major challenge being the

continuous shortage of medication across the province, whereby patients are sent back home empty handed. In some clinics, the patients reported long waiting-periods only to be told that they will not be seen for the day as there is also another challenge of shortage of staff in the clinics, which also has an impact in the referral system (Ritshedze Project, 2021).

1.2 Research Problem

In South Africa, all provinces have adapted the National Department of Health strategy of referral system between the levels of care but there are still challenges in following the proper channels of referrals amongst different level of care either by health professionals or self-referrals of patients (Department of Health, 2016b). The researcher observed that there is the by-passing of the Primary Health Care facilities in Bojanala District by the patients. This problem was also identified in Gauteng whereby two midwives at Hospital X met with a nightmare of having to look after 96 pregnant women at a time, because of the inappropriate use of the referral system by the pregnant women (Mahopo, 2019). The researcher also identified multiple barriers for women to access quality antenatal care; one which is the lack of an efficient referral system. In the absence of clear referral systems, expectant mothers will be delayed from proper medical attention which can, in some cases, affect the survival of both mother and baby.

The researcher has observed in her practice that high-risk pregnant women are no longer getting more of the attention that they need in hospitals because hospitals are crowded with low-risk self-referral pregnant women who could have been assisted at Primary Health Care level. However, the hospitals are in no positions to send this low-risk pregnant women back, they have to help them, thus resulting in burnout of the hospital staff and the high-risk women deprived of the care they need (Department of Health, 2016b).

The researcher therefore developed interest to explore the strategies to facilitate the referral system of high-risk pregnant women and the challenges faced by midwives and obstetricians in the implementation of the referral system strategy in the Bojanala District, North West Province. Efforts are aimed at strengthening the referral system and to comprehensively manage clients' health needs, mostly at the

primary level, and to ensure that proper channels of communications in referral system are followed.

1.3 Theoretical Framework

1.3.1 Overview of the Theoretical Framework

Theoretical framework is described as an explanation which is based on formulated preposition statements from a theory of theories (Brink, van der Walt & Van Rensberg, 2017). In this study, the Orlando Nursing Process Theory is adopted to evaluate the process and knowledge of the midwives and obstetricians with regard to the referral of high-risk pregnant women, and the theory is further applied on the results in Chapter 4.

1.3.2 Orlando Nursing Process Theory

The theory stressed that there should be reciprocal relationship between the high-risk pregnant women and the health-care workers being the midwives and the obstetricians. Orlando, in the development of her theory, also believed that nursing is not prompted by the doctor's decision, organisational needs and past personal experiences and doctor's orders are for the patients not the midwives (Gonzalo, 2021).

Goal of the Theory

The theory is used to explain the midwives and obstetrician's role and to determine the high-risk pregnant women's health needs and help. However, it further explained that regardless of whether there was a plan in place to meet the pregnant women's needs challenges always arises at anytime. The researcher was able to use this theory to explore the knowledge of the midwives and obstetricians with regard to the referral system of high-risk pregnant and the challenges that arises when they refer these women to the other level of care or in the referral system.

Major Concepts of the Theory

The major concepts of the theory are function of the professional nursing, presenting behaviour, immediate reaction, nursing process discipline and improvement (Gonzalo, 2021).

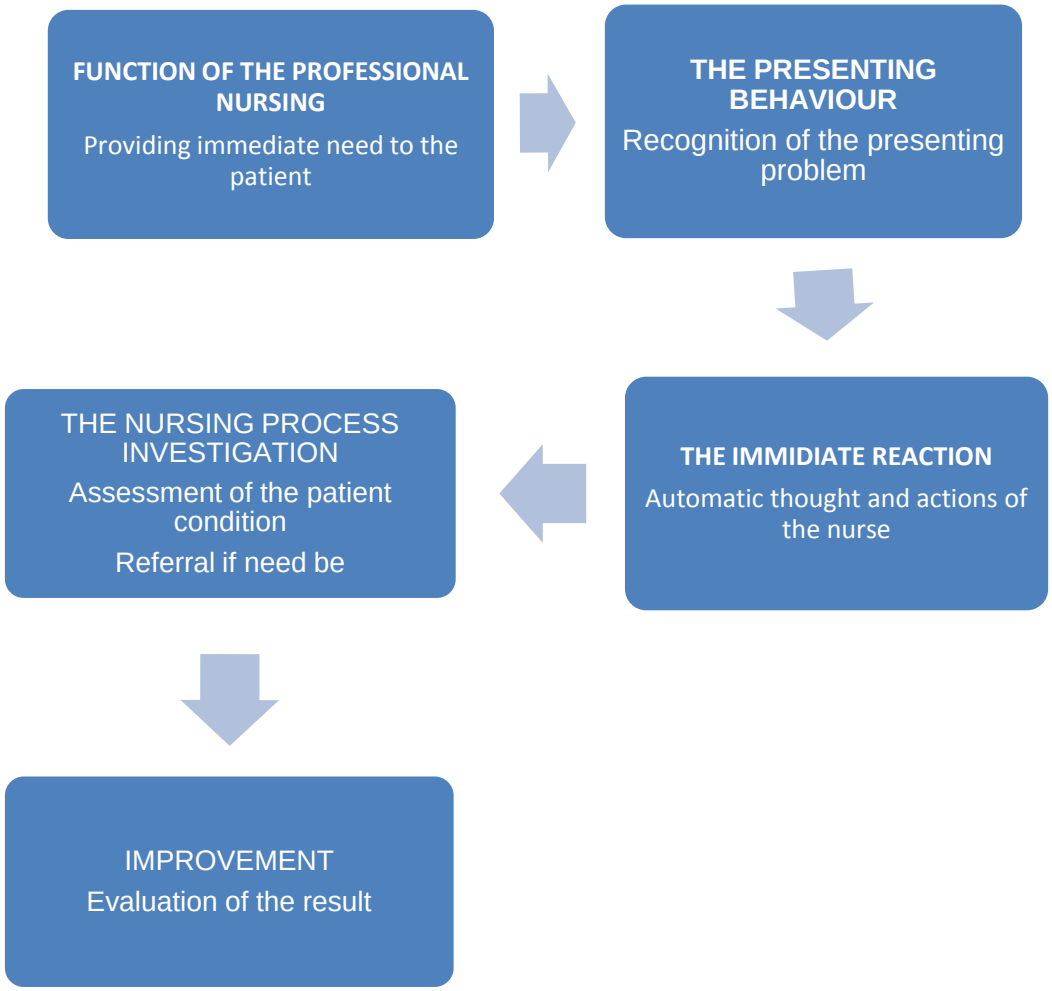

Figure 1.1: Orlando Nursing Process Theory Model (adapted)

Figure 1.1 shows how the major concepts of Orlando nursing theory are interrelated. The model provides a framework for nursing. Orlando used this model to understand what nurses and patients go through during their day-to-day activities of care. The theory guided the researcher throughout the study and data collection because the researcher was able to also evaluate the nursing care provided and probe for more information using the nursing steps that were outlined by Orlando Nursing Process Theory. The theory is divided into the following concepts:

The Function of the Professional Nursing

This is the organizing principle and means finding out and meeting the patient's immediate needs for help. According to Orlando, nursing is responsive to individuals who suffer and those who are helpless. It focuses on providing immediate help to the patient (*Orlando's Nursing Theory Process*, 2012).

The Presenting Behaviour

In order to recognize the patient's problematic situation the nurse must first recognize the problem no matter how complex (*Orlando's Nursing Theory Process*, 2012). Orlando further stated that the patient's behaviour can either be verbal, vocal and non-verbal. So the participants obtained both verbal and non-verbal objective data to be able to determine the problems of the pregnant women.

The Immediate Reaction

The perceptions stimulate an automatic thought then the person act, this are defined as the immediate reaction of the nurse (Gonzalo, 2021). Theory also states that the nurse's action may be automatic or deliberative, automotive meaning that actions are decided upon for reasons other than the patient's immediate need and deliberative meaning that actions are decided upon after ascertaining a need and then meeting the need.

The Nursing Process-Investigation

'Deliberative nursing process' is a concept that Orlando uses for a process that requires ongoing validation of the nurse's actions together with the patients. 'Automatic nursing process' describes a process whereby a nurse's response to the need for help is done according to the perceptions of the nurse, leaving out the role of the patient in their own care. Any observation shared and explored with the patient is immediately useful in ascertaining and meeting the patient's needs. The nurse begins the process of exploring to ascertain how the patient is affected by what she says is affecting her (Orlando, 2016).

Improvement

It is not the nurse activity that is to be evaluated rather its results, that is, whether or not the activity has helped the patient (Gonzalo, 2021). The researcher assessed if

the midwives and obstetricians actions where accordingly in the referral system of pregnant women and if the pregnant women received the care they needed and in this study proper actions were taken but the researcher realised that there were many challenges in the referral system which was deemed ineffective. The midwives and obstetricians in the management of the high risk pregnant women require the availability of material and human resources in the referral system in order to have a desired outcome of pregnancy.

1.4 Aim of the Study

The aim of the study is to develop the strategies that will facilitate the referral system of high-risk pregnant women between public sectors in the Bojanala District, North West Province, South Africa.

1.5 Research Question

Which strategies can be developed to facilitate the referral system of high-risk pregnant women between public sectors in the Bojanala District, North West, South Africa?

1.6 Research Objectives

- To explore the referral system of high-risk pregnant women between public sectors in the Bojanala District, North West Province, South Africa.
- To develop strategies that facilitates the referral system of high-risk pregnant women between public sectors in the Bojanala District, North West Province, South Africa.

1.7 Overview of the Research Methodology

In this study, qualitative research method was used as it focused more on the qualitative aspects of meaning, experiences and understanding, and it studies human experiences from the viewpoint of the research participants in the contexts in which the action takes place (Brink, van der Walt & van Rensburg, 2017). The main aim of this study is to develop the strategies that will facilitate the referral system of high-risk pregnant women in between public sectors in the Bojanala District, North West Province, South Africa.

In this study qualitative exploratory and descriptive designs were used to explore the referral system of high-risk pregnant women and to develop the strategies to facilitate the referral system of high-risk pregnant women in between public sectors in the Bojanala District, North West, South Africa**.**

In this study, the population was the midwives and obstetricians managing high-risk pregnant women in the Bojanala District facilities, Rustenburg and Moses Kotane Sub-Districts. Non-Probability Purposive Sampling was used and the participants were selected according to the inclusion criteria. The population was targeted at six midwives and one obstetrician in each facility or until data saturation was reached (Brink, van der Walt & van Renseburg, 2018).

A semi-structured interview was used to collect data. The researcher used an Interview Guide, voice recorder and asking of probing questions to collect data from the participants. The recorded voices were then transcribed verbatim and analysed.
Data were analysed using Tech's opening code method whereby the researcher transcribed the collected data and then in the final steps of analysis themes and sub-theme emerged.

1.8Ethical Considerations

The researcher adhered to the ethical norms for conducting research to promote knowledge and truth and to avoid any exploitation of the participants. Ethical clearance was obtained from the University of Limpopo-Turfloop Research Ethics Committee (see attached Appendix C), and permission to collect data was granted by the North West Department of Health, Appendix D. The researcher proceeded to obtain permission from the Bojanala District (see the attached Appendix E). The researcher obtained consent from the participant to take part in the study and they signed the Consent Form prior the study can be conducted (see Appendix A). Participants were reassured that their names would not be shown anywhere in the study and also assured them of complete confidentiality and anonymity.

1.9 Significance of the Study

The significance of the study is the benefits to the following:

- **Midwives and obstetricians**

This study may assist midwives and obstetricians to acquire more knowledge on the referral system and the categories of high-risk conditions in pregnancy in the Bojanala District and where to refer them. It may also help in the reduction of the workload if resources like Cardio-Toco Graph machines are provided.

- **Patients**

This study may assist the pregnant women to follow proper channels of referral and reduce the patients waiting times in the facilities when the booking systems are well established. Patients may also get the best of care in the facilities, if there is no overcrowding in reducing the maternal and neonatal incidences.

- **Facilities**

This study may help the hospitals and other facilities to plan more on their human and material resource allocation like provision of back-up cell phones and sourcing of ambulances for emergencies. The reduction of overflow of patients may also help in the planning of day-to-day duties of staff in the wards. It may also help in the retention of staff because the overworked healthcare workers often resign.

- **Department of Health**

The findings of the study might assist the North West Department of Health to guide the policy developers into developing new policies and guidelines that will allow the smooth running of the referral system. Assist in identifying gaps in the procurement of maternity care equipment and allocation to ensure efficient referral system.

1.10 Chapters Layout

Chapter 1: Overview of the study

This chapter provided the introduction and background of the study. It introduced the research topic, the problem, aim, objectives, the theoretical framework and a brief

research methodology and the ethical considerations that provided guidance to the study. It also discussed the significance of the study.

Chapter 2: Literature Review

Literature review covers the brief description of the levels of care; the challenges of the referral system; and the literature review of the strategies used in other areas to improve the referral system.

Chapter 3: Research Methodology

The chapter discussed the research methodology, the research design, research setting, the research population and sampling, methods used to collect data and measures used to ensure trustworthiness of the study.

Chapter 4: Discussion of results

This deals with the presentation of the results in relation to the study Aim and Objectives. Also discusses the strategies developed to facilitate the referral system

Chapter 5: Conclusion, Summary, Limitations and Recommendations of the Study

This chapter discusses the summary, limitations and recommendations; and the conclusions based on the research findings of the study concerning the referral system of high-risk pregnant women.

1.11 Conclusion

Chapter 1 discussed the overview of the study which includes introduction and background, problem statement, theoretical framework, aim of the study, research questions, objectives of the study, overview of the research methodology and significance of the study.

Chapter 2 discusses the literature reviewed in this study.

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

Mache and McEvoy (2016) defines literature review as a written document that presents a reasonably contended incident established on a comprehensive understanding of the recent state of knowledge about a topic of study.

Literature review in this study was done to check if any study was done on the strategies to facilitate the referral system of high-risk pregnant women between the public sectors in the North West Province. The researcher found that no study was done and continued to look at the studies done in other provinces, nationally and globally. A number of studies focusing on the referral of pregnant women and the inappropriate use of the referral system were found. The literature is obtained from articles, books, newspapers at the University of Limpopo Library and online via electronic searches such as SABINET, BMJ, Elsevier, BMC and Science Direct they articles were searched using the major concepts of the research topic.

The literature review covers the following contents:

- The levels of referrals for high-risk pregnant women;
- Challenges of the referral system; and
- The strategies that facilitates the effectiveness of referral system.

2.2 The Levels of Referral for High-Risk Pregnant Women

A referral system, according the Department of Health (2020), is a part of the comprehensive health care service whereby all the healthcare needs of patients are catered for or managed by referring them from an entry of care facility to an organisation, service or community unit that offer a more specialised care at the appropriate level. A well-functioning referral system allows for continuity of care across different levels of care. The referral system should also be inclusive of linkages to community-based services and other intersectional services that addresses the social determinants of health be it all complications of medical conditions and high-risk pregnancies (Department of Health, 2020).

Every patient must utilize the PHC clinics and Community Health Centres as the first point of entry into the health care system and then, if there is a need for referral or specialized care, they will be referred to the district hospital then regional to tertiary levels according to the needs and conditions of the patients. The referral network links the different levels of care based on the expected services in terms of the defined package of services.

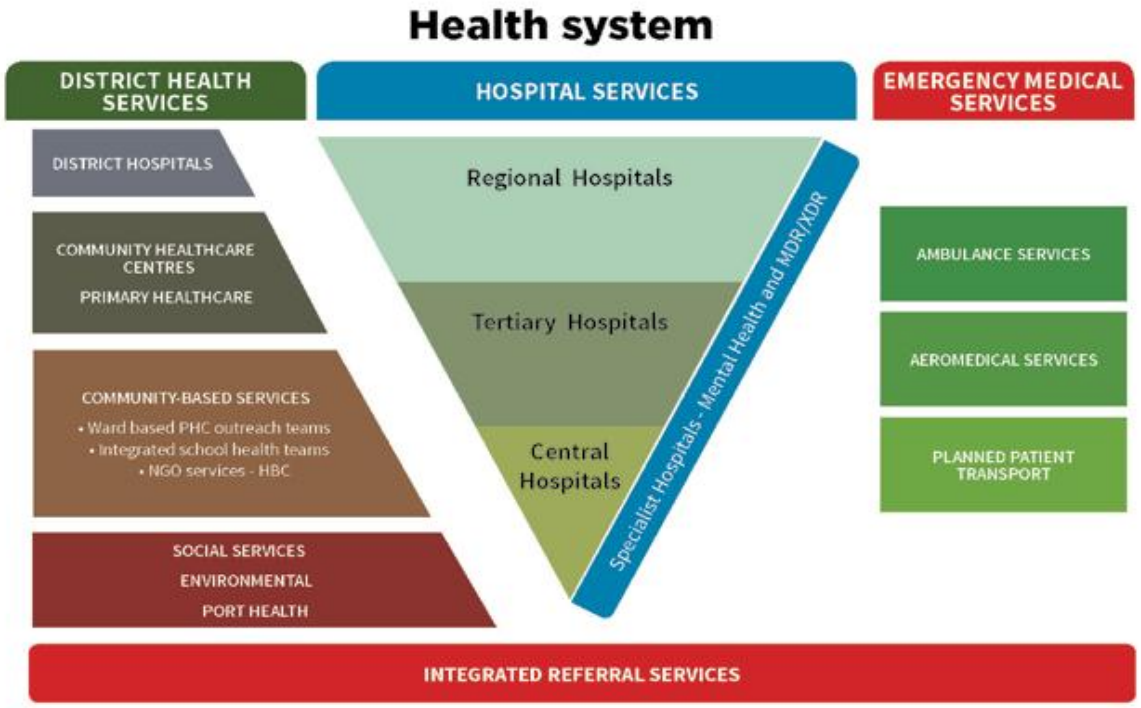

Figure 2.1: Service Delivery Platform – Integrated Referral Services (*adapted from Department of Health, 2020)*

Figure 2.1 shows how the health system is interrelated and which services are offered in each level of care from the primary health level to the secondary and tertiary levels and how the different levels of care are linked. In most Community Health Centres, they have limited resources like on site laboratories and are used for emergency care and stabilisation of patients before referral. Each of the secondary hospitals has their own catchment areas. These hospitals also serve with the specialised services like x-ray, CT-scan and interventional capabilities (Richard & Jacquet, 2012).

2.3 Challenges with the Referral System of High-Risk Pregnant Women

2.3.1Non-Compliance with the Referral System

Most countries in the world have two major types of the health care system being the Primary Health Care and the hospitals. The most complex aspect of referral system is the health-care worker acceptance and compliance of the referral pathway which is also influenced by the patient condition and the health-care worker experience with the referral facility (Kamau, Osuga & Njuguna, 2017). The levels of care are designed in a way that patients are encouraged to first seek help in the first level of care then be referred, however patients often bypass primary the primary care facilities and seek care directly at the hospitals.

Chaturvedi, Randive, Diwan and De Costa's (2014) study suggested that 14.3 percent of women were referred from PHC and 7.5 from CHC for delivery complications, the commonest causes for referral being prolonged labour and rapture of membranes which could have in theory been managed at the referring institutions. This suggested that there was over and unnecessary referral from peripheral institutions in the government sector. The researchers further found that most patients bypassed the Primary Health Care facilities because of distrust, lack of confidence in the CHCs for the proper management of complications whereas one study in review also reported that there were no referral records maintained and no proper referral documents provided to the pregnant women at the time of referral. Only in one study, 73% of referrals were provided referral slips but they did not provide any information about clinical manifestations or treatment given in the referring facilities (Chaturvedi et al., 2014).

Biswas, Das, Roy, Nandu and Ghost (2019) also in their assessment of CEmoOcs that was done in India the number of complicated deliveries handled at referral institutions is far more below than what it is expected. Despite high proportions of referral from lower institutions, the referrals received at Referral Centres for complications are highly inadequate, and this was due to poor compliance with the referral system or referrals were for low-risk pregnancies.

2.3.2 Accessibility to the Referral Health Facility

Findings of the qualitative study conducted by Alehagen, Finnstrom, Hermansson, Somasundaram, Bangal et al., (2012); and Sodani and Sharma (2011) suggested that referrals are haphazard and a pregnant woman at risk did not get the required Emergency Obstetric Care (EmOC) and had to go through several referrals before reaching appropriate institution. And, in India, most women preferred delivering at private institutions or go directly to hospitals to avoid transfers, whereas Jahn and De Brouwere (2013) argued that accessibility is being identified as the most important aspect of the use of hospital based Obstetric Care. One option to increase accessibility is to increase the service outlets for Obstetric Care according to population size and distribution. The reason behind this being that the services are to be accessed only if people are aware they are offered at the primary care level and within an accessible distance.

Peterson, Nsungwa-Sabiiti, Were, Nsabagasani and Magumba's (2013) study conducted in Tanzania showed that, of the referrals that arrived at the hospital, almost half delayed by two or more days and a study conducted in Uganda showed that only half of the patients that were referred went to the referral site the same day. In Kenya, it was found that the location of health facilities are far away from the communities and this affected the use of health care services (Kamau et al., 2017).

Transport is identified as a key constraint on achieving the child and maternal health goals in many of the developing countries in Africa. It is clear that transport and health are inextricably linked; inadequate transport for the delivery of basic health care results in unexpected maternal deaths (Kamau et al., 2017).WHO (2015) estimated that 75% of maternal deaths can be prevented through timely access to child-birth related care. The transport sector therefore plays an important role in achieving the fifth Millennium Development Goal of reducing maternal mortality by 75% by 2015.

2.3.3 Skills of the Healthcare Workers on Referral

According to the European Centre for Research Training (2014), the physicians had little training on when to make a referral and referring a pregnant woman is a medical

decision which depends on many things including the skills of the referring staff, the tools for diagnoses, and the availability of the medical health institution with resources. Referral by health worker was reported to be a direct order to patients where else it should be a mutual understanding about the need for and purpose of referral between the health provider and the patient. Patients end up not going to the referred facility even though they do not understand the importance of going there (Jahn & De Brouwere, 2013).

Health worker's poor understanding of referral systems and guidelines may also lead to non-referrals of high-risk patients to high level of care. The study conducted by Singh et al., (2015) also showed that all the staff across the researched facilities diagnosed moderate anaemia correctly and a half would refer such women whereas per guidelines PHCs and CHCs should be able to manage all moderate anaemia cases.

In India, the guidelines for the Skilled Birth Attendants (SBA) and management of obstetric complications provide guidance for clinical management and decision making at the primary level of care. These guidelines are for low risk and common high-risk complications during pregnancy, delivery and postnatal, and also suggest referral to the next level of care should the management become impossible in the primary level of care. This understanding is essential for improving the quality of high-risk antenatal care, early management of complications and continuation of care through appropriate referrals (Bucher, Marete, Tenge, Liechty, Esamai et al., 2015).It is the intention of the government that all pregnant women get attended to by the skilled professional, be it during antenatal or during labour and after delivery in modern healthcare facilities. According to a joint WHO, UNFPA,UNICEF,World Bank statement (2019), skilled health-care professionals attending to pregnant women during delivery are doctors(specialist or non-specialist) or health-care workers with midwifery skills, who are able to diagnose and manage obstetric complications as well as normal deliveries.

According to the Department of Health (2016b), there is a clear gap in the competencies of doctors and nurses and there has to be trainings from the undergraduate level that also continue to the internship level and beyond.

Emergency Response service (EMRs) personnel also still lack training on which kinds of patients are managed at what levels of care.

2.3.4 Lack of Feedback from Referral Institutions

In the study from the Republic of Honduras, there was an observation that junior doctors complained of not receiving any feedback from the referral institutions, despite some of the referred patients presenting with complicated conditions. Considering the limited time of clinic hours and the budget constraints, simple diagnostic slips given to the patient could be sufficient (Ohara, Melendez & Uehara, 2018).In a study that was done in Pakistan, it was revealed that none of the higher-level facilities (i.e., hospitals) provided feedback to the first level of care facilities. One of the reasons for low referral rates from the clinics to the hospitals is suggested to be this lack of feedback from hospitals, hence clinics do not refer patients, as there is generally poor feedback and, as a result, referral is seen as a futile exercise (Bossyns, Abache &Abdoulage, 2012).

According to the study conducted by Legodi and Wolvaardt (2015), the feedback letters that were examined were incomplete and often did not contain the standard and crucial elements of feedback letters described in the international literature. Opportunities for primary care practitioners to learn are lost. The lack of continuum of critical information about patients who are referred to hospitals is ineffective in improving the quality of care of the patient, and this leads to wastage of resources. Patients do face the consequences as they depend on the system greatly and the breakdown of communication within the system can result in unnecessary clinic and hospital visits that can stretch patients' already overstretched socio-economic capacity and sometimes loss of their pregnancies or complications. Some of the patients that were referred from the Community Health Care Centres to the hospital were also referred to tertiary level hospital. This delays the care of patients because, had there been proper active telephonic communication between the referring and referral facilities, all these transfers could be avoided and a more effective and expedient deposition for the patient could have been arranged (Richard & Jacquet, 2012).

2.3.5 Inappropriate Use of the Healthcare Facilities

According to the study conducted by Rurangwa, Mogren, Nyirazinyonye, Ntaganira and Krantz (2017) in Rwanda, the mortality rate has decreased over the years with an increase of women who utilises the antenatal care services, though most of these women were not able to attend the required four visits or more. Only 46% managed to attend the required four visits, which meant that more health education on the importance of early antenatal booking still needs to be emphasised.

However, some studies in international literature have argued that prenatal screening alone does not help in identifying the potential risks or complications that can arise during pregnancy and delivery (Rooney, 2012). Appropriate care during pregnancy improves outcomes of childbirth and there are specialized units that provide specialized care for those with complications during pregnancy and labour (Singh, Doyle, Oona, Campbell & Murphy, 2019). Decisions about which Referral Centre to choose depend on the indication for the referral and the facilities available at the higher Public Health Centres.

Singh et al.,(2015) and Charturvedi et al.,(2014) also concur that inappropriate and delayed referrals may make pregnant women choose a private facility closer to home or a tertiary hospital which could provide the necessary care throughout pregnancy and childbirth.

2.3.6 Inadequately Resourced Referral Facilities

In most developing countries, appropriate allocation of resources to referral hospitals within the national health system has long been a controversial issue in health system planning. Some study done in India found that, although a number of women were referred, most was self-referrals and most hospital lacked resources to can cater for the number of women in the facilities. Subsequently, women were either sent back to the Primary Health Care facilities or had to wait for long periods of time before being seen by the specialist. Nurses also complained of burnout and lack of equipment to provide optimal care for the patients. This was also the case in hospital X at Gauteng whereby two midwives on one night had to cater for 96 pregnant women due to inappropriate use of the referral system by the nurses and pregnant women and the financial challenges of the government to allocate more

personnel in the Maternity Wards (Mahopo, 2019). In the study conducted by Fadhlun, Pembe, Kwezi, Masawe, Hanson and Baker (2018), the midwives reported that they have very few resources compared to the number of women they have in the wards and, due to this, they ended up asking the pregnant women to buy their own equipment, which made some of them very angry given their understanding that hospital treatment is for 'free'.

2.4 Strategies to Facilitate the Effectiveness of the Referral System

2.4.1 Early Detection and Management of High-Risk Pregnant Women Conditions

According to Coco, Giannone and Zarbo (2014), pregnancy is considered to be high risk when there is underlying conditions that may be of risk to maternal, foetus or both. This necessitates a high-risk pregnancy to be managed by a specialist so that the good outcome of the pregnancy can be ensured. The DOH's (2016a) *Maternity Guideline for South Africa* stated that a pregnancy maybe deemed to be high risk due to the following factors:

- **Maternal Age:** A woman who is under the age of 17 years faces a higher risk of puerperal endometriosis and systematic infections than women aged 20-24 years (WHO, 2016c). Women who are over the age of 35 years are classified high risk because, the older you get, the greater the chance of having certain chromosome problems such as a baby with Down Syndrome and also the risk of miscarriages and still birth increases as you get older.

- **Pre-existing medical conditions:** The following medical conditions can pose a risk to the mother or baby:
  - ***High blood pressure (hypertension) –*** high blood pressure during pregnancy causes low blood supply to the placenta (National Heart, Lung &Blood institute, 2017).
  - ***Lung, kidney and heart problems –*** women with these conditions have a higher risk of miscarriage than a low-risk woman and a woman with chronic kidney condition is at a greater risk of having a small gestational age baby or a still born (Lara, 2021).
  - ***Diabete*****s–** babies born from mothers who are diabetic can either develop low blood sugar or yellowish skin discolouration called

jaundice. Some babies are likely to be born too big often referred to as 'Big Baby' (Moore, 2020).

- ***Sexually Transmitted Infections*** **–**some STIs like Gonorrhoea, Chlamydia, Trichomoniasis and Syphilis can pass from mother to baby during pregnancy or breastfeeding (Long, 2019).

- **Medical conditions that develop during pregnancy:** sometimes even when a woman falls pregnant they develop or are diagnosed with medical conditions that are pregnancy induced. Such include conditions like:
  - ***Pre-eclampsia*** **–**this is a syndrome which includes high blood pressure and the availability of highly concentrated proteins that is detected in the urine it may be accompanied by oedema of the lower extremities which is very dangerous for the mother or the foetus if not treated (Fox, Kitt, Leeson, Aye & Lewandowski, 2019).
  - ***Gestational diabetes*** **–** this is defined as a type of diabetes that develops during pregnancy. Women with this kind of diabetes may have a healthy pregnancy but are just at risk of developing Type 2 Diabetes and hypertension (Alfhadhi, 2015).

- **Pregnancy-related issues:** pregnancy is also classified as high-risk not because of the pregnant woman's condition or the condition that arises with pregnancy but because of the following;
  - ***Premature labour*** **–** this is defined that begins before 36 weeks of gestation. Premature babies may struggle with health problems and developmental problems (Ahumada-Barrios, 2016).

  - ***Multiple pregnancies*** **–** this means that a woman is carrying more than one baby it can be twins or triplets etc. Multiple pregnancies also puts a woman at a risk of developing pregnancy-induced hypertension and the babies run a greater risk of developing health problems like cerebral palsy, even though most of them are delivered healthy (Ahumada-Barrios, 2016).

- **Placenta praevia–**this occurs when a part of the placenta covers the mother's cervix partially or completely this results in bleeding in most pregnancies and during delivery. Women with placenta praevia usually need to delivery through C-section (Shin, Lee & Kim, 2016).

WHO (2016a) stated that the standards for improving the quality of antenatal care of a positive pregnancy outcome is mainly through the preventative and promotive antenatal care, recommendation of early assessment for high-risk cases and complications in pregnancy. Women are also encouraged to seek care early from the Primary Health Care facilities so as to encourage early management of complications and referral. Whilst the level of each care defines what kinds of services are offered there, the midwives should be able to assess, diagnose and refer the complicated cases of high-risk pregnancies (WHO, 2016b).

2.4.2 Availability of Material and Human Resources

The strategies of a successful referral system focused mainly on geographical access to referral care facilities and that the referral facilities have health-care workers who are adequately trained to provide quality care and to assess the need for referrals. Services must be affordable and the facilities must have essential drugs, supplies, and equipment (McWhinney, 2011).

According to the study conducted by Koce, Randhawa and Ochieng (2019), their findings stated that there is need for a multifaceted approach to ensure patients utilize the appropriate level of care to avoid undermining the Primary HealthCare facilities and allowing the referral levels of care to live up to their mandate. This should include maintaining the Primary HealthCare facilities at an optimal operational level by equipping them with the necessary equipment. The need for a contextual model of financing the healthcare system is also essential rather than out-of-pocket payment. Mashishi (2012) mentioned that referral pathways can support decentralized service provision if the health service capacity is improved and essential resources are made available. A study done in Malawi pointed out that a well-equipped district hospital, availability of functional ambulances and availability of functional short wave radio linking all health centres and district hospitals has

improved the referral system in countries with limited resources to handle obstetric emergencies (Kongnyuy, Mlava & van den Broek, 2018).

2.4.3 Proper Communication Channels and Clear Referral Letters

Referrals should always be conducted in a professional manner, respecting the professional courtesies which one would expect between two health-care workers and also involving the patient. Clear and effective communication is very essential in the referral system especially when dealing with high-risk pregnant women whereby you may lose both the mother and baby with a slight miscommunication. The referring health-care worker must be cognisant of the guidelines and responsibilities in the referral system to be able to carry out a well detailed-out referral. It is required of the referring healthcare worker to convey detailed information to the referral health-care worker so that they understand well the reason for referral to avoid mismanagement of patients or delays in treatment due to missing information or blood results (Naidoo, 2016).

Naidoo (2016) further stated that a referral should also be written in a language that the next person who will continue with the patient can understand and the writing should be eligible and visible so that the other health-care workers will not have to guess what is written in the referring note as nurses in her study reported they could not read some of the doctor's notes. A study done by Wahlberg, Valle, Malm and Broderstad (2015) also concurred that 51% of the Referral Letters had an unclear reason for referral. Goodwin, Dixon, Poole and Raleigh (2013) suggested that a high-quality referral system should compose of referral notes containing all necessary information shared in the context of understanding among the midwife, doctor and the specialist, and also give a brief information to the patient so that they also understand what is written in the letter and what is expected of them throughout the referral processes.

Another study done in the Metsweding District, Tshwane, South Africa showed that the majority of patients come from a poor background and rely on public transport and, in order to make the referrals effective for patients, professionals have to avoid unnecessary follow-up visits to the hospital and that can be kept to a minimum by

giving the patient a letter with clear instructions for the clinic after managing them at the referral facilities (Legodi &Wolvaardt, 2015).

2.5 Conclusion

This chapter presented a review of literature that was done on the referral system of high-risk pregnant women. The literature was discussed in relation with the levels of referral of pregnant women; the challenges that healthcare workers and patients experience in the referral system; and the strategies that were developed by other researchers to facilitate the referral system of high-risk pregnant women.

The next chapter focuses on research design and methods.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 Introduction

This chapter deals with the research methodology of the study including the research site, research design, study population and sampling, and the main study. The purpose of the study was to explore the referral system of high-risk pregnant women and to describe strategies that will facilitate the referral system of high-risk pregnant women in the Bojanala District, North West Province, South Africa.

3.2 Research Methodology

The search methods are steps, procedures and strategies for gathering and analysing of data in a study (Polit & Beck, 2012). In this study, 'research methodology' refers to the research process and the logical sequence in which it is applied to support the study. In this study, qualitative exploratory and descriptive design was used to explore the referral system of high-risk pregnant women and to describe the strategies to facilitate the referral system of high-risk pregnant women in between public sectors in the Bojanala District, North West, South Africa. The research methods and research designs are discussed in details below.

3.3 Research Setting

The study was conducted in the Chaneng Clinic, Mogwasi Health Centre and Moses Kotane District Hospital, all of which are in the Bojanala District, North West Province, South Africa which were randomly selected.

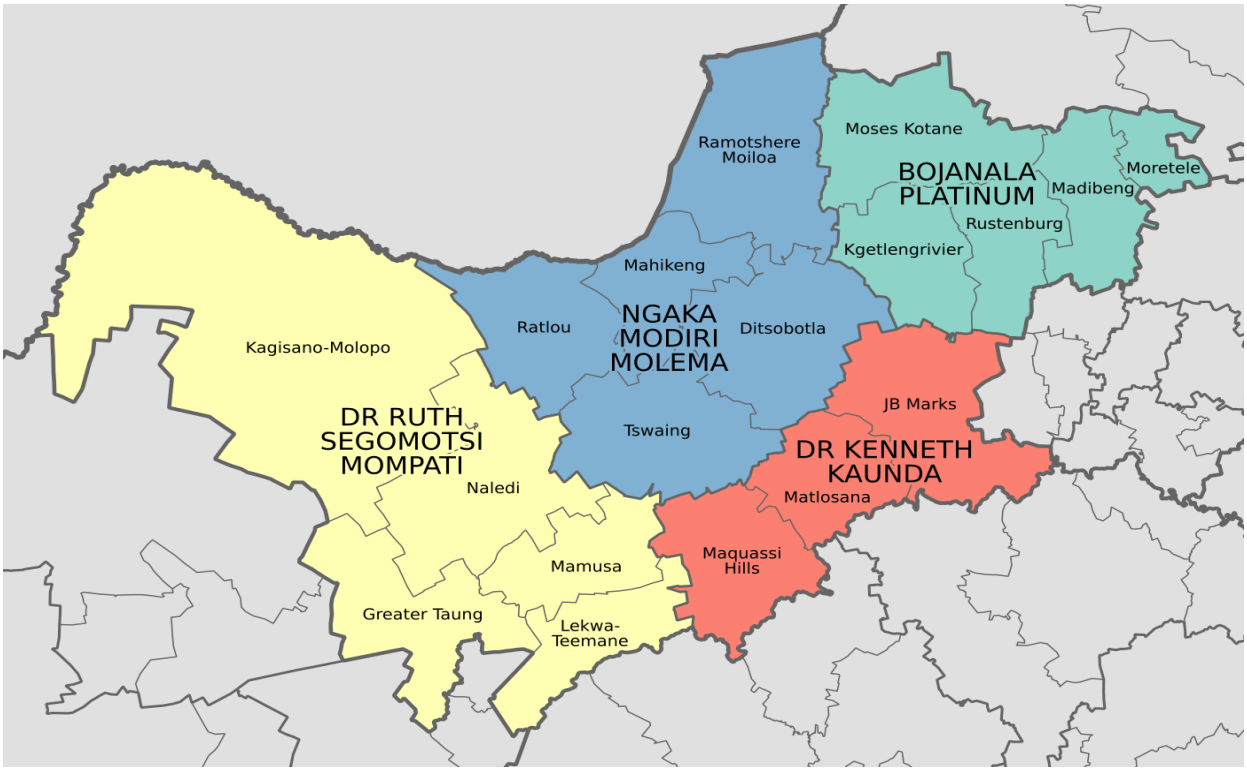

Figure 3.1: Map of the Bojanala District in North West *(Adapted from Municipality Demarcation Boards)*

Figure 3.1 shows the Bojanala District, situated in the North West Province, which comprises five health sub-districts, namely, Madibeng, Moses Kotane, Kgetleng River, Moretele and Rustenburg. The district has a population of 1665 222, with a population density of 90.8 person per km^2, and falls in the mid-socioeconomic quintile (Municipal demarcation Board, 2016).

3.4 Research Designs

Babbie and Mouton (2014) define research design as a proposition of how the research will be conducted. In this study, qualitative exploratory and descriptive designs were used to explore the referral system of high-risk pregnant women and to describe the strategies to facilitate the referral system of high-risk pregnant women in between public sectors in the Bojanala District, North West, South Africa.

3.4.1 Explorative Design

An exploratory study refers to acquiring an understanding into a situation, phenomenon community or individual (Grove, Burns & Gray, 2015). Exploration

begins with a phenomenon of interest, but rather than observing and recording the phenomenon, it aims at exploring the dimension of the phenomenon, the manner in which it is manifested and factors with which it is related (Polit & Beck, 2012).An exploratory research design provided in-depth information on the referral system of high-risk pregnant women by midwives and obstetricians. This was done with the hope of developing new strategies to improve the referral system of high-risk pregnant women in the Bojanala District, North West, South Africa.

3.4.2 Descriptive Research Design

According de Vos, Strydom, Fouchè and Delport (2013), 'descriptive research' refers to a more intensive examination of phenomena and their deeper meaning, thus leading to thicker description. The study describes the strategies to facilitate the referral system of high-risk pregnant women in between the public sectors.

3.5 Population and Sampling

3.5.1 Population

A population is a group of people or objects that have some common characteristics that the researcher is interested in (Brink et al., 2017). The researcher interviewed midwives and obstetricians that are employed in the selected facilities who gave permission to participate in the study.

3.5.2 Sampling

Sampling refers to the process in which the researcher selects a portion of people from a population to obtain information regarding a phenomenon in a way that represents the whole population (Brink et al., 2017). Chaneng clinic had a total of eight (8) midwives and one(1) sessional obstetrician, Mogwasi Health centre had a total of ten(10) midwives allocated in the labour ward and one(1) obstetrician and Moses kotane had a total of thirteen(13) midwives and two midwives were on leave at the time of research study, and two(2) obstetricians. In this study, the Non-Probability Sampling of the purposive type was used to sample all midwives and obstetricians in each facility using each facility allocation list in the Maternity Section. Sample size was determined by data saturation. Data saturation refers to the point in the research process when no new information is discovered in data analysis, and this will signal to the researcher that data collection may cease (Echsel, Price,

Staffan and Schulze, 2019). Data saturation in the study was reached after interviewing seventeen (17) midwives and two (2) obstetricians from the selected facilities, six (6) midwives and one (1) obstetrician from Mogwasi Health Centre, six (6) midwives from Moses Kotane and one (1) Obstetrician and five (5) midwives from Chaneng clinic and the Obstetrician was not available as he was allocated to the other facilities at the time of the study.

3.5.2.1 Inclusion and Exclusion Criteria

Brink et al., (2017) defined inclusion criteria as the characteristics the prospective subject has in order to be included in the study.

Inclusion criteria

The researcher included midwives and obstetricians actively involved in the management and referral of high-risk pregnant women in between public sectors in the chosen facilities because they pose the characteristics which are of interest to the researcher.

Exclusion criteria

Midwives managing low-risk women not involved in the referral system of high-risk pregnant women and the community service midwives were excluded from the study because they do not poses characteristics that are of interest to the researcher.

3.6 Data Collection

The World Health Organization (2013) defines ‘data collection’ as the ongoing systematic collection, analysis and interpretation of health data necessary for designing, implementing, and evaluating public health prevention. Grove et al., (2013) define data collection ‘as a precise, systematic gathering of information relevant to the research purpose or the specific objectives.

3.6.1 Pilot Study

A pilot study, according to Joubert and Ehrlinch (2012), is a mini-study that tests part of the study before the main study can be done. Burns and Grove (2016) define a pilot study as a smaller version of the proposed study conducted to develop or refine methodology such as treatment or instrument for data collection process. The

purpose of conducting a pilot study is to improve the success of the investigation (De Vos et al., 2014).

The researcher conducted a pilot study with the five (5) participants (midwives) and one doctor who was managing high-risk patients as there was identified shortage of obstetricians. All the participants were from different facilities, which were not part of the main study, to test the interview tool and if the participants would understand the questions and the researcher would be able to gather the information that was wanted. The participants were also asked to make suggestions or ways to improve the interview tool and to provide as much feedback as possible. The midwives that were selected for the pilot study were the ones meeting the criteria for the study but in a different facility which was not part of the study on the 20th of March after permission was granted by the Sub-District Manager telephonically and with the consent of participants.

- **Results of the pilot study**

The five midwives who participated in the pilot study were all managing and referring high-risk pregnant women and allocated in the Maternity Section. Two of them were holding an advance diploma in midwifery and three of them were diploma midwives. They all had over 5 years working in the Maternity Section. The participants understood the questions without needing more clarity or rephrasing of the questions and they were able to give more info on the research question. The participants explained all the characteristics of a high risk pregnancy and the steps to they take during the referral, and they also reported encountering day to day challenges in the referral system either material or human resources. They were also able to make suggestions on the strategies which they thought would be ideal on the referral system of high risk pregnant women. Because the participants were able to answer the all the research questions, the researcher made no developments or changes to the interview tool. The results of the pilot study were not included in the main study.

3.6.2 Data Collection of the Main Study

3.6.2.1 Preparation for Data Collection

An ethical clearance letter for data collection was obtained from the university of Limpopo Turfloop Research Ethics committee (TREC) (Appendix C). Permission to

conduct the study was also requested from the North West Department of Health and the permission was granted on the 16/01/2020 (Appendix D). The researcher further requested permission from the Bojanala District research office and it was granted on the 18/03/2020 (Appendix E). Appointments were further made with the Sub-District Managers and with each facility Operational Manager telephonically for conduction of interviews. Data collection commenced on the 23/03/2020 according to the appointments set out in selected facilities and ended on the 31/03/2021.

3.6.2.2Recruiting of Participants and Setting of Appointments

The researcher met with the participants and clarified the topic to be researched and the purpose of the research to gain their trust. The researcher met with participants at their facilities in a convenient room. During the information session, the researcher discussed the research topic, issues related to the expectations from the participants, the purpose of the research, the importance of a tape recorder and ethical considerations. The researcher informed the participants that the interview will be recorded to enable the researcher to transcribe the information word to word and ensure accuracy.

The participant information and Consent Form was also explained to the potential participants. The researcher made sure that the participants were comfortable by allowing them to read and sign the Consent Form (Appendix A). The participants willing to participate were then identified in the first session (de Vos et al., 2014).The researcher set-up appointments with the participants and made sure that the appointments were honoured according to agreed times and places.

3.6.2.3 Tools for Data Collection

The researcher collected data using in-depth, semi structured interviews and observation as a tool (Interview Guide) Appendix F for data collection. During the semi-structured interviews, the interviewer used the interview guide and asked the participants a central question of "**Can you please tell me about the referral system of high-risk pregnant women in your facility?"**, and also posed additional probes, both closed and open-ended questions to get a clear understanding of the response received. This kind of interview provides participants with guidance on what to talk about which many find helpful. The researcher used interviews to collect

in-depth data. One-on-one interview were conducted with the midwives and obstetricians involved in the referral of high-risk pregnant women in between public sectors in the Bojanala District, North West Province, South Africa each interview lasted about 30-45 minutes. The interviews took place in a quiet place free from too much movement and disturbance at the Primary Health Centres, hospital or at the participants' home by appointment at their convenient time. Data were collected until data saturation was reached. Data saturation was reached with 19 participants.

The researcher did not rush the participants during the interview sessions and also made sure that they do not ask any personal questions as they could cause some discomfort in the participants and they end up not sharing enough information (Hennink, Hutter & Barley, 2011).Various communication skills were used to inspire the participants to share more information. The researcher used communication skills like probing and listening skill to extract more information from participants.

- **Probing**

Polit and Beck (2012) define probing as asking thought-inciting questions in a gentle way. Participants were requested to give further explanation on what they meant by statements mentioned during the interview. The researcher repeated the participants' comments to gain more clarity and meaning.

- **Listening skill**

Listening more and speaking less is of utmost importance for in-depth interviewing and it is also vital not to interrupt the participants when narrating their stories (Burns & Grove, 2016). The researcher used the listening skill more to inspire participants to talk more on the practices in the referral system of high-risk pregnant women and their challenges. The researcher also showed signs of interest by nodding and maintaining eye-contact during the interview session.

- **Clarification**

Cormier, Nurius and Osborn (2013) state that clarification may be used to make a participant's statement explicit and to confirm the accuracy of the researcher's

predictions about the subject at hand. The researcher made use of clarification whenever the participants were not clear.

Helpful field notes were taken during and after each interview about observations, thoughts and ideas about the interview, as this would also help in data analysis. Field notes refer to the documents generated from the observations (Streubert & Carpenter, 2011). Data were collected until data saturation was reached.

3.6.3 Member Check

It is defined as technique used by researchers to help improve the accuracy, credibility, validity and transferability of a research (Aminio, Jones & Torres, 2013). Member check was done at the conclusion of the study whereby the researcher shared all the findings of the study with the participants involved and asked them to criticize and analyse if the findings reflect their views, feelings and experiences, of which they confirmed as accurate and complete. The researcher conducted member check to provide findings that are authentic and reliable.

3.6.4 Post-Interview Phase

After the interviews, the researcher thanked the participants for both their time and consenting to participate in the study, and also informed them that, should she need to come back to clarify something, they will be requested to come back; something of which the participants welcomed.

3.7 Data Analysis

Data analysis is a process of inspecting, cleaning, transforming and modelling data with the goal of highlighting useful information suggestion and conclusions; and supporting decision-making (Babbie, 2013).

For the study, the researcher used the eight steps suggested by Tesch's method to analyse the collected data as presented below.

Steps	Procedure
1.	Firstly, the researcher listened to the recorded interviews, went through the field notes and transcribed the interviews information verbatim. The entire transcripts were then read carefully to obtain a sense of the whole and some ideas were noted.

2.	One interview was then selected and read through to try and absorb the information, jotting down thoughts that came to mind. A table was made with all the topics and sub-topics that emerged. The researcher read another transcript, trying to relate it to the first one. Other topics and sub-topics that emerged and were added to the previous ones.
3.	The researcher then made a list of all the topics. Similar topics were grouped together to form themes and sub-themes. The themes and the sub-themes were then named, using sentences that best described all the grouped sub-themes. Where necessary the researcher changed themes into the sub-themes and vice-versa.
4.	The themes were abbreviated as codes, which were written next to the appropriate segments of the transcripts. The researcher tried this preliminary organizing scheme to see whether new themes and codes emerged. Whenever a new sub-theme emerged, it was added to the appropriate theme.
5.	The researcher then took the list and went back to the data and abbreviate the topics as codes and wrote codes next to the appropriate segment of text
6.	The researcher made a final decision about the naming of each theme and separated the themes and the sub-themes. The themes were arranged in a manner that outlined the diabetic patients' ideas, knowledge, challenges and recommendations.
7.	The data materials that belonged to each theme were assembled and a preliminary analysis was made. These data materials were further supported by literature from previous studies about the ways that diabetic patients conduct themselves locally, and in different countries.
8.	The researcher came up with a summary of the themes and sub-themes and the data were sent to the independent Coder. The researcher and the independent Coder's common themes and sub-themes were summarized and are discussed at length in Chapter Four.

The researcher after collection of data in March 2020, and using the Tesch's Method of Data Analysis came up with the following themes:

- The description of the referral system;
- The challenges of the referral system; and
- Strategies to facilitate the referral system.

The researcher therefore requested for the independent Coder on the 11/01/2021 and permission was granted on the 12/02/2021.The researcher, after analysis,

submitted the emerged themes and sub-themes to the independent Coder. The independent Coder also listened to the tape recorder, went through the transcripts using Tesch's Method of Data Analysis and came up with their own themes. The consensus meeting was therefore set between the researcher and independent Coder to discuss and agree on the final themes and sub-themes presented in Chapter 4, Table 4.3.

3.8 Measures to Ensure Trustworthiness

3.8.1 Credibility

Credibility is defined as a measure for evaluating honesty and quality in qualitative research, referring to confidence in the truth of the data (Polit & Beck, 2013).This includes activities that increase the probability that credible findings will be produced. Credibility was ensured by triangulation, member checking and prolonged engagement with the midwives and obstetricians during the interviews session allowing them to validate that the reported findings represents their experiences.

- **Triangulation**.

  Credibility was ensured by using different methods of data collection which was unstructured interviews and observation.

3.8.2 Dependability

Dependability refers to trustworthiness of the data over time and condition (Polit & Beck, 2012). In this study dependability was ensured by keeping record of the research process safe and by conducting a conformability audit which involved intensive careful examination of the data by the researcher.

3.8.3 Confirmability

Confirmability refers to the neutrality of the data and interpretation thereof (Polit & Beck, 2012).The researcher submitted the field notes and voice records to the independent Coder to listen and to perform independent co-coding of the data and assessment of the documentation for dependability. In addition triangulation was also used.

3.8.4 Transferability

Transferability is concerned with the extent to which the study findings can be generalized beyond the sample used in the study (Grove et al., 2013). Transferability was ensured by providing a dense description of research methodology, literature control and verbatim quotation taken from the participants.

3.9 Bias

Bias refers to that quality of a data collection instrument, that may result in the misinterpretation of what is being measured (Babbie & Mouton, 2014). According to Brink et al. (2017), 'bias' is an influence that can produce distortion, which can affect the quality of evidence in a research study. Bias can occur at any step of the research process, when it occurs it does not necessarily mean that the researchers caused it intentionally or unintentionally.

In this study, the researcher avoided using leading questions that could put ideas and opinions in the participants' mind. This was done to allow data to convey undistorted information (Brink et al., 2013).

3.10 Ethical Considerations

According Fleming (2018), ethics refers to the responsibilities that the researcher bears towards those who participate in research and those who are potential beneficiaries of the research. An ethical clearance letter for data collection was obtained from the university of Limpopo Research Ethics committee (TREC) (Appendix C) on 05/11/2019. The researcher, before obtaining the ethical clearance, first presented the proposal and was approved and cleared intra-department on 23/04/2019 and the proposal was further reviewed and approved by the School Research and Ethics Committee on 18/07/2019, then submitted to the Faculty of Higher Degree Committee on 09/10/2021.Permission to conduct the study was also requested from the North West Department of Health (Appendix B) and the permission was granted (Appendix D). The researcher further requested permission from the Bojanala District research office and it was granted (Appendix E).

The following ethical considerations were adhered to;

- **Informed Consent**

In this study the participants took part in the study after the researcher has explained all the information about the study and have signed the Consent Form. A written Informed Consent form was provided to each and every participant in the study. The researcher explained to the midwives and obstetricians that participation to the study was voluntary and explained the option to withdraw. The researcher also explained the purpose of the study and then requested the participants to sign the form to participate in the study (Brink et al., 2013).Refer to Appendix A.

- **Confidentiality and privacy**

Confidentiality means not disclosing information gained from research in other settings such as through informal conversations (Green & Thorogood, 2014).The researcher informed the participants that the information obtained from them will not be passed on to the next person but will be submitted to the research supervisors and independent code for data assessment. Confidentiality is also ensured keeping all the records safe from access of anyone who is not involved in the study. The interviews took place in a quiet private room to ensure privacy and confidentiality of the information shared by the participants.

- **Anonymity**

Anonymity refers to not revealing the identity of the participants in a research (Babbie, 2013). The researcher ensured anonymity by allocating codes to the midwives and obstetricians participating in the study rather than using their real names, and not mentioning names during interview recordings.

- **Harm**

Harm refers to any physical, psychological, social, or emotional discomfort of the research respondents inflicted by the researcher during the research process (Polit & Beck, 2012). This study had minimal risks of harm to the respondents. The researcher ensured that participants are not harmed in any way through obtaining Informed Consent from the participants; ensuring and protecting anonymity and

confidentiality of the participant; and providing the participants with the right to withdraw from the research at any time.

- **Respect**

The researcher ensured the respect of the participants by respecting their norms, personal believes and values. The researcher also explained to the participant that should they wish to withdraw from the study the researcher would respect their decisions without any threats. The researcher also honoured the appointments with the participants to show respect to the participants (Brink et al., 2017).

3.11 Conclusion

This chapter discussed the qualitative research methodology of the study and also gave a background on explorative and descriptive designs which were used in the study. The semi-structured interviews, conducted using an Interview Guide, and field notes were used as the tool for data collection from the midwives and obstetricians in the Bojanala District public facilities, which were purposively selected until data saturation was reached. The researcher also did the member check of all the participants and indicated how the data were analysed with the help of the independent Coder and how the bias was avoided throughout the study.

The following chapter discusses the data analysis of the study.

CHAPTER 4
PRESENTATION AND DISCUSSION OF RESULTS

4.1 Introduction

The previous chapter presented the research design and methodology. This chapter presents and discuss the research findings about the referral system of high-risk pregnant women in the Bojanala District collected from nineteen (19) participants who were purposively selected from individual semi-structured in-depth interview. Three themes and related sub-themes emerged during data analysis. The themes and sub-themes are supported by literature control that strengthens the findings of the study. Participants' verbatim statements are presented in italics in the study.

4.2 Characteristics of the Participants

Table 4.1 Characteristics of the Participants

Total number of participants interviewed	19
Gender	Males-4 Females-15
Years of experience<5 **Years of experience>5**	8 11
Midwives **Obstetricians**	17 2

Table 4.1 shows the characteristics of the participants who took part in the study. The aim of presentation the characteristic is to provide the description of the participants that could have influence on the findings of the research study. Nineteen (19) participants took part in the study, seventeen midwives and two obstetricians. Participants with less than five years' experience were eight and those with over five years of experience were eleven. They comprised of four males and fifteen females. The participants were drawn from the randomly selected facilities in Maternity Wards.

4.3 Presentation and Discussion of Results

The results of the study are discussed below according to the emerged themes and sub-themes outlined in Table 4.3. The themes and sub-themes are discussed and supported by verbatim statements from the participants, which are further compared and contrasted with local and international literature.

Table 4.2: Themes and Sub-Themes Identified

Theme	Sub-theme
1. Knowledge of referral system of high-risk pregnant women	1.1Knowledge of triage of high-risk pregnant women 1.2 Knowledge of protocols and Guidelines about the referral system.
2 .Challenges experienced	2. 1 Shortage of human resources 2.2 Shortage of material resources 2.3 Compliance with appointments and bookings
3. Co-ordination of the referral system	3.1 Effectiveness of the referral system

Table 4.2: Themes and Sub-Themes Reflecting the Referral System of High-Risk Pregnancy in the Selected Facilities in the Bojanala District, North West Province

4.3.1 Theme 1: Knowledge of Referral System of High-Risk Pregnant Women

This study found that the majority of participants were knowledgeable about the referral system that is used to refer high-risk pregnant women from one level of care to the next. The referring healthcare personnel should be aware of who, what and where to refer as guided by both the clinical management and guidelines in their facilities (DOH, 2020). This theme is supported by two sub-themes as reflected below.

Theme	Sub-theme
1. Knowledge of referral system of high-risk pregnant women	1.1Knowledge of triage of high-risk pregnant women 1.2 Knowledge of protocols and Guidelines about the referral system.

Table 4.3: Knowledge of Referral System of High-Risk Pregnant Women

4.3.1.1 Sub-theme 1.1: Knowledge of Triage of High-Risk Pregnant Women

The findings of this study revealed that the majority of participants were knowledgeable about the referral system used when transferring high-risk pregnant women from one level of care to the next. Some participants further explained that they use a checklist to screen for hypertension, bleeding in pregnancy, previous caesarean section and other medical conditions which may pose a risk in pregnancy.

These sentiments were expressed as follows by five participants;

Participant 11(midwife) said:

> *Okay, the hypertension in pregnancy, previous Caesarean Section, suspected multiple pregnancies, renal diseases and all those on chronic medication except on the ARV'S (ART).*

Participant 14 (midwife) concurred:

> *Problem maybe it is hypertension, diabetes, previous caesarean section we refer to the local doctor. Referral system is that we identify the high-risk pregnant women after we see them here, and if it is not controlled, we refer to the Level 1 hospital which is around our clinic.*

Participant 16 (midwife) also stated:

> *Most commonly, we get those that are having gestational hypertension, pregnancy-induced hypertension, we get your advanced maternal age high-risk and those which chronic conditions prior to pregnancy, to name a few asthma, TB, diabetes and epilepsy.*

Participant 18(midwife) also said:

> *First of all, when the patient comes as a high risk coming to book for the first time we actually assess the patient to see what is the matter which is urgent which needs the referral as a high-risk patient and now we go through all checking the eligibility we have a tick register that we go through that is the one that guide us whether the patient is high risk or not and if you follow it you will if you need to refer the patient to high risk.*

Participant 19(Dr) said:

> *Um as you know pregnant woman are categorized, high risk, medium and low patients, and high-risk patients are supposed to be monitored closely throughout the pregnancy so that we can identify problems and solve them immediately, to be able to reach the goal of the pregnant woman which is to have a healthy baby.*

The findings of this study concur with the findings of a study that was conducted by Singh et al., (2019) who also found that almost all the staff members knew about the need to screen for high blood pressure and anaemia in antenatal women. More than half of the staff at the PHCs would refer a woman for delivery if she had a previous caesarean section, multiple foetuses or abnormal lie of the foetus to the hospital however the study conducted in Tanzania the midwives reported that the peripheral clinics midwives did not collect or transfer vital information about the patients like HIV status, the BP control etc., which becomes problematic in emergencies and causes

delay in treatment (August, Pembe & Mpembeni, 2016).Most of the health-care workers in the Community Health Care Centres seemed to have knowledge and some kind of experience with the referral of high-risk pregnant women to the higher level of care, usually referring the mothers than the new-borns. For example, they mentioned referring complications like prolonged labour, abnormal presentations and profuse postnatal bleeding (Adaba, 2012).

A study conducted by Give et al., (2019) also reported that most of the health-care workers were clear about the type of diseases of high-risk that are beyond their level of competence, which included the referral of these women to the higher level of care by skilled professionals.

4.3.1.2 Sub-Theme 1.2: Knowledge of Protocols and Guidelines about the Referral System

The study found that most participants were knowledgeable of protocols and guidelines used for transferring high-risk pregnant women from one level of care to the next. They indicated that they have Standard Operating Procedures (SOP) that they use to transferring these patients. They further indicated that they relied on the *Maternity Guideline Booklet* to guide them in the referral of high-risk pregnant women, while others also mentioned the recent *Basic Antenatal Care* (BANC) plus checklists. Participants further indicated that they also use the National Guidelines and *Basic Antenatal Care* guidelines. One participant also indicated that, some of the EMRs personnel did not follow the policy laid down when transferring patients to the next level. Instead, they just transfer patients to the nearest hospital. These sentiments are aptly expressed in the following excerpts:

Participant 1 (midwife) stated that:

> *Okay we use Maternity Guideline to guide us always on what to do with different emergencies and to which level of care do we refer to, we also have internal policies.*

Participant 2(midwife) said:

> *Here in our facility we have the Maternity Guideline, it is the one that we using and I don't think there is any other thing we use beside the Maternity Guidelines. So we refer according to it because it is the one that is guiding us on what to do when the patient is having any complications from maybe the high-risk cases.*

Participant 11(midwife) also added:

> *Maternity Guideline is what guides us on what to do on a high-risk pregnant woman.*

And the other one further reported thus:

> *We have the National Health Guidelines of pregnant women that guides us which patients to refer including the Basic Antenatal Care plus checklist.*

Participant 19 (Dr) also said:

> *Actually we are using BANC plus and the Maternity Guideline 2016 version, I am using also personally Professor Kroche recent publication of 2017 and then those are references which are helping us manage patients.*

Tabbish (2017) states that if there is no referral criteria to guide the health workers when referring patients, it leads to low acceptance rate, unnecessary and delayed referrals. There is also friction between some referring and accepting doctors which at times put the high-risk pregnant women and the baby at risk when there are no clear guidelines on who takes the responsibility. Ximba, Baloyi and Jarvis (2021), in their study, reported that the effective referral system is dependent on the skills of the midwives to respond to the health emergencies and needs and that the South African NDoH has supported this mandate by providing workshops and trainings of midwives about the obstetric emergencies.

4.3.2 Theme 2: Challenges Experienced

The participants in the study reported that they are facing challenges like shortage of material resources and human resources and clients who do not always comply with their appointment system. This theme is supported by three (3) sub-themes

Theme	**Sub-theme**
2 .Challenges experienced	2. 1 Shortage of human resources 2.2 Shortage of material resources 2.3 Compliance with appointments and bookings

Table 4.4:Theme 2: Challenges Experienced

According to the study conducted by Lekhuleni and Thopola (2015), there was an indication of shortage of midwives and lack of resources, which were factors that were affecting the provision of optimal midwifery practice in Maternity Units of public hospitals. The findings of this study supported Sub-themes 2.1 and 2.2.The midwives were also dissatisfied with the manner in which the referral system is managed. These findings concur with this study because it was also found that participants were experiencing several challenges related to the referral system of high-risk pregnant women from one level of care to the next.

Three sub-themes emerged and they are discussed below.

4.3.2.1. Sub-Theme 2.1: Shortage of Human Resources

The causes of staff shortages are many as such include under production, inappropriate skills mix, uneven distribution, as well as from rural to urban and international migration of health-care workers (Nkomazana, 2017).The researcher in this study found that the majority of participants experiences shortage of advanced trained midwives and obstetricians to manage high-risk pregnant women. Some participants also indicated that there was shortage of EMRs personnel. These sentiments are expressed in the following excerpts:

Participant 2(midwife) stated:

> *Apparently there's just high shortage of staff, but where I was working before we had advanced midwives for every shift but here in our clinic things are different whereby when you encounter complications you just refer the patient. But now it comes to that point of if I get a breech how am I going to manage it. I'm not saying that I don't have midwifery. I do have and we know somewhere somehow you [are] going to get the complications and we don't have the advanced midwives.*

Participant 8(midwife) also said:

> *We do not have an advanced midwife; we just deal with the emergencies as they come.*

In the study that was conducted in Kenya by Mwami and Oleche (2016) study on the determinants of utilization of healthcare services it indicated that effective services delivery is determined by the availability of enough staff and drugs, and in their study there was revelation of shortage of staff.

Participant 4(midwife) further reported that:

The obstetrician no, we don't have we only have the MOs, we had one last she came last year but now she left.

According to the US Department of Health and Human Services (2014), 'qualified professionals' refers to any individual with appropriate training or experience in the field of health which includes nurses, doctors, therapist and pharmacists. In this study, M.Os were managing high-risk clinics because they were trained, not because they hold a specific speciality in midwifery or obstetrics.

Participant 18(midwife) added:

ijoooh, NO NO, it's also a challenge because you will be having a patient with imminent eclampsia which requires a lot of staff, where the other one has to give the medication [and] the other one monitoring the lines. So, in terms of all that, [it] is actually a problem because we are very short, short, short staffed. There is no staff at all.

The shortage of human resources was not only the challenge for the midwives as also one participant(the Dr in this study)was also quoted mentioning that they are also short staffed. The sentiments were shared as follows:

Participant 19 (Dr):

The challenges, the main one, is the number of patients who must be seen per day eehh!, while we [are] facing a constant shortage of Drs and then we are in the facility, we got four Drs, of the four, there are two who are senior one is an M.O, and the other one is a com-serve, so must one must stick around for almost fifty patients a day.

The findings of this study support the findings of a study that was conducted by Matlala and Lumadi (2019) who also found that the shortage of midwives in the public sector influences maternal care outcomes in a negative manner. Poor-quality workplace in health system weakens the ability of institutions to meet their performance targets and quality healthcare outcomes, and makes it more difficult to attract, motivate and retain staff.

Barker (2016) also stated that one of the contributing factors to midwives leaving the profession was the abnormal working patterns and the bizarre number of patients they have to cater for. In addition, Barker (2016) also reported that midwives and obstetricians continue to go the extra mile through staying late and missing breaks to ensure that they get through what is often a heavy and challenging workload. The United Nations Population Fund (UNFP) (2014) also reported that midwives make up to 36% of the midwifery workforce across the 73 countries making their shortage

more visible and a great challenge. Pugh (2012) earlier reported that shortage of midwives was found to be a problem in developed countries as well as in the middle-income countries. Adaba (2012) also concurred that the staff ratios of the health facilities visited they found to be inadequate to provide basic and important functions. Only 13,7% of the surveyed facilities had the required staff.

4.3.2.2. Sub-Theme: 2.2: Shortage of Material Resources

Shortage of medical equipment, either due to unavailability or non-functioning is a barrier to the effective referral system. It was estimated that between 50-80% of medical equipment in developing countries is not functioning resulting in dishonest market practices putting patient's lives at risk (Moyimane, Matlala &Kekana, 2017).The findings of this study also concur with those of Moyimane et al., (2017) because majority of participants were experiencing several challenges related to shortage of material resources, which included shortage of medicines; telephones that are not working and thus unable to make a phone call to the ambulance centre; and ambulances stationed far away from the clinic and therefore arriving late at a particular clinic. This was indicated by some of the participants thus:

Participant 12(Dr) said:

> *Okay the challenges we face most is with the ambulances, they take too long to arrive when we have emergencies. The turnaround time is 45 minutes though sometimes they take 3-4 hours to arrive'.*

Communication with the emergency transport services was reported to be a challenge in the eThekwini District referral system as it could take up to an hour on the phone waiting to be assisted (Ximba et al., 2021). Accordingly, Participant 8 (midwife) also mentioned that:

> *No resources are a problem mo* (here) *pusong or eh for instance let's talk about patients with eclampsia we do not have calcium and those with anaemia we don't have ferrous sulphate, we advise patients to go buy for themselves but it's not everyone who will have money to buy, some just don't see the importance of buying and sometimes we don't have enough methyldopa and the CTG some is not working and the most lacking resource is the staff major problem.*

A study conducted by Masemola (2021) also reported shortage of drugs and essential medications at the clinics which resulted in difficulties to render services at the Primary Health Care as the availability of medication also plays a vital role in the

utilization of Primary Health Care utilization. Accordingly, Participant 18 (midwife) reported that:

> *the challenges that we face usually is the one of an ambulance at the moment we having a huge challenge because we using the royal Bafokeng ambulance, so they are short of the equipment so the ambulance, they only use two ambulances for the whole Rustenburg Sub–District, so if we have a patient who is in labour or having imminent eclampsia and you need an ambulance they will tell you that the ambulance is stuck at JsT hospital and the other one is SeralengChC or something or they both stucked at JST, so then you will have a problem a serious issue if the patient is fitting continuously and you cannot stop it , that is one of our challenges.*

Some participants in this study also indicated that the CTG was not working. They further indicated that because telephones were not working, and sometimes have to use their own cell-phones to call the ambulance and sometimes they were obliged to transfer a high-risk pregnant woman to the next level of care without following the stipulated policy.

These sentiments are expressed as follows:

Participant 4 (midwife) said that:

> *Some clinics you find that their phones are not working so some sisters use their own cell phones and if they don't have airtime, sometimes they don't call we will just receive the patient without being called the sister will see the patient and write the referring notes.*

Participant 12(Dr) also said:

> *Our phones sometimes do not work; I don't know if it's the phone or the network they just do not go through. So, we have to use our personal phones to refer.*

This sentiment concurred with that of the study conducted by Ximba et al., (2021) wherein participants reported that the phones of clinics and receiving hospitals are sometimes faulty, which makes it difficult to arrange for referrals as they end up having to use their own phones. Accordingly,

Participant 13(midwife) also stated:

> *No, we don't have CTG machines. We have that old CTG machine we don't even have a warmer for the baby.*

Participant 14 (midwife) said:

> *The transport problem, usually we are struggling to get an ambulance from this point to another point. We use our personal phones to send the patients to other facilities.*

The shortage of medical equipment either due to shortage or non-functioning is a barrier to the provision of effective care. It is also reported that 50 to 80% of medical equipment in developing countries are not functioning and the countries also lack the technology to fix those equipment (WHO, 2012).

Another participant reported that there is also an infrastructure challenge in their facility whereby privacy during delivery is compromised. Sentiments were shared as follows;

Participant 18 (midwife):

> *And again another challenge that I forgot to mention out, is our infrastructure it is not conducive, it is very small and even our Labour Rooms are not conducive at all. When you [are] having an emergency, you cannot move around because there is this two beds which are just close to each other there; is no space and privacy. Maybe if they can also extend the facility, it can also make things easier for us.*

The findings of this study concur with the findings of a study that was conducted by Ndima et al., (2019) who found that stock-outs of medicine forced midwives to refer for diseases such as anaemia, mild PIH and other common diseases in the communities. In this situation, midwives felt uncomfortable and incompetent, because they referred clients with diseases they should be able to handle.

Bremes, Wiig, Abed and Darg (2018) also found that in Tanzania the government did not provide the hospital with enough equipment to cover their most basic needs. They lacked everything from essential supplies like gloves, masks, syringes and catheters, to more advanced material like digital monitors of blood pressure and foetal heart rate. The lack of equipment endangers both the midwives and their patients (Bremeset al., 2018).

In an earlier study, Kadzakumanja (2014) also found that the referral system was weakened by inadequate medical supplies and care packages to the facilities. Kadzakumanja (2014) further stated that the care package offered by the clinics to

the caregivers was inadequate as it does not contain all the necessary tools needed for care giving. A study conducted by Adaba (2012) also reported that there is shortage of telephones in maternity, health centre telephones, radios and etc., together with the shortage of transport for the referral of pregnant women which are the most critical keys to the effective referral system.

4.3.2.3. Sub-Theme 2.3: Compliance with Appointments and Bookings

This study found that some patients did not adhere to their booked dates. Participants also indicated that some patients come to the clinic as not booked patients and they have to be seen by the doctor or rebooked. The studies done in the United States showed that the referral compliance was between 63 and 83% in the general population (van Dijk, de Jong, Verheji, Jansen, Korevaar et al., 2016).

Participants also stated that some patients do not follow the orders given to them. These sentiments are expressed as follows:

Participant 12(Dr) said:

> *Thirdly, our lack of resources in terms of telephones you can try calling the telephones without luck, so you start sending patients without booking and it annoys the doctors that side.*

Participant 13 (midwife) also indicated:

> *Us in the clinic we book 15 patients for the doctor but we have extra 5 for those who can just come through and they need help the doctor will accommodate them because during the day the doctor has to see 20 patients to 22 patients.*

Participant 16 (midwife) added:

> *The most challenging part of this is that they need to make an appointment with us first so it's a challenge that they only send these women without making appointments when they get here they don't even know what to do and we are not even aware of them having to come since they were not booked. So, we have to send them back and give them a proper date.*

Ximba et al.'s (2021) study that was conducted at eThekwini, participants reported that high-risk patients presented at their PHC facilities for delivery even though they have never been referred for an assessment by the obstetrician before during their

Antenatal visit. They further reported that these actions put both the baby and the mother at risk.

Participant 18 (midwife) further stated that:

> *The other ones is with patients who do not follow the orders, the patient will be told go to Moses Kotane for your follow up day and patient doesn't go and say something like I did not have money and they come back again here and did not go there that is one of our challenges at the moment.*

Participant 19 (Dr) said:

> *They are not all booked but most of them are booked, and what we practicing is that amongst those who are not booked we go through their files, and check the condition of the patient if it can be something that need urgent attention from us, we attend to the patient but if there are lot of patient and you feel that there is a possibility of postponing the consultation of the patient and re-booking we do that for some other day.*

In an earlier study, Magoro (2015) also found that there were a high number of self-referrals of antenatal women for delivery at the Maternity Ward of the Dilokong Hospital in the Limpopo Province. In the 2010 / 2011 financial year, there were 3 737 antenatal women were delivering at the Dilokong Hospital. Only 1 550 of these women were referred from other health facilities and that seemed to suggest that antenatal women did not go to the nearest PHC facilities for delivery (Magoro 2015).

In another study conducted by Tibandebage, Kida and Mackintosh (2016), the midwives reported that, sometimes, patients came without Referral Letters, which increased the workload. Koce, Rhandhawa and Ochieng's (2019) study conducted in the Niger States also concurred that participants also preferred going straight to hospital because of the perception that they are likely to be seen by a doctor rather than a nurse, which increased the number of bypassing of the Primary Health Care facilities.

4.3.3 Theme 3:Co-ordination of the Referral System

The study found that the referral system was not well co-ordinated between the clinics and the referral hospital. This theme is supported by one sub-theme.

Theme	**Sub-theme**
3. Co-ordination of the referral system	3.1 Effectiveness of the referral system

Table 4.5: Theme 3– Co-ordination of the Referral System

4.3.3.1 Sub-theme 3.1: Effectiveness of the referral system

The study revealed that the referral system was not well co-ordinated and therefore not as effective as it should be because of some of the challenges identified, which included some clinics closing at 16h00 and therefore patients have to come back the following day for booking. Other participants also stated that they receive patients with premature labour that, according to the policy, should be referred straight to the hospital, but instead these patients are referred to the clinic, and there is also poor communication between referring midwives and obstetricians. Effective referral systems from the communities to the Health Care Centres are essential to save lives and ensure the continuity of care (Give et al., 2019). These sentiments are aptly expressed as follows:

Participant 2 (midwife) said:

> *Yes, like I still remember I had a case whereby a patient was having anaemia neh, and you know what they did in hospital. I called and said, 'according to my guideline, it says any woman who is having anaemia make sure you refer' but we having a problem. Maybe when the hospital is full, the doctor will give you instructions over the phone and say you must manage the patient and it's a problem: what if the patient collapses or something bad happens to the patient while I wanted to transfer the patient*.

According to Ximba et al., (2021), for midwives, the hurdles they come across, they need to communicate such to the doctors. They reported that the referring hospital did not provide feedback, or they are not updated about the Doctors' Roster and they end up calling the off-duty one, which results in the delay of the referral of the high-risk woman who may be in dire need of urgent care.

Participant 7 (midwife) also added thus:

> *The other thing I think we can discuss which we are still going to discuss with the hospital which we are referring to is that when it comes to the teenage pregnant women when we refer them to the hospital, we don't get a report. If that girl is being impregnated by a guy who is 2 years older than the girl it is a statutory rape. They are supposed to be seen by a social worker, psychologists and the police must be informed at the hospital so we don't get a report.*

A study conducted by Eksandiri et al., (2013) concurred that in the absence of necessary connections in the hierarchy of the referral system and lack of feedback from the referral facilities and the patients leaving the government system made it

difficult to follow up with them. The junior doctors also reported not receiving feedback from the referral facilities with the complicated cases down referred back to them. The lack of feedback and tracing of cases was also identified to be a challenge in the referral system as it is important to monitor the patient's whereabouts in the referral system, know what stage the patient is at and to monitor the clinical diagnoses (Muriki, 2020).

Participants 8 (midwife) also indicated:

> *Ah!The challenge would be because the high risk is a clinic ehh. When it comes to a clinic, by half past 3 you cannot book patients anymore. They close and you have to wait for the next day. That is the challenge.*

Participant 10(midwife) also stated:

> *Okay, here is the district hospital so they will refer the pre-term labour, here we don't manage those babies. The problem will be that they will want to send those babies here while they should just send them straight to the Level 3 hospital. So, when they get here we also refer because we cannot manage those babies here. The sisters will say that we are referring to you, you will manage from there and we don't manage them here so we will also refer.*

Participant 19 (Dr) also said:

> *Secondly, there is the problem with the local clinics whereby people don't comply with the protocols they will be referring patients who are not even supposed to be here. I'll give you an example. Someone with a Hb of let's say 8,8g/dl and is stable, instead of starting Iron therapy and refer the patient if they are not responding, instead they will send the patient straight here and thus increasing the unnecessary number of patients that we see.*

A study conducted by Ximba et al., (2021) further concurred that the midwives also reported being strongly interrogated by the Doctors at the referral hospitals questioning their decision to refer the clients, and some even went as far as requesting for evidence of the referral in a form of pictures. The government offering free services during pregnancy and delivery was also identified as a challenge for the midwives since it caused a gap between government policy and reality. The major aim of this was to provide free health access for all but with the less equipment provided it caused chaos in the referring facilities as there was also no enough beds to accommodate all the influx of patients(Jones, Micheal & Butt, 2016).

Participants also made suggestions on the strategies which could improve the referral system in Bojanala district for a smooth co-ordination and the sentiments were as follows;

Participant 14(midwife) indicated:

> *The other thing would be to have an obstetric ambulance, so that we call upon specialized people when we refer high risk clients so they can be able to manage client's problem.*

Participant 18(midwife) also concurred that:

> *well firstly I would say if they can give us as a facility an ambulance that would reside here in the facility so that if there is a problem we can actually refer in time, not to wait and wait up until when you have an FSB or if they can increase their ambulances Bafokeng or the Rustenburg sub district.*

Participant 19(Dr) also suggested that:

> *we need to start from the beginning patient need to be really informed of pregnancy and informed about all the danger signs and complications so that they can seek help and adhere to follow ups.*

Give et al., (2019) found that a functional referral system requires two-way communication and coordination between different levels of the system as health-care workers play interface role. In an earlier study, Magoro (2015) also indicated that patients should be treated at the appropriate level to improve access to health services and to make optimal use of available hours and human resources. If the pyramid system is ignored, patients are treated at higher-than-necessary costs, while higher level facilities become overburdened while lower level facilities remain underutilized thus making the referral system less effective (Magoro, 2015).

4.4Results Applied to Theoretical Framework

In this study the researcher was guided by the deliberative nursing process theory which is comprised of four major concepts which are the human being, health, environment and nursing. The goal of the development of this theory explained that a nurse's role was to find out the patient's needs and to meet the required patient's needs. The midwives and obstetricians in the study assessed the pregnant women's needs in both primary and health care facilities in order to meet their needs which were sometimes hindered by the environmental forces.

4.4.1The Function of the Professional Nursing

This is the organizing principle and means finding out and meeting the patient's immediate needs for help. According to Orlando, nursing is responsive to individuals who suffer and those who are helpless. It focuses on providing immediate help to the patient (Orlando's Nursing Process Theory, 2012). In this study, the midwives and obstetrician catered for the high-risk pregnant women to meet their health needs in either Primary Health Care facility or the hospital where patient presents to prevent the complications.

4.4.2 The Presenting Behaviour

In order to recognize a patient's problematic situation, a nurse must first recognize the problem no matter how complex (*Orlando's Nursing Process Theory*, 2012). In this study, the participants first screened for high-risk condition using the *BANC plus* checklist, which helps them to recognise the kind of help the pregnant woman needs. Orlando further stated that the patient's behaviour can either be verbal, vocal and non-verbal. Accordingly, the participants obtained both verbal and non-verbal objective data to be able to determine the problems of the pregnant women.

4.4.3The Immediate Reaction

The midwives made use of the *Maternity Guideline*s and the *BANC plus* checklists to assess the presenting conditions of the pregnant women which also enabled them to classify them as either high risk or low risk. The Orlando Nursing Process also states that nurses must be able to recognize the patients presenting behaviour in order to meet their optimal needs (Potter & Perry, 2013). Even though, according to the Open Systems Theory, the patient and quality of healthcare relies mostly on the entire system, meaning that if one level of care is failing to manage or refer patients accordingly the other level of care will also suffer (McGlynn, 2012). In this study, the secondary level of care participants complained that the midwives from Primary Care were referring cold cases and not booking their clients according to the appointments system; something which the Primary Care nurses defended as being due to lack of the necessary equipment and advanced midwives at their facilities to manage this high-risk pregnant women. The researcher therefore investigated more on the

challenges faced by the midwives and obstetricians in the referral of high risk women which was mentioned as the main core of the dysfunctional referral system.

4.4.4 The Nursing Process-Investigation

In this study, the midwives used the nursing process to assess the patient condition severity and did further blood investigation like Hb in order to can decide on both the level of care the high-risk pregnant woman will need and whether to be managed at the Primary Health Care facility or referred to hospital. The researcher found that, if the patient required to be referred to hospital, the midwife documented everything that was done on the management of the woman and made proper arrangements for referral by calling and making the appointment with the hospital.

4.4.5 Improvement

The researcher assessed if the midwives and obstetricians' actions were conducted accordingly in the referral of this pregnant women, and if the patients received the care they needed. In this study, proper actions were found to be taken but sometimes, due to shortage of resources, the referrals were not timely and not effective. The researcher used this theory to assess the practices of the doctors and midwives in the implementation of the referral system as the other studies done showed that there were no records on the management of the patients in the referring facilities, and no proper arrangements were done, thus creating an inappropriate referral system (Ilboundo, Chou & Huang, 2012).

The Orlando Nursing Process Theory also states that, at the end of all the nursing process discipline, there should be an improvement of the patient's condition (George, 2012). The midwives and obstetricians in this study reported that they provided care to patients with the little resources that they had to reduce maternal neonatal mortality.

4.5Developed Strategies to Facilitate the Referral System of High-Risk Pregnant Women

Based on the findings, the strategies to facilitate the referral system of high-risk pregnant women are shown in Figure 4.1 below.

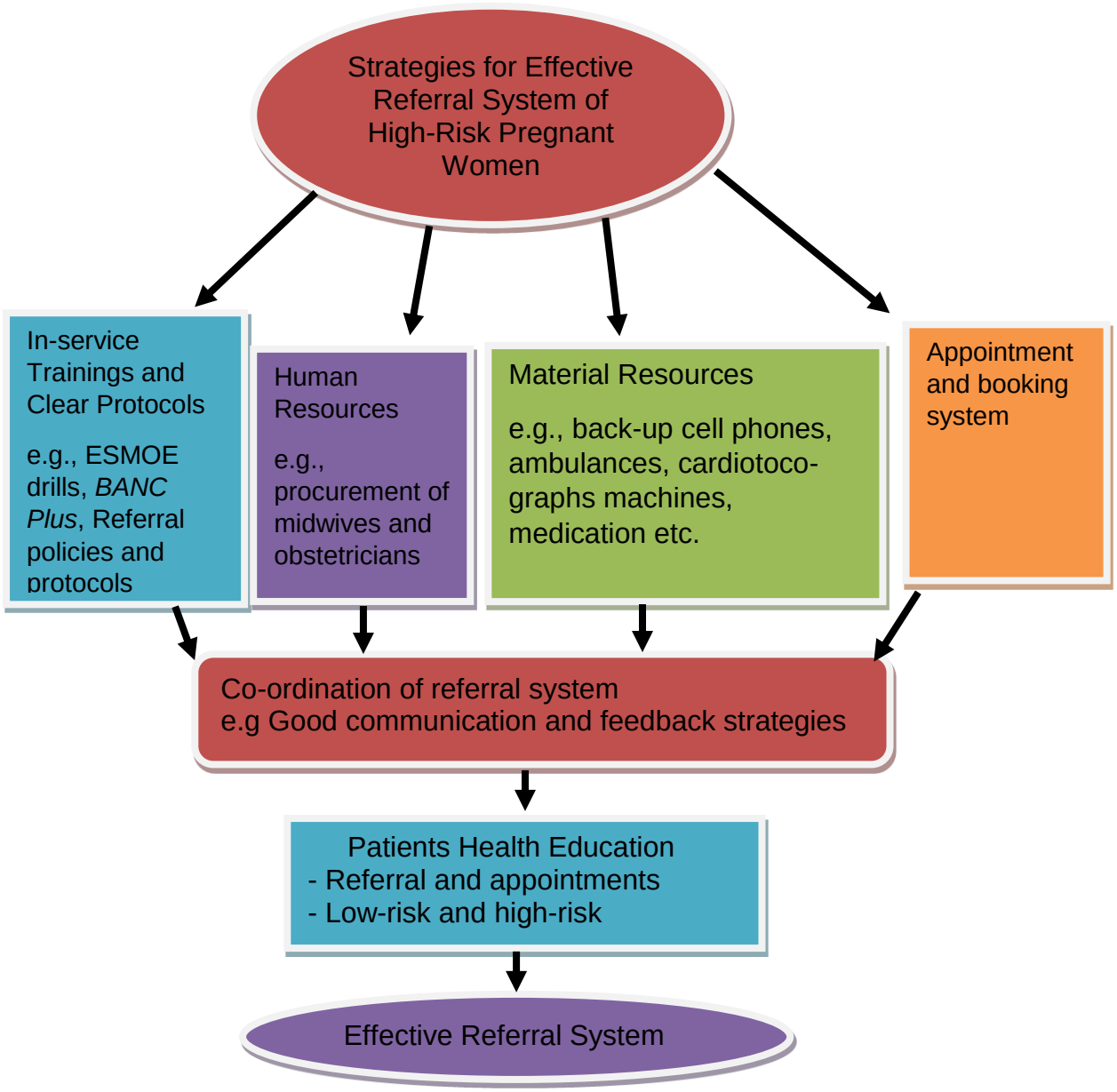

Figure 4.1: Strategies to Facilitate the Referral System of High-Risk Pregnant Women

The strategies shown in figure 4.1 are in-service and clear protocols, human resource, material resources, appointments and booking systems.

4.5.1 In-Service Trainings and Clear Protocols

- **Objective:** To empower health-care workers' knowledge so that they adhere to the guidelines and follows channels of referral systems.
    - Further training like ESMOE drills must be conducted with every intake of midwives and obstetricians about obstetrics emergencies in the facilities to also allow midwives to put into practice what they have read into practice before they could even put it into practice with the patients, which can also help in the prevention of malpractices.
    - Every midwife in the Primary HealthCare facilities managing Antenatal pregnant women should, at least, have been trained on the *Basic Antenatal Care plus* so that they are able to detect, manage through the *Maternity Guidelines* and refer high-risk clients on their ANC first visits.
    - Newly appointed health-care workers managing high-risk women must be orientated to the ward or facility policies and referral pathways so that they will be conversant with the referral system to avoid any confusion with high-risk women who are directed to wrong facilities, No arrangements made or not referred at all.
    - Frequent refresher courses/workshops should be provided if there is any addition to the guidelines this can be done on the monthly Maternal Mortality meetings so that health-care workers become aware of the revised guidelines.
    - Protocols must be properly displayed in the maternity rooms' boards so that it will not consume much times in case of emergency when health-care workers refer from the *Maternity Guidelines Booklet*, e.g., protocols on the management of hypertension emergencies in labour, postpartum haemorrhage and etc. Midwives must get access to this information without hassle.

The nursing education and practice in South Africa has undergone changes in order to cater for the demands of current clinical status. Improving the knowledge and skills of health-care workers has been identified as one of the strategies in South

Africa to reduce the Maternal Mortality Rate (MMR) in meeting their targeted MDG5 (Ntuli & Ogunbanjo, 2014).

4.5.2Human and Material Resources

- **Objective:** To optimize the distribution of human and material resources this will aid facilitation of the referral system of high-risk pregnant women.

4.5.2.1 Human Resources

The study revealed that, in most facilities, there is shortage of midwives and, in some, no advanced midwives at all, yet they are expected to care and manage high-risk pregnant women, which is a field of care that requires specialized care or training.

- It is recommended that each and every facility that deals with or is managing high-risk pregnant women should at least have one advanced midwife per shift to cover for complicated high-risk conditions in case referral to hospital is deemed or delayed to save both mother and baby's lives;
- Two obstetricians should also be allocated for the hospital so they can be able to deal with obstetric emergencies and relieve each other; and
- The government must also allocate staff according to the patients' burden in each facility to ease the workload on the midwives and to ensure quality nursing care.

Midwifery plays a vital role and is associated with improved quality care, rapid and sustained reductions in maternal and new-born mortality (World Health Organization, 2016b). According to Graham,Bell and Bullough(2013); and Liang, Li and Dai (2012),having a skilled attendant present at every maternal delivery reduces maternal deaths.

4.5.2.2 Material Resources

The study findings proved that there is a lot of shortage of material resources used in the management of high-risk pregnant women, resources like ambulances, Cardio-Toco Graph machine(CTG) and telephones.

- For the shortage of ambulances high-risk women during antenatal should be thoroughly educated about obstetric emergencies and to seek care directly at the hospital with their own transport if possible instead of Primary Health Care facilities to avoid delays in the clinics.
- A back-up cell phone with airtime should be made available at each and every facility so that, in case the telephones are not working, a cell phone is used.
- The district should also make it a point that they prioritize the procurement of CTGs for each and every facility managing high-risk pregnant women for monitoring and early detection of foetal heart distress and prompt management.

4.5.3 Appointments and Booking System

❖ **Objective:** To enforce the clear booking and appointment system in all referral facilities.

- Each and every facility has to have a day assigned to them for referrals at the referring facility for high-risk clinic for example having a Monday dedicated for Facility A, and Facility A being responsible to book a limited number and give appointments to the patients at the end of the day send the list to the referral facility.
- Bookings should be made in way that will also cater for emergencies that could need an obstetrician's urgent attention in the high-risk clinic and also to avoid overworking them.
- At the referral facility, there should be a clerk that is responsible for the appointment system or maybe even computerize them so that patients can get reminder Short Messages (SMSes).
- The referral facilities should also be able to give feedback about the patients who missed their appointments so that the referring facility can make follow up on the patients if possible re-book them, as this will

help in reducing the number of high-risk women who do not attend their high-risk visits and end up coming to the primary facilities in labour with complications.

4.5.4 Co-Ordination of the Referral System

- **Objective:** To strengthen the referral relationship or co-ordination between the primary and secondary health care levels of care.
    - In each district, in order to have a well-co-ordinated referral system Primary, Secondary and Tertiary facilities should have uniform clear protocol which states all the required documents and arrangements at the referral facility during the referral and the department needs to monitor the co-ordination by doing quarterly assessments because the prior calling of the on-call doctor at the hospital during emergency cases is not working for the referring facilities as the encounter challenges getting hold of them or the phones not working.
    - The department can also design feedback slips that the referral facilities can send to the referring facility for patients who are down referred for continuation of care, with the slip the facility can be able to trace the patient if they do not pitch for their appointment unlike writing only in the maternity booklet which is carried by the patient.
    - The health facilities needs to also have meetings were they discuss their challenges within the district about referral system or maternity issues, this can be discussed during monthly meetings and reported back to the Department for better provision or revised policies if need it be.

4.5.5 Health Education

- **Objective:** To empower the child-bearing women and the community about high-risk pregnancy information.
    - Health education should be strengthened at the Primary Health facilities about high-risk pregnancy; the difference between low-risk and high-risk pregnancies; and the danger signs, so that they know what to do in case of emergencies.

- Pregnant women must be knowledgeable about where they should be managed to avoid the by-passing of low-risk pregnant women to the secondary care facilities.
- The MOM Connect App strategy should also be accessible to the pregnant women's partners so that they are also aware of the pregnancy developmental stages information, danger signs and to help remind the pregnant woman of appointments and help prepare for delivery.

4.6 Conclusion

This chapter discussed the results of the study whereby the participants shared and described their experiences and knowledge with regard to the referral system. The findings showed that the participants had knowledge about the referral system of high-risk pregnant women, though they have challenges with the implementation due to lack of resources and etc. The researcher therefore looked at the challenges and developed the diagram of the strategies like health education; in-service trainings; provision of human and material resource; proper appointment systems; and the co-ordination of the health facilities that will help with the facilitation of the referral system. The researcher was guided by the Orlando Nursing Process theoretical framework throughout the study.

The next chapter highlights the summary, recommendations and the limitations of the study.

CHAPTER 5
SUMMARY, LIMITATIONS AND RECOMMENDATIONS OF THE STUDY

5.1 Introduction

The findings of this study and the literature control have been discussed in Chapter 4. This chapter discusses the summary of the results, limitations, recommendations generated by the semi-structured interviews and responses of the participants, together with conclusion of the report.

5.2 Summary of the Study Results

5.2.1Aim of the Study

The aim of the study was to develop the strategies that will facilitate the referral system of high-risk pregnant women in between public sectors in the Bojanala District, North West Province, South Africa.

5.2.2 Objectives of the study

The objectives of the study were to:

5.2.2.1 To explore the referral system of high-risk pregnant women between public sectors within the Bojanala District, North West Province, South Africa.

Based on the results of the study, this objective was achieved as follows:

- The exploratory and descriptive designs were used during one-one semi structured interviews with the 19(nineteen) participants. The participants shared their knowledge on the process they follow to determine a high-risk pregnant women and how they actually refer the women to the next level of care. The participant shared that the used the *BANC plus* checklist to classify the woman for being eligible or high-risk pregnant, which prompted them to make arrangements with the nearest district hospital, namely, Moses Kotane, for further management. They also reported relying on *Maternity Guidelines* for the protocols on the management of high-risk pregnant women. With the arrangement, the participants mentioned that one of the required arrangements was to call the on-call doctor during emergencies to inform them about the patients, which sometimes proved to be difficult as it caused delay in the referral of the patients because the

doctors are sometimes not reachable or busy in theatre. The midwives at the Primary Health Care facilities also stated the ambulances as one of their challenges because of shortage of ambulances and they also requiring the name of the accepting doctor at the hospital also delayed the referral of emergency cases when the doctor is not reachable at the hospital.

- Findings from the interviews also showed that there are still great challenges with the material and human resource in all the facilities. In all the facilities, the participants complained of shortage of staff, either the midwives or the obstetricians. In one facility, there was not even a single advanced midwife or on-call doctor, yet they were expected to deliver women on a 24hour basis, with no proper equipment like CTG to monitor foetal well-being in labour. The only available obstetrician reported to be overworked as he had to see high-risk patients and, when emergency labour cases arise, he still needs to attend to such cases.

Through all these findings, the researcher had a clear understanding about the state of the referral system in the Bojanala District.

5.2.2.2 To develop strategies that will facilitate the referral system of high-risk pregnant women in the Bojanala District, North West Province, South Africa

With the greater reported challenges in the referral system the researcher achieved this objective by the responses that were given by the participants during the interviews when they were asked to suggest the strategies to improve the current status of the referral system of high-risk pregnant women. The suggested strategies are summarised below and were discussed in detail in Chapter 4 according to the developed diagram.

The researcher collaborated with the participants on the following strategies which could aid in the effectiveness of the referral system;

- All pregnant women seeking care at the hospital should have Referral Letter from the Primary Health Care facility to prevent over flooding and the bypass of Primary HealthCare facilities

- Developing, implementation and strengthening of the bypassing policy whereby booked or referred patients are prioritised in the secondary levels of care or returned back at the discretion of the health-care worker. Koce et al., (2019) stated that patients who are self-referred should be charged a fee at the hospital for consultation as this could strengthen the compliance.

The participants mentioned the shortage of staff whereby the researcher saw it fit to recommend the following strategies:

- There should be equal midwives and advanced midwives staff distribution in all facilities operating 24/7 and for the whole 7 days per week to ensure balance and that nurses are not overworked. A recommendation was that equal staff should be available for both day and night shift to cater for optimum patients' needs (Baloyi, 2019). Matlakala and Botha (2015) reported that the nurse-patient ratio should be 1:18 patient per day in South African health-care facilities. This exempts Critical Care Units like Maternity/Labour Room of course as a midwife cannot be able to for such a high number of patients.
- Because the Bojanala District is mostly rural, the DOH should implement the Rural Allowance policy in all of the facilities to attract more midwives and obstetricians, and furthermore make sure that there is a smooth running of the review of salaries(OSD) of health-care workers so as to retain them (Masemola, 2021).

The participants also mentioned the challenges with the supply of medication whereby the researcher suggested that:

- The Department of Health should prioritise the procurement of medication with the big pharmaceutical stakeholders to ensure the essential medication in the management of high-risk conditions is always available
- And the midwives and doctor also have the equal responsibility of making sure that they order enough stock according to their patient ratios so that the demand is calculated and supply chain is maintained.

In one facility, participants reported that the Maternity Ward or Labour Room is very small and suggested that if the government can prioritise the budget to extend the Labour Room as there was not even privacy to the pregnant women during labour and very difficult to move around during emergencies.

5.3 Limitations to the Study

The limitations of the study are those characteristics of design or methodology that impacted or influenced the interpretation of the findings from the research (James & Murman, 2014).The current study is limited to the Moses Kotane and Rustenburg Sub-Districts of the Bojanala District, North West Province. Therefore, the findings of the study will not allow for generalisations to other districts or provinces in the country. It is recommended that the study be conducted in other district or provinces in order to determine the referral system of high-risk pregnant women.

The other limitations of this study was that of the three(3) required obstetricians only one obstetrician was found in the facilities , the other ones were run by Medical Officers (M.O) because of the continued shortage of staff. And, due to the same reason with the third facility, the M.O was assigned to another facility, hence could not form part of the study. One Interview Guide was used for both categories because the interview questions catered for each experience and were not specified for each category.

5.4 Recommendations of the Study

The following are the recommendations of the study, focusing on the following sub-headings:

5.4.1 Midwifery Practice

With the new SANC revised curriculum whereby college R171 diploma students are no longer doing midwifery in their three years diploma unlike the previous curriculum whereby their diploma was inclusive of midwifery, there will be continuous increased shortage of midwives so the nursing council should:

- Allow the University to have the high intake of student nurses to fill the gap of shortages of midwives.

5.4.2 Department of Health

- Prioritize the provision of human and material resource in the management of high-risk pregnant women to achieve the MDG goals of reducing the Maternal and neonatal death.
- Award study leaves for midwives who want to pursue the specialty for midwifery, same for doctors who want to pursue career in Gynaecology and Obstetrics as this will also help in their retention.
- Have more EMRs personnel's with advanced training (midwifery)related, who can help with the referral of high-risk pregnant women to avoid the escort of a midwife in an already overburdened or shortage referral system
- Conduct regular workshops about the ESMOE drills to empower midwives and obstetricians and reduce malpractices.
- Strengthening of the current guidelines of maternity care by developing and reviewing policies every year on the management of high-risk pregnant women.
- Hospital management must have regular meetings with the midwives and obstetricians (maternal and mortality meetings) wherein they can also discuss issues around the referral of high-risk pregnant women to reduce the number of avoidable maternal deaths.
- Conduct 6 monthly assessments on the systems in place for the high-risk pregnant women referrals in each district.
- Carry out yearly campaigns on the high-risk pregnancy conditions about were and how are they managed so that the community can also understand to avoid patients not complying with the appointments.
- Formulate policies that will prioritize referred or booked patients in the hospitals so that all the other patients will seek care first at the Primary Health Care Centre. This will reduce cold cases and overworking of hospital staff.

5.4.3 Research

- Further research should be conducted on the same topic in other districts or provinces to assess their referral systems and to compare the findings and come up with more strategies.
- Research should also be conducted on the patient's non-compliance with the referral system in the Bojanala District.

5.5 Conclusion

This chapter discussed the summary, limitations and recommendations of the study. The researcher also discussed how the objectives of the study were achieved by describing the referral system of high-risk pregnant women in the Bojanala District in the North West Province. Because the referral system was found to still be having challenges, the researcher also made the recommendations to the midwifery practice; Department of Health and research which could help improve the current status of the referral system.

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APPENDICES
Appendix A: University of Limpopo Consent Form

INFORMED CONSENT:

I hereby confirm that the researcher has given me all the necessary information on this study, and I am satisfied. I understand the purpose of the study, risks and benefits and my rights as a participant in this study. Any question that I have has been answered to my certification.

I have been informed that any information will be kept confidential and that the information will be anonymously developed into a research report that may be published. I am aware that the report and any publications from it will be shared with other departments. The researcher will keep me informed on the progress of the research if I wish to know.

I am aware that I can withdraw my participation from this study at any time and I willingly give my consent to participate in the study.

Participant's Signature …….

Researcher's name (Print)…….

Researcher's signature…….

Appendix B: Faculty Approval

University of Limpopo
Faculty of Health Sciences
Executive Dean
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 2149, Fax: (015) 268 2685, Email:kgakgabi.letsoalo@ul.ac.za

DATE: 09 October 2019

NAME OF STUDENT:	**RASEKELE MN**
STUDENT NUMBER:	**201006946**
DEPARTMENT:	**NURSING**
SCHOOL:	**HEALTH CARE SCIENCE**
QUALIFICATION:	**MNURS**

Dear Student

FACULTY APPROVAL OF PROPOSAL (PROPOSAL NO. FHDC2019/6)

I have pleasure in informing you that your MNURS proposal served at the Faculty Higher Degrees Meeting on the 09 October 2019 and your title was approved as follows:

Approved Title: "Development of Strategies to Facilitate the Referal System of High Risk Pregnant Women between Public Sectors in Bojanala District, North West, South Africa".

Note the following:

Ethical Clearance	**Tick One**
Requires no ethical clearance Proceed with the study	
Requires ethical clearance (TREC) (apply online) Proceed with the study only after receipt of ethical clearance certificate	√

Yours faithfully

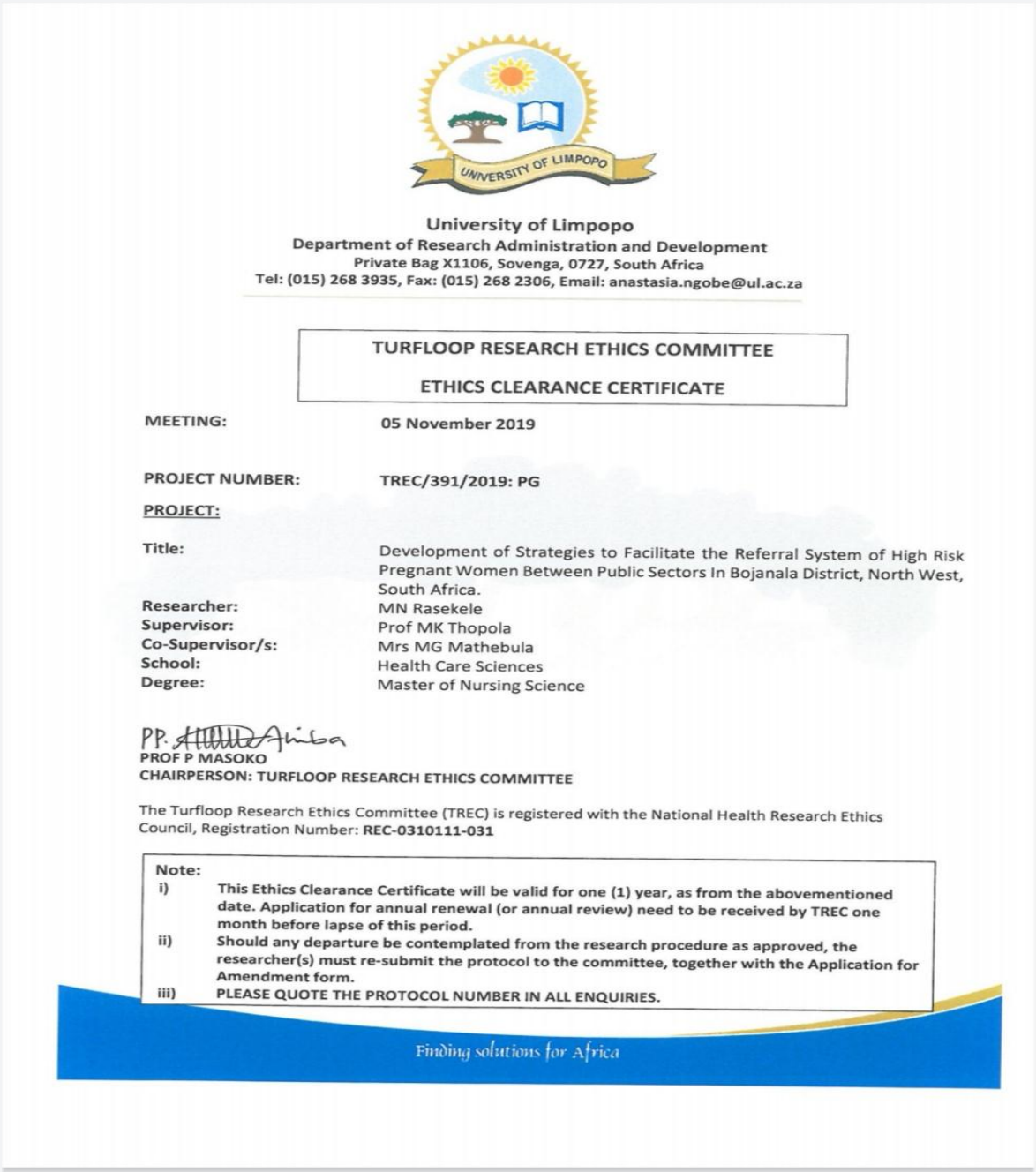
MR K.J Letsoalo
Chairperson

UNIVERSITY OF LIMPOPO
FACULTY OF HEALTH SCIENCES
2019 -10- 09
PRIVATE BAG X1106
SOVENGA 0727

CC: Supervisor: Prof M.K Thopola
CO- Supervisor: Ms MG Mathebula

Finding solutions for Africa

Appendix C: Ethical Clearance Certificate



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

TURFLOOP RESEARCH ETHICS COMMITTEE

ETHICS CLEARANCE CERTIFICATE

MEETING: 05 November 2019

PROJECT NUMBER: TREC/391/2019: PG

PROJECT:

Title: Development of Strategies to Facilitate the Referral System of High Risk Pregnant Women Between Public Sectors In Bojanala District, North West, South Africa.

Researcher: MN Rasekele
Supervisor: Prof MK Thopola
Co-Supervisor/s: Mrs MG Mathebula
School: Health Care Sciences
Degree: Master of Nursing Science

PP.
PROF P MASOKO
CHAIRPERSON: TURFLOOP RESEARCH ETHICS COMMITTEE

The Turfloop Research Ethics Committee (TREC) is registered with the National Health Research Ethics Council, Registration Number: **REC-0310111-031**

Note:

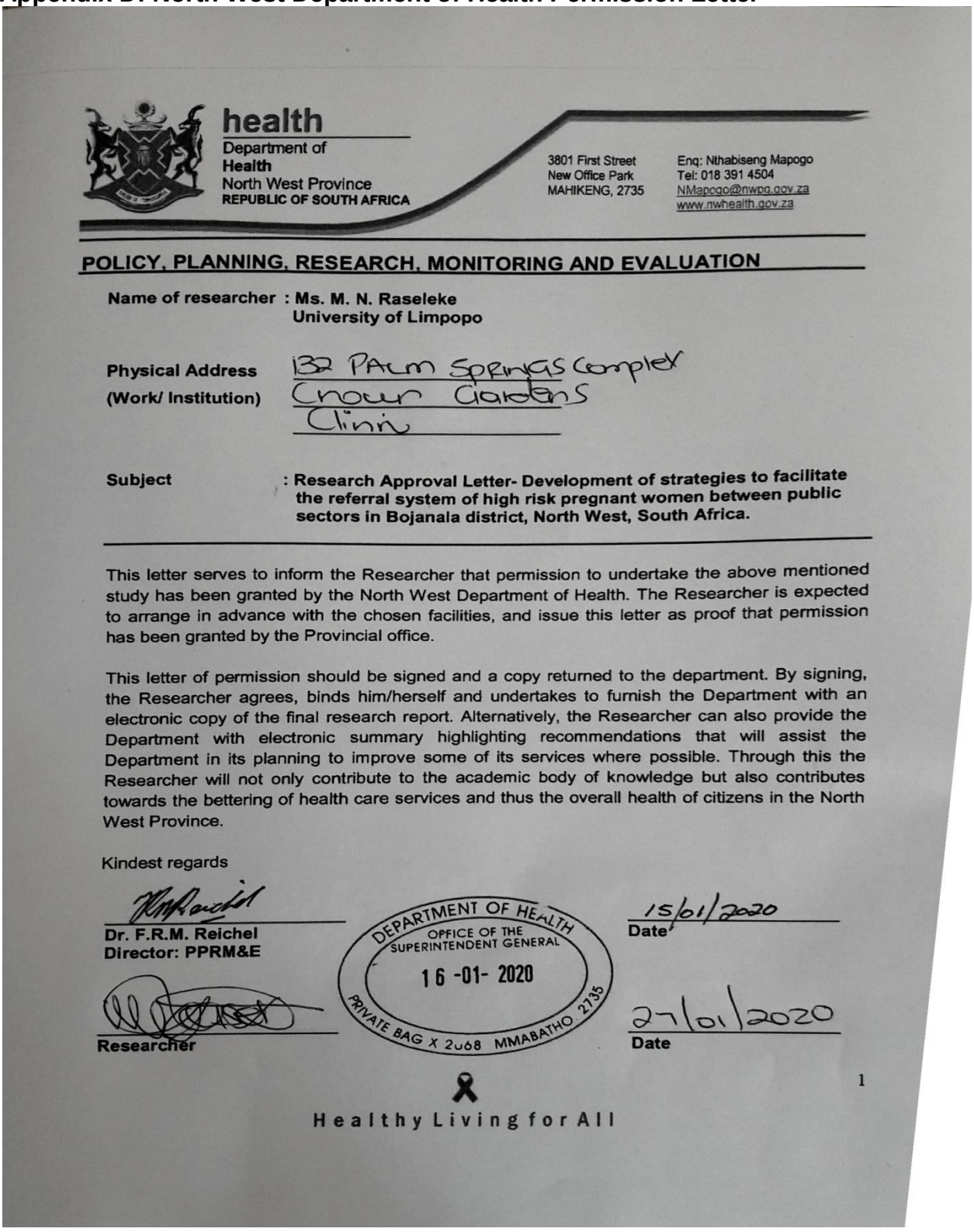
i) **This Ethics Clearance Certificate will be valid for one (1) year, as from the abovementioned date. Application for annual renewal (or annual review) need to be received by TREC one month before lapse of this period.**

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

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

Finding solutions for Africa

Appendix D: North West Department of Health Permission Letter



health
Department of
Health
North West Province
REPUBLIC OF SOUTH AFRICA

3801 First Street
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MAHIKENG, 2735

Enq: Nthabiseng Mapogo
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NMapogo@nwpg.gov.za
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POLICY, PLANNING, RESEARCH, MONITORING AND EVALUATION

Name of researcher : Ms. M. N. Raseleke
University of Limpopo

Physical Address (Work/ Institution) 132 Palm Springs Complex Crown Gardens Clinic

Subject : Research Approval Letter- Development of strategies to facilitate the referral system of high risk pregnant women between public sectors in Bojanala district, North West, South Africa.

This letter serves to inform the Researcher that permission to undertake the above mentioned study has been granted by the North West Department of Health. The Researcher is expected to arrange in advance with the chosen facilities, and issue this letter as proof that permission has been granted by the Provincial office.

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.

Kindest regards

Dr. F.R.M. Reichel
Director: PPRM&E

DEPARTMENT OF HEALTH
OFFICE OF THE SUPERINTENDENT GENERAL
16 -01- 2020
PRIVATE BAG X 2068 MMABATHO 2735

15/01/2020
Date

Researcher

27/01/2020
Date

1

Healthy Living for All

Appendix E: Bojanala District Permission Letter

health
Department of
Health
North West Province
REPUBLIC OF SOUTH AFRICA

Boom street
1st Floor, Absa Building
P/Bag X82079
Rustenburg
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Enq: E Mangole
Tel: (014) 592 8906

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

2030 NDP

BOJANALA DISTRICT

The Facility Managers

18/March/2020

Bojanala District

North West Province

REF: PERMISSION TO UNDERTAKE RESEARCH IN HEALTH FACILITIES IN BOJANALA DISTRICT

Permission is hereby granted for **MAPULA NELLY RASEKELE**

to undertake research entitled **"DEVELOPMENT OF STRATEGIES TO FACILITATE THE REFERAL SYSTEM OF HIGH RISK PREGNANT WOMEN BETWEEN PUBLIC SECTORS IN BOJANALA DISTRICT, NORTH WEST, SOUTH AFRICA."**

at Health Facilities in in Bojanala district.

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

Please facilitate access to the researchers to the targeted facilities and selected study participants.

Thank You

Prof. J M Tumbo

District Family Physician and research coordinator

Appendix F: Independent Coder Certificate

QUALITATIVE DATA ANALYSIS

MASTER OF NURSING

MAPULA NELLY RASEKELE

THIS IS TO CERTIFY THAT

Professor Martha Nozizwe Jali has co- coded the following qualitative data:

- 17 in-depth semi-structured interviews with registered midwives
- 2 in-depth semi-structured interviews with an obstetrician and a Medical officer

For the study:

DEVELOPMENT OF STRATEGIES TO FACILITATE THE REFERRAL SYSTEM OF HIGH RISK PREGNANT WOMEN BETWEEN PUBLIC SECTORS IN BOJANALA DISTRICT, NORTH WEST, SOUTH AFRICA

I declare that the candidate and I have reached consensus on the major themes and sub-themes during online discussion. I further declare that data saturation was reached as evidenced by repeating themes

Prof MN Jali

Appendix G: Interview Guide

Central question: Can you please tell me about the referral system of high-risk pregnant women in your facility?

1. Which guidelines and policies are in place for the referral of high-risk pregnant women in your facility?
2. What are your challenges in regard to referral of high-risk pregnant women?
3. Which strategies can be developed to improve the current status of the referral system of high-risk pregnant women?

Appendix H: Interview Transcript

Participant 04

Researcher: *Good morning, I am Mapula and I'm going to interview you today about the referral system of high-risk pregnant women, can you please tell me a background about yourself?*

Participant: *Okay I am a sister working at Moses Kotane maternity managing high-risk patients.*

Researcher: *Can you please tell me about the referral system of high-risk pregnant women?*

Participant: *Okay, the referral system we have the policy, the SOP, for referral of patients. We also receive patients from the clinics according to the district. So they transfer the patient from the clinic. The Sister will have to call and refer the patient to us and, if they need to be managed at a Level 2 hospital, we first stabilize them and refer to Level2.*

Researcher: *So, in your, facility what kind of high-risk client do usually receive?*

Participant: *All the high-risk client that can be managed at the clinics, twin pregnancies, breech all the high-risk patients basically*

Researcher: *Okay, so which guidelines and policies are in place for the referral of high-risk pregnant women?*

Participant: *We got an SOP of transfer of patients within the organization that was developed in 2018 then the review date is 2023 so we still using it.*

Researcher: *Is your hospital a district or tertiary hospital?*

Participant: *It a district hospital.*

Researcher: *So, if you have to refer patients to other level of care, which hospital do you refer to?*

Participant: *We refer to job Shimankane Tabane Hospital in Rustenburg*

Researcher: *which challenges do you face with regard to the implementation of the referral system of high-risk pregnant women?*

Participant: *EER most of the challenges is most of the nearby clinics which don't fall within our district but they are nearby for example we have Phatsima clinic which have to refer to Thlabane and JST but because they are nearer they refer to our hospital that is one of the challenges*

The other one is even the demographic demarcation because even the area is nearer the patients who are referred to Thlabane they come here the self-referrals.

The other one is the communication, the telephones that is the biggest challenge

Researcher: *How so?*

Participant: *Some clinics you find that their phones are not working so some sisters use their own cell phones and if they don't have airtime, sometimes they don't call we will just receive the patient without being called the sister will see the patient and write the referring notes*

Then the EMRs personnel they will say they are not trained because there is advance training akere for EMRS. So,others, even if they know gore this patient must go to JST, but because our hospital is nearer, they bring the patient to our hospital first for stabilization, even when the patient tells them that I'm a JST patient because of the situation the

patient is in they pass by via our hospital but if the patients are attended by advanced trained personnel they take them straight to JsT
The other challenge is with the shortage. There was too much shortage. [It's] Only now that reba right nyana, so that when you have to transfer the patient , the patient need to have an escort so 1 sister need to go to JST is too much now the shortage because we have to strip from the little that we have.

Researcher: *So with the shortage of staff do you have an obstetrician helping you with the management of high-risk pregnant women?*

Participant: *The obstetrician no, we don't have we only have the MOs, we had one last she came last year but now she left.*

Researcher: *So are you guys trained with obstetrical emergencies?*

Participant: *Yes, we are, we have advance midwives, like I for one, I am an advance midwife.*

Researcher: *With the challenges that you have mentioned, which strategies can be developed to improve the current status of the referral system of high-risk pregnant women?*

Participant: *errr it was,I think they should open more MOUs, coz di clinic tsa mo, mostly they operate until four, the clinic that operates after hours is Chaneng ,and it is not supposed to refer here because they are nearer they should refer to JST*
So other clinics they should have their own high-risk clinic and I think two have already started operating 24 hours whereby they going to have their own high-risk clinic and deliver women, because sometimes you would find that the referrals are low-risk patient but they transfer them here.

Researcher: *So when you saying the sisters in the clinics have to arrange of referrals do they always get the feedback about their referrals?*

Participant: *Oh no, only if they call, and check on that patient saying I referred so and so to you so if they don't they do not get any feedback.*

Researcher: *When they call and arrange for referrals who are they supposed to talk to?*

Participant: *They call the doctor all the referrals goes to the doctor, only those who are high-risk patient the one who are arranged with the high-risk sister,but they those she discusses with the doctor first to give a nearer date mostly urgent cases.*

Researcher: *So, if the doctor is not available to answer the phone, what happens in case of emergency?*

Participant: *Akere at first when they call and there's no doctor but now akere in the mornings most doctors are here , so we call the doctor and they speak to the referring sister if the doctor is not in the ward we advise them to call through switchboard and ask for the DR on-call we give them the name then if maybe the doctor is not available or there's no network and they call the ward again we try to do or accept the patient because we cannot refuse but sometimes you find that the patient comes and the doctor says who did the Sister arrange with for this patient, then you as a sister tell the doctor that they called about patient and sometimes the doctors says but the patient should have gone straight to JST, but as sisters we don't have the authorities to say refer to JST.*

Researcher: *Is there anything else that you would like to mention in regard to the referral system of high-risk pregnant woman?*

Participant: *I think it should be stressed more on what kind of referral to refer to which hospital but the sisters at the clinics I know they know but they complain that the doctors at JST hospital are giving them problems but with us they know it is easy the doctor will just say send the patient.*

Thank you for your time we done with the interview.

Appendix I: Language Editor Certificate

Mr MM Mohlake
University of Limpopo
Turfloop Campus
Private Bag x 1106
Sovenga
0727

24 October 2021

To Whom It May Concern

EDITING CONFIRMATION: Ms MN RASEKELE's DISSERTATION

This letter is meant to acknowledge that I, MM Mohlake, as a professional editor, have meticulously edited the main dissertation of Ms Mapula Nelly Rasekele (Student Number: 201006946) entitled "Development of Strategies to Facilitate the Referral System of High-Risk Pregnant Women between Public Sectors in Bojanala District, North West, South Africa".

Thus I confirm that the readability of the work in question is of a high standard.

For any enquiries please contact me.

Regards

Mosimaneotsile M Mohlake
Freelance Professional Editor
083 951 8828
mosimaneotsile.mohlake@ul.ac.za
mosimaneotsilemohlake@gmail.com

Disclaimer: Subsequent alterations remain the responsibility of the author.