PERCEIVED FACTORS CONTRIBUTING TO MATERNAL MORTALITY AMONG WOMEN IN HEALTH SERVICES IN MUSINA MUNICIPALITY, LIMPOPO PROVINCE

By

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DECLARATION

I declare that the dissertation on " **PERCEIVED FACTORS CONTRIBUTING TO MATERNAL MORTALITY AMONG WOMEN IN HEALTH SERVICES IN MUSINA MUNICIPALITY, LIMPOPO PROVINCE"** is my work and that all the sources that were used or quoted have been indicated and duly acknowledged by means of complete referencing. Furthermore, I proclaim that this work has not been submitted before for any other degree elsewhere.

…… …….

Netshikweta L **Date**

DEDICATION

The researcher dedicates this dissertation to: God almighty for making this all possible. While the topic of this study exclusively focuses on perceived factors contributing to maternal mortality among women who died as a result of pregnancy and child birth, dedication is therefore given to all women who gave their lives in undertaking this social and physiological duty of pregnancy and child birth.

Dedication also goes to all women on bearing age, who did not spare their time to participate in this study, sharing all their information they have regarding the phenomenon in question.

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PERCEIVED FACTORS CONTRIBUTING TO MATERNAL MORTALITY AMONG WOMEN ATTENDING HEALTH SERVICES IN MUSINA MUNICIPALITY, LIMPOPO PROVINCE.

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ABSTRACT

• BACKGROUND

Maternal Mortality rate is defined as the death of a woman while pregnant within 42 days of termination of pregnancy irrespective of the duration/site of the pregnancy. South Africa like any other country, has high maternal mortality rate. Most deaths are caused by factors attributed to pregnancy and childbirth in health facilities. It is the practice in all public hospitals and clinics that women are discharged ±6 hours after delivery hence most problems are not detected thus the complications they may be having such as thromboembolism or sepsis that may arise during the post-partum period.

• AIM OF THE STUDY

The purpose of the study was to determine perceived factors contributing to maternal mortality among women in rural areas of Musina Municipality within Limpopo Province.

• METHODS

A quantitative, descriptive, exploratory, cross- sectional research was used to conduct the study. The target population consisted of all pregnant and lactating women who attended the sampled clinics (ANC) in Musina Municipality. Self- Administered questionnaire was used to collect data from the women who met the criteria for inclusion. A total of 342 women were recruited to participate in this research from all five (5) health

facilities. Collected data was analysed using SPSS Version 23.0 computer software with the assistance of a Statistician.

● FINDINGS

Findings of this study revealed that majority of the respondents 215 (53.0%) reported late booking for Ante-Natal Care (ANC), among the late booking 120 (25.0%) commenced ANC attendance at second trimester, while 95 (12%) commenced ANC at last trimester and only attended once only. Minority of the respondents 127 (24.2%) reported that they never attended ANC because of various reasons cited such as not accessing clinic because of distance and not having transport. Majority 232 (83.5%) of the respondents revealed that professional nurses 'attitudes and unwelcoming postures make them to report during labour than attending ANC. Of the respondents, 49 (17.6%) reported lack of knowledge on engorged breast and mastitis. Various socioeconomic and knowledge factors influenced women, (28.5%) women indicated long distance to health facility, while (12.5%) arrived in labour ward with head on perineum because labour started suddenly, lack of money and transport by (48.4%).

● RECOMMENDATION

Recommendation was made on the importance of in-service training of professional midwives on interpersonal relation, proper assessment of women to detect any complications. Recommended workshops for training and different courses in order to broaden their knowledge relating to pregnancy and childbirth and management of pre and post-partum. Also awareness sessions for women about dangers signs during puerperium were recommended.

● CONCLUSION

This study has identified several factors that have an important influence on maternal mortality in the study area. Among these are variables such as place of consultation/diagnosis, the person who pays the treatment costs, awareness of pregnancy complications and knowledge of the place of ANC treatment, among others.

KEY WORDS: Ante-natal care, midwife, post- partum, woman, pregnancy, childbirth.

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ABBREVIATIONS

AIDS	-	Acquired Immune Deficiency Syndrome
HAART	-	Highly Active Antiretroviral Therapy
HIV	-	Human Immunodeficiency Virus
MDG	-	Millennium Development Goal
MMR	-	Maternal Mortality Ratio
MOUs	-	Midwife Obstetric Units
NCCEMD	-	National Committee for Confidential Enquiries into Maternal Deaths
NPRI	-	Non-Pregnancy-Related Infection
SES	-	Socio-Economic Status
USA	-	United States of America
DHIS	-	District Health Information System

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Maternal deaths are an indicator of the maternal health status worldwide. According to the United Nations' Millennium Development Goals (MDG), it is an important health indicator that had to be addressed by 2015 in order to improve maternal health (World Health Organization, 2010b). MDG number five indicated the need to reduce the Maternal Mortality Ratio (MMR) worldwide by three quarters between 1990 and 2015 (World Health Organization, 2015). Similar findings were reported by WHO, UNICEF and UNFPA (2015) that a woman living in sub-Saharan Africa has a 1 in 16 chance of dying in pregnancy or childbirth.

It then became much more important that the reduction of maternal mortality became more common and goals were set to several international conferences that advocated the need to save both mother and baby in early 90s. Similarly, the African conference which was held in Nairobi - Motherhood Conference in 2016, was for the same sentiments of saving the mothers. This also includes the World Summit for Children in 2014 as well as the International Conference on Population and Development in 2014 and the Tenth World Conference on Women in 2014.

The MMR target set for South Africa was 38 maternal deaths per 100,000 live births by 2015 (Republic of South Africa, 2013). However, the MMR for the period 2008 to 2010 was much higher at 176.22 maternal deaths per 100,000 live births and has increased since the previous report of the National Committee on Confidential Enquiries into Maternal Deaths (NCCEMD) (Republic of South Africa, 2013). Though the most recent report of the NCCEMD indicated that the MMR decreased to 154.1 maternal deaths per 100,000 live births during 2011 and 2013 (Republic of South Africa, 2013) the MMR is still above the MMR target set for South Africa. The World Health Organization (WHO) estimates that at least 585,000 women die each year as a result of complications of pregnancy or child birth (WHO, 2015). The majority of these deaths occur in the

developing world, estimated at 1,025 deaths per 100,000 live births in some African Countries (Boerma, 2014).

South Africa is one of few countries with a system for confidential enquiries into maternal deaths. The NCCEMD defined the system as “a systematic multidisciplinary anonymous investigation of all or a representative sample of maternal deaths occurring in an area, region (state) or national level which identifies the numbers, causes and avoidable or remediable factors associated with them” (Republic of South Africa, 2013). The reporting of maternal deaths to the NCCEMD in South Africa resulted in data regarding maternal deaths for the country as well as for the different provinces in the country. From the NCCEMD reports it is clear that the results regarding the maternal deaths in the country’s provinces differ from province to province. Within the provinces the causes of maternal deaths and the avoidable factors may differ from health district to health district as well as between the different levels of care.

Pregnancy and childbirth in every woman’s life including her family members is considered joyous moments. Babbie and Mouton (2016) attests that moments of childbirths are natural processes in a woman’s life. Being a mother should be a period of expectation, feeling fulfilled and joy for a woman and all the significance others and the communities in which she resides. However, it becomes so pathetic when the period of expecting a cry of a neonate turns to be overshadowed by the death of the mother or the baby before birth or a death of a mother. For such women motherhood is certainly overshadowed by unforeseen complications of labour and postpartum period. Maulana (2014) warn that some women lose their babies even before being born or shortly after birth; while other women loose both their lives and that of their babies.

South Africa like any other developing country, joined to the call for the reduction of maternal mortality which is an international development goal and has been adopted by the United Nations as well as South Africa as one of the member states at the Millennium Summit in 2014. It is a known fact that every minute somewhere in the world at least one woman dies from complications of pregnancy and childbirth. Undoubtedly, per day,

somewhere, at least 1,600 women die from the same mysterious circumstances, that is over half a million women at a minimum, dying every year (Mhlanga, 2015).

It is in this light that the researcher embarked on this study to assess and describe the perceived factors contributing to high maternal mortality among women in health services in Musina municipality in the Limpopo province. The researcher observed that in the rural areas of South Africa, women are more likely to die in childbirth than women in developed regions of the world. This compares with a 1 in 2,800 risk for a woman from a developed region.

1.2 BACKGROUND OF THE STUDY

According to the World Health Organisation WHO (2015), every day, approximately 830 women die from preventable causes such as pre- eclampsia. In Sub-Saharan Africa (SSA), a number of countries halved the levels of maternal mortality since 1990. It is estimated that every minute, somewhere in the world, a woman dies from complications arising from pregnancy and childbirth. The health of women is an important contributing factor to the overall health of any country. The World Health Organization (WHO) 'Maternal - Baby Package' (MBP) emphasises that the key to safe motherhood is appropriately trained midwives (WHO, 2015). Safe motherhood is defined as the provision of high quality maternal health services during pregnancy, delivery and in the postpartum period to ensure the health of the mother and infant (WHO, 2015). The four pillars of safe motherhood are cited as early booking for Antenatal Care (ANC), clean and safe assisted delivery, essential obstetric care and family planning (WHO, 2015). WHO further suggests that the cause of maternal mortality can be prevented by utilization of skilled birth attendants and quality emergency obstetric care services to all women? Global Strategy for Women's and Children's health states that workshops for the newly qualified midwives are always conducted in order to increase the level of awareness, knowledge and perceptions about the prevention of complications of pregnancy, labor and puerperium among women during their reproductive age.

The practice is believed to be the key to reduce maternal mortality rates. According to the

World Health Organization (WHO, 2015), estimated 515 000 women die each year of pregnancy related causes. Of these, half of them take place in Africa, 46% in Asia, 8% in Latin America and less than 1% in developed countries, which comes to show that 98% of maternal deaths is in developing countries. The extent to which risk factors and causes that lead to cases of maternal deaths have remained unexplained, especially in South Africa. Reducing maternal mortality is therefore, a high priority goal on the international health agenda. However, because measuring maternal mortality is a complex procedure, reliable estimates of the dimensions of the problem are not generally available and assessing programs towards the goal is not a simple practice.

Some of these deaths are avoidable, especially if skilled medical assistance and facilities are available. Globally, 82.0% of maternal deaths result from complications encountered during pregnancy, delivery and puerperium. It is possible to accelerate the decline, Countries have now united behind a new target to reduce maternal mortality even further. One target under the Sustainable Development Goal 3 is to reduce the global mortality ratio to less than 70 per 100 000 births with no country having a maternal mortality rate more than twice the global average. The risk of maternal mortality is highest for adolescent girls under the age of 15 years and complications that may arise lead to death among them in developing countries.

Maternal survival has been at the center of attention since the last few decades. The efforts began with the Global Safe Motherhood Initiative (SMI) of 1987 launched in Nairobi and the International Conference on Population Development in Cairo (ICPD). The initiatives deliberated on the establishment of reproductive health concepts and set targets for the reduction of maternal mortality. These strategic plans were reaffirmed by the 10th world conference of women held Beijing 2014 and finally wrapped up by United Nation (UN) 2014 declaration which entailed Millennium Development Goals (MDG) relate to maternal health. A wide range of direct and indirect perceived factors contributing to maternal mortality have been studied, these factors include births attended by untrained personnel, poor access to emergency obstetric services, women's socio-economic status in society, women's education and literacy levels, age of first marriage

and inter-pregnancy intervals. Despite the debate, understanding women's perceptions regarding prenatal care practices and their health care seeking behaviours may allow governments and NGOs to target their programmes and ante natal care toward improving the health and health seeking behaviours of pregnant and postpartum women. Research and programmes to date have addressed the prevalence of high maternal mortality in many developing countries. Literature has explored the direct and indirect factors influencing maternal mortality risk and programmes have attempted to mitigate many of the persistent factors (WHO, 2014).

In addition to maternal mortality, there are approximately 8 million early neonatal deaths and stillbirths each year. These deaths are largely and widely the result of the same factors that causes the deaths and disability of mothers. According to World Bank report 2014, investing in Health, deaths and disability related to maternal causes account for at least 18% of the burden of disease among women of reproductive age in developing countries. Also, maternal conditions are responsible for 4.2% loss of Disability Adjusted Life Years (DALYs) globally. DALYs lost due to maternal conditions in developed countries in 2015 was 0.7%, 4.4% for developing countries but 4.3% in Sub Saharan Africa (Ammisah, 2014). The author further showed the DALY concept which was challenged for under estimating the challenges of women's health problems (Ammisah & Moyo, 2014).

South Africa like any other developing country, is no exception. It is questionable whether women health, those in the bearing age full taken into consideration and also women themselves, are they aware of the predicament they are in. Women should also be aware of the situations that exposes them to die in pregnancy, as well as the communities in which vulnerable women reside. In this instances, morbidity rates are also problematic for women surviving childbearing because they also suffer from serious conditions caused by pregnancy-related complications such as uterine prolapse, pelvic inflammatory disease, fistula, incontinence particularly pain during sexual intercourse (Beckmann et al., 2015). Therefore, this study focused on perceived factors contributing maternal mortality among these women in bearing age. Are they informed that their health is

important before, during and after the delivery of a baby as well as what each pregnant woman should do first soon realizing that she missed her monthly periods?

1.3 PROBLEM STATEMENT

Polit and Beck (2015) refers problem statement as an expression of the dilemma or troubling situations that need investigation and that provides a rationale for a new enquiry. Research problem is an area of concern in which there is a gap in the knowledge needed for nursing practice (Burns & Grove, 2015).

Although the reproductive services including the maternity and ANC are offered free, over 4,300 women die of maternal deaths and over half-a-million women encounter obstetric complications yearly (Department of Health, 2015). In this way, over 43.2% of families are affected by these occurrences through the loss or disablement of a mother of the house. The researcher is a midwife in one of the health facilities within Limpopo province. Despite all initiatives in place by the government of South African, over 52, 6% were found during coming for childbirth that such initiatives as early Ante Natal Care (ANC) bookings and compulsory ANC attendance sessions are not utilised by the women where they could have gone/can go each month to the clinics to be check on their progress and that of the baby, maternal mortality continues to be a serious problem in the provinces of South Africa including Musina municipality. Through her midwifery experience in the maternity units in the Limpopo province, the researcher became concerned of the number of women at child bearing age who die and in over 13,3% of the cases were no ANC attendance, or booked at the third trimester, or maybe attended ANC once only before labour. Poor knowledge of factors contributing to maternal mortality on women might be a possibility. Over 1 in 5 Rural women seem to be not aware that early antenatal booking and frequent attendance provide lots benefits and quality health in women‘s health. It is a fact that most of the health facilities in South Africa, women are discharged within 6 hours of delivery. Complications such as postpartum haemorrhage.

It was against this background that each pregnancy entails a risk of complication to the life or health of the mother. Therefore, it was of importance to determine the factors

contributing to maternal mortality among women so that this information will improve the quality of health education provided to pregnant, laboring and postnatal women by midwives in any given health facility.

1.4 RATIONALE OF THE STUDY

The WHO fact sheet (2014) stated that “most of maternal deaths can be prevented”. According to the report by the National Committee for Confidential Enquiries into Maternal Deaths NCCEMD reported that 60% of maternal deaths in South Africa were potentially avoidable according to the NCCEMD assessors (Republic of South Africa, 2013). Though the Saving Mothers report 2008 to 2010 provided more information per province than previously, there is a lack of information regarding perceived factors contributing to maternal mortality in Musina Municipality.

South Africa, like any other developing country, women have 1 in 82 chances of dying of pregnancy-related causes during her reproductive life (Republic of South Africa, 2013). Mashao (2015) showed evidence that as many as 94,000 of pregnant and lactating women experience life-threatening conditions and over half-a-million women suffer complications related not to a disease - but a natural event of pregnancy. The South African governments continually make efforts in putting strategies in place to prevent maternal mortality rate nationally and provincially. However, the levels of maternal mortality in public health institutions are unacceptably high estimated at 1,050 per 100,000 live births (Clarke, 2014). Medical causes of maternal deaths are well documented. Although little attention is paid on perceived factors contributing to maternal mortality among women of younger age. In an effort to prevent the recurrent of maternal mortality among vulnerable women in South Africa and other developing countries, it is necessary to look at contributing factors that are known as “avoidable factors. It is particularly important to determine the knowledge that women have regarding factors contributing to maternal mortality in rural areas since this will also assist in improving health of the pregnant, laboring and women’s health in puerperal period. The contributory factors to poor quality provision leading to maternal mortality in healthcare facilities necessitate the need to have found out factors that have to be considered significant to

improve delivery in health facilities in this region particularly in Musina where this study focus. Therefore, it might be possible that perceived factors related to maternal mortality in Musina Municipality are not the same as the factors related to maternal mortality in other health districts. This study is of importance because it also identified existing gaps among regions, and improved quality of health service delivered to pregnant and lactating mothers to reduce maternal morbidity, mortality and disabilities that are related to pregnancy and childbirth.

1.5 PURPOSE OF THE STUDY

The purpose of the study was to determine the perceived factors contributing to maternal mortality among women attending Health Services in Musina Municipality, Limpopo Province. Based on the research results, recommendations were drawn to be utilised in the addressing of women's needs/preferences so that the number of deaths could decrease and antenatal attendance could also be expected to be maintained according to R2488 of October 1990.

1.6 RESEARCH QUESTIONS

Based on the above background, the following questions were formulated:

- What are the perceived factors contributing to maternal mortality among women in health facilities at Musina Municipality of Limpopo Province?
- What attitudes do women have concerning ANC attendance during pregnancy in Musina Municipality?
- What knowledge do women have regarding health services available in public health facilities to reduce factors associated with maternal mortality in Limpopo province?
- What are the socio-cultural and economic factors surrounding maternal mortality In Musina Municipality?

1.7 OBJECTIVES

Burns and Grove (2015) describe objectives as clear, concise, declarative statements expressed in the present tense and for clarity with only one or two variables. This study aims to determine perceived factors contributing to maternal mortality among women in health facilities at Musina Municipality of Limpopo Province. Specifically, the study objectives were:

- To identify perceived factors contributing to maternal mortality among women in health facilities at Musina Municipality of Limpopo Province.
- To describe the knowledge that women have concerning reproductive health services available in public health facilities to reduce factors associated with maternal mortality in Musina Municipality, Limpopo province.
- To establish whether accessibility to reproductive health services influence women to decide whether to attend on not to attend reproductive health services during pregnancy, labour and puerperium.
- To examine the socio-economic, cultural and knowledge factors that influence women to attend ANC services in health facilities in Musina Municipality.

1.8 SIGNIFICANCE OF THE STUDY

The findings of the study were used to make recommendations that will be sent to the provincial government and to the National Department of Health for making plan to improve health seeking behaviour among all pregnant women and postnatal mothers. It is envisaged that the results of the study will influence the provincial Department of Health as well as the National Department of Health on the review of maternal policies and guidelines on antenatal care.

Findings can also assist in WHO Sustainability Developmental Goals especially goal number 3 which is about ensuring healthy lives and promote well-being at all ages as well as development goal 5.

Findings of this study might be utilised in Nursing Education to make nursing students aware on how to provide quality care for women in the maternal and child health in the

prevention of maternal mortality.

Pregnant Women may also benefit from the improved maternal health care and the health seeking behaviour. Identified factors may lead to the influence on the utilisation of health care services particularly maternal maternity services in South Africa and the world at large.

Lastly, recommendations could assist the National and Provincial Health Departments to achieve their goals of bringing obstetrical care to the community, to relieve the major hospitals of the heavy loads of normal uncomplicated deliveries.

1.9 DEFINITION OF KEY TERMS

The key concepts used throughout the dissertation are defined and clarified so that the readers can share the authors understanding of the dissertation. The definition accepted for each concept, serves to indicate the meaning attributed to that concept during the course of the study and report writing.

1.9.1 Maternal Mortality

Maternal mortality is defined by WHO (2015) as death of a woman while pregnant or within 42 days following delivery of a baby, also in the termination of a pregnancy, irrespective of the duration and site of pregnancy, from any cause related to or aggravated by pregnancy. In this study, this refers to the women who die in relation to pregnancy and lactating during delivery, childbirth and post-partum period.

1.9.2 Maternal death

Maternal death is the death of a woman while pregnant or within 42 days of delivery, miscarriage or termination of pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental cause (WHO, 2015)

1.9.3 Woman

A female human and may also refer to a person's identity (WHO, 2015).

In this study, refers to the females at the bearing age from 16 to 41 years and above as

per according to this study.

1.9.4 Health Services

Includes all services dealing with the diagnosis and treatment of diseases or the promotion, maintenance and restoration of health (WHO, 2015).

In this study, refers to all 5 clinics and hospital that were sampled and used for the study and the reproductive services necessary for a pregnant and lactating mothers.

1.9.5 Post-partum Period

This begins immediately after the birth of a child and extends for about six weeks, as the mother's body, including hormone levels and uterus size, returns to non-pregnant state or pre-gravid state (Say et al., 2014).

In this study, this refers to all lactating women that were included in this study.

1.9.6 Puerperium

Say et al (2014) define puerperium as a period after childbirth where the uterus and other organs and structures affected by the pregnancy return to their non-gravid state. In this study, puerperium starts immediately after delivery of the placenta and membranes and continues for 6 to 8 weeks.

1.9.7 Postpartum care

A period of not less than 10 and not more than 28 days after the end of labour, during which the continued attendance of a midwife on the mother and baby is a statutory obligation (De Vos et al., 2014).

1.10 RESEARCH METHODOLOGY

Burns and Grove (2015) describe research methodology as the entire strategy for a research study, starting from the identification of the research problem to the final plans of data collection. In the current study, the research methodology of the study is briefly outlined. In this chapter, detailed discussion of the methodology is given in chapter 3 of

this study.

1.10.1 Research design

The researcher used a descriptive survey design in order to give a detailed description of the perceived factors contributing to maternal mortality among women in Musina Municipality, Limpopo province.

A research design is the researcher's overall plan for obtaining answers to a research question or testing research hypothesis (Burns & Grove, 2015). According to Burns and Grove (2005), a descriptive survey design may be utilised to study characteristics in a population for the purpose of investigating probable solutions for a research problem.

In this study, this survey helped provide data about the present and what the women are thinking, anticipating or doing.

1.10.2 Population

Burns and Grove (2015) describes a population as" the entire group of persons or objects that is of interest to the researcher, which also meets the criteria which the researcher is interested in studying".

The population for this study included all pregnant women and lactating mothers, who visited the antenatal and the postnatal clinic follow-up examination, who attended the antenatal clinic in all the participated health facilities in Musina Municipality, who signed the consent form recruited to participate in the study.

1.10.3 Study Setting

The study was conducted at Musina Municipality in Limpopo province. The description and the map indicates the location of the Musina Municipality and all its areas are located in the Limpopo province map. The participating clinics PHC clinic rendering comprehensive primary health care services including maternal and child health care (antenatal care, labour and postnatal care and six weeks postnatal care services. The

distance from the women's homes to the health care Centre differ in terms of the distance some are from far indeed.

1.10.4 Sampling design and sample size

According to Burns and Grove (2015), a sample is "a part or fraction of a whole or subset of a larger set selected by the researcher to participate in a research study". The sample was drawn from the larger population. A non-probability sampling design, using a convenient sampling method was used to select the sample. The sample consisted of 342 clients

1.10.5 Data collection

Data collection is a systematic way of gathering information relevant to the research purpose or questions (Burns & Grove, 2015). The researcher collected data from respondents during tea and lunch time to avoid the interruption of the service, using a self- administered questionnaire. A detailed structured questionnaire enables the investigator "to be consistent in asking questions and data yielded is easily analysed" (Polit & Hungler, 2015) (described in detailed in chapter 3). This method is, according to Babbie & Mouton (2016), probably the best method that can be used to describe a population that is too large to be observed directly.

1.10.6 Data analysis

The SPSS Version 23.0 computer program was used to analyse the data and descriptive statistics presented by means of frequencies and percentages to present the data. This was done with the help of a professional statistician from the University of South Africa (Unisa) (see chapter 3, section 3.9).

1.10.7 Reliability and validity

The quality of a research instrument is determined by its validity and reliability. Validity is the degree to which an instrument measures what it is supposed to measure (Parahoo, 2006) dependability with which the instrument measures the attribute it is designed to measure. If the instrument is reliable, the results will be the same each time the test is

repeated.

The researcher focused on content validity, which is the degree to which the items in an instrument adequately represent the universe of the content. The structured questionnaire was given to the hospital maternity unit and the clinic staff experienced in Midwifery working at a Musina Municipality areas, Supervisors of the study and to the staff with research experience to determine whether the items in the questionnaire were relevant and suitable to determine the perceived factors contributing to maternal mortality among women.

A pre-test, which is a smaller review, was carried out to obtain information to improve the questionnaire and to assess the feasibility of the study. The respondents in the pre-test were similar to those in the study and it was done under similar settings, but they were not included in the final study. Conducting a pre-test assisted the investigator to identify problems with the questionnaire. It also gave an estimate of the time to interview each individual, which was important in obtaining consent for the participation (Polit & Hungler, 2015).

1.10.8 Ethical considerations

Pera and Van Tonder and Van Rensburg (2015) define ethics as “a code of behaviour considered correct”. The following ethical principles were considered in this study: permission to conduct the study, respect for persons’ human dignity, confidentiality and anonymity, avoiding harm, justice and informed consent (see chapter 3).

1.11 LIMITATIONS OF THE STUDY

Limitations applicable to this study will be discussed in chapter 5.

1.12 OUTLINE OF THE STUDY

This report consists of five chapters as explained below:

In Chapter 1: The researcher introduced the research topic, gave a background of the

research problem and described statement, aims, objectives, definitions of key terms, research methodology, validity and reliability of the study, ethical consideration and significance the study.

Chapter 2: Literature review. This chapter gives an in-depth review of the literature related to the topic under study.

Chapter 3: Research design and methodology: This chapter outlines the research methodology focusing on the research design, population, sampling, data collection, data analysis procedures and ethical considerations for this research were explained.

Chapter 4: Data presentation, analysis and interpretation: This chapter presents the results of the study, interprets them according to the set objectives of the study and discusses them in relation to findings from other researchers.

Chapter 5: Conclusions and recommendations: This chapter reports the conclusions of the study in relation to the set objectives, outlines limitations and makes recommendations based on the findings of the research.

1.13 CONCLUSION

This chapter described the background to the study, presented the problem statement, purpose and significance of the study, the research question and the definitions of concepts and briefly discussed the methodology and ethical considerations. Chapter 2 discusses the literature review conducted for the study.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Literature review is an interpretive, organised and written presentations of what the author has read (Aveyard et al., 2014) and this may include textbooks, journal, articles, theses, dissertations and also reports from professional organisations (Gray et al., 2017).The researcher in this study focused mainly on describing relevant literature to the study to cover the three objectives, which is comprised of theoretical and empirical literature. Theoretical literature includes the model in which this study was based, meanwhile empirical literature consist of the knowledge of study topic derived from research. The rationale of reviewing literature was to understand clearly a comprehensive picture and meaning to therefore develop guidelines to facilitate supervision in the clinical areas. Furthermore, so that the findings of this study can be compared and combined with existing literature (Gray et al., 2017).

2.2 PURPOSE OF LITERATURE REVIEW

The purpose of literature review is to familiarize the readers with all practical or theoretical issues related to the problem and it helps the researcher to lay out a foundation for the study. A literature review indicates what is known about an area of inquiry and suggests ways of conducting the study on the topic of interest (Polit & Beck, 2015).

The literature review on perceived factors contributing to maternal mortality among women attending health services in Musina assisted the researcher to formulate appropriate research objectives and gain further an insight into the problem and the factors contributing to the high maternal mortality rate at Musina Municipality as well as the whole South Africa.

The researcher conducted a literature review on:

- Perceived factors contributing to maternal death and morbidity
- Factors contributing to maternal mortality
- Conceptual framework
- Social class and economic status
- Socio-cultural practices among pregnant and lactating mothers and the perceived factors contributing to maternal mortality in rural villages
- Danger signs leading to complications death
- Barriers to utilisation of Health Care services

2.2.1 Perceived factors contributing to maternal death and morbidity

Factors contributing to maternal deaths encompass events occurring from conception to 42 days postpartum. Within this period, women's health can be compromised by conditions that arise specifically from pregnancy, known as direct obstetric conditions, or that are aggravated or threatened by pregnancy, known as indirect obstetric conditions.

2.2.1.1 Direct obstetric causes of deaths

Direct obstetric deaths are deaths of women resulting from obstetric complications of pregnancy, delivery, and postpartum periods, from interventions, omissions, incorrect treatment, or from a chain of events resulting from any of the above (WHO, UNICEF, NFPA & World Bank, 2015).An analysis of the causes of maternal deaths in 2006 found that the leading causes of maternal deaths in Africa and Asia were haemorrhage, hypertensive disorders, sepsis/infections, obstructed labour and abortion (WHO, 2015).

Authors further indicated that most maternal deaths in less developed countries were due to direct obstetric causes whereas in developed countries, maternal deaths were due to indirect causes (Babbie & Mouton, 2016). Regional estimates show that haemorrhage and hypertension are among the top three causes of deaths in both South Asia and sub-Saharan Africa, where the majority of maternal deaths occur. This is in contrast to developed countries, where other direct causes, for example, those related to complications of anaesthesia and caesarean sections are the leading cause of death, reflecting global disparities in access to needed obstetrical care (WHO, 2015). In

Bangladesh, approximately 85% of maternal deaths result from direct obstetric causes (Anwar et al., 2016). In rural Rajasthan, India, 58% of maternal deaths were due to direct obstetric causes, mainly postpartum haemorrhage and sepsis (Myer, 2014). In Egypt, 85.7% of maternal deaths are due to postpartum haemorrhage, hypertensive disorders of pregnancy, complication of caesarean section, sepsis and puerperal sepsis (Anwar et al., 2016).

A Nigerian study by Moore et al.,(2014), on causes of maternal mortality report that in a hospital-based study, main causes of maternal deaths 89.3% were haemorrhage, sepsis, eclampsia, post-abortion complications, and obstructed labour. While a Tanzania study by Magoma, Requejo, Oona, Simon and Fillippi (2015) emphasised the three leading registered direct causes of maternal deaths as eclampsia, postpartum haemorrhage, sepsis and ruptured uterus.

Similar results were found in Ethiopia by Chan et al., (2016) who reported that most maternal deaths were due to ruptured uterus, unsafe abortion, puerperal sepsis, postpartum haemorrhage, eclampsia, antepartum haemorrhage, and ectopic pregnancy. AbouZahr and Wardlaw (2014) report that obstructed labour, puerperal sepsis, abortion and its complications were the commonest causes of direct maternal deaths, followed by haemorrhage (ante- and postpartum haemorrhage), eclampsia and ectopic pregnancy. According to Babalola and Fatusi (2015), the major causes of maternal deaths were haemorrhage, infection, pregnancy-induced hypertension, and obstructed labour.

2.2.1.2 Indirect obstetric causes of maternal deaths

Indirect obstetric deaths result from previously existing disease, or diseases that developed during pregnancy, and which were not due to direct obstetric causes but aggravated by physiological effects of pregnancy (WHO, 2015). Globally, indirect causes, which include conditions such as malaria, HIV/AIDS and cardiac diseases, account for about one fifth of all maternal deaths (WHO, UNICEF, UNFPA & World Bank, 2015).

In developed countries including South Africa, the leading indirect obstetric cause of maternal deaths in 2004 was embolism. In Africa, however, indirect causes accounted for only 4.6% of maternal deaths (WHO, 2015). Recent estimates indicate that 18% of global maternal deaths resulted from indirect causes (WHO, 2014). In a study in Gambia and Chan (2016) found that 12.8% of maternal deaths were due to indirect causes, most commonly hepatic encephalopathy, cardiac diseases, and blood transfusion reactions.

A hospital-based study in Egypt also revealed that 14.3% of maternal deaths were due to indirect causes (Polit and Hunger, 2015). In Nigeria, Osubor, Fatusi and Chiwuzie (2015) found that anaemia was responsible for 6% out of 10.7% of maternal deaths from indirect obstetric causes. In their study, Osubor et al., (2015) reported that anaemia contributed to 12.1% of maternal deaths.

In Ethiopia, Campbell and Graham (2016) found that only 5.1% of maternal deaths were due to causes not directly related to pregnancy. The causes were malaria, infectious hepatitis, cardiac disease, diabetes, intestinal obstruction, pneumonia, and pulmonary tuberculosis. In 2009, a hospital-based study in Jimma, Ethiopia, revealed that 2.3% of maternal deaths were due to cerebral malaria, which is one of the commonest indirect causes of maternal mortality (Campbell & Graham, 2016).

2.2.2 Factors contributing to maternal mortality

Maternal morbidity and mortality are major public health concerns in most developing countries and in under-resourced settings (WHO, 2014). WHO further estimates that every year approximately 8 million women endure pregnancy-related complications and about half a million die as a result of pregnancy related problems. Most pregnant women hope to give birth safely to a baby that is alive and well and hope to progress in good health. However, normal pregnancy may be accompanied by problems and complications which are potentially life threatening to the mother and/or the foetus such factors as bad sanitation at home and/or surrounding area, unable to get to health care facilities for check-ups monthly to detect if any problems may arise along the way such as pre-eclampsia.

Most maternal deaths occur in the poorest countries, especially in Africa and Asia while 1% of deaths occur in high-income countries. Maternal mortality is highest in sub-Saharan Africa, where the lifetime risk of maternal death is 1 in 16, compared with 1 in 2 800 in rich countries (WHO, UNICEF, UNFPA & World Bank, 2015).

2.3 CONCEPTUAL FRAMEWORK

Conceptual framework is defined as "the abstract logical structure of meaning that guides the development of the study and enables the researcher to link the findings to the body of knowledge that constitutes nursing science and/or health science". The framework guides the study and gives it its structure as perceived by (Brink & Wood, 2014).

The study was guided by the Health Belief Model (HBM), which focuses on client compliance and health care practices (Brink & Wood, 2014). The model attempts to justify the premise that health-seeking behaviour is influenced by the individual's perceptions of threats posed by the health problem and the perceived benefits of taking actions to minimise such a health problem. Brink and Wood (2014) support the premise that a theoretical framework attempts to explain why variables such as early booking for ANC among some of the pregnant women were not done, and such practices affect mothers and their babies.

According to Chan et al., (2016), concern over health behavior and a health seeking behavior developed in the early 1950s when low levels of public participation in preventive health programmes were observed in the USA, despite the services being provided free of charge or at low cost. Behavioral scientists and health workers wished to know why and under what conditions people took action to prevent, detect and treat diseases. Just as in pregnancy, women should seek for antenatal care early in first semester.

The HBM explains health-related behaviour at the level of individual decision-making (Mikhail, 2014). Women should seek for health service to maintain their health. Antenatal care for pregnant women, postnatal clinic attendance on postpartum period which is important in the fact that early complications are detected. This is the same with

Reproductive Health services (RHS) are available throughout the RSA, including Musina Municipality at Vhembe district where the study focused. At these clinics, ANC services are provided free of charge, which should enable adolescents to use these services should they wish to do so. However, the persistently high rate of adolescent pregnancies in the LP indicate that adolescents fail to use these services effectively.

2.3.1 An overview of the Health Belief Model (HBM)

The HBM was identified as the theoretical framework for this study, as the reduction of maternal mortality among women maybe increased through health seeking behaviour. This could be done by means of early booking as soon as the woman realises that she is pregnant. Early booking has better results since the complications can be identified early in pregnancy. Health seeking behaviour in order to prevent complications is a reflection of the health belief system of the individual woman and the society at large.

Six components of the HBM were used in the study: perceived susceptibility, perceived benefits, perceived barriers, perceived cost, efficacy, and cues to action (Silal et al, 2015). Before examining the HBM, aspects of the social psychological theory from which the HBM's variables were adopted should be considered. The Lewinian tradition maintains that the individual exists in a life-space composed of regions. Some of these are positively valued, others are negatively valued, and still others are relatively neutral. A positively valued region has a goal and a negatively valued region has no goal (Mikhail, 2014). This implies that women who have a goal in life are more likely to prevent complications during pregnancy, labour and postnatal period.

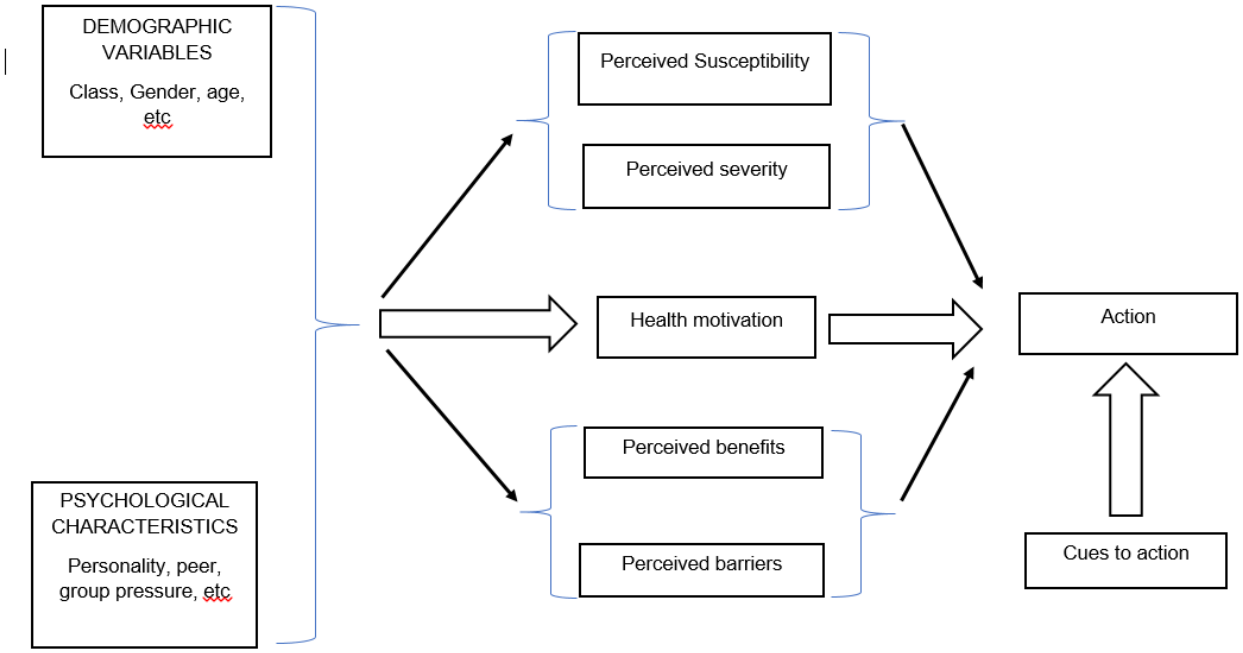
The HBM in this study assisted in explaining why some pregnant women take action to prevent health complications during pregnancy by attending ANC early in pregnancy, while others attend ANC only late or not at all.

The HBM also assisted in determining pregnant women's' views about ANC and what factors influence the utilisation of ANC services. According to De Vos et al., 2014, the HBM is organised into three major components which attempt to explain human behaviour towards health, or in the case of this study pregnant adolescents' behaviours

towards utilising ANC services, namely:

- Individual perceptions of pregnant adolescents concerning the utilisation of ANC
- Modifying factors which could influence pregnant adolescents' decision as to whether or not to attend ANC, including: Demographic factors such as age, race and gender issues, Socio-demographic variables such as personality, social factors and peer influence, Structural variables related to pregnant adolescents' knowledge about the benefits of attending and dangers of not attending ANC
- Variables affecting the likelihood of pregnant adolescents' initiation of actions to utilise ANC services

FIGURE 1: HEALTH BELIEF MODEL (Conner, 2014)



2.3.1.1 Perceived susceptibility

Galvan (2016) define perceived susceptibility as the "individual's perception of the degree of his/her susceptibility to a health condition". Wabiri et al (2015) state that in reproductive health issues, perceived susceptibility to pregnancy would positively influence the timing of ANC. However, USA study by Hacker (2015) found that amongst the pregnant women, 79% booked for ANC during the third trimester and some failed to attend ANC for the whole duration of the pregnancies. Women perceived themselves not to be susceptible to any complications. This could indicate that the women did not perceive themselves to be susceptible to any complication or any of the following, STDs, including HIV/AIDS. Which could be checked early in pregnancy and given assistance early in pregnancy.

2.3.1.2 Perceived severity

Perceived severity is the degree of concern at the thought of disease or problems associated with pregnancy, labour and postnatal and any other reproductive problems such as nausea and vomiting among some women. Aveyard, (2014) found that subjective norm variables were more predictive of behavioural intentions than attitudinal factors,

such as the value of discussing complications of labour as a high risk patients.

2.3.1.3 Perceived threat

Perceived threat depends on two beliefs: perceived susceptibility to illness or health breakdown and anticipated severity of the consequences of such illness (Conner, 2014). In this study, the implications of high risk pregnancies, complication on the health of the women should be perceived as serious threats to the women and their families. Hacker (2015) states that perceived threats to health actions include phobic reactions, physical and psychological barriers, accessibility factors and even personality characteristics. Clarke, (2014) as well as Say et al., (2015) maintain that perceived threats include those related to the continuity of preventive action taken daily such as using ANC attendant during pregnancy.

2.3.1.4 Perceived benefits and perceived barriers

Perceived benefits and perceived barriers on behavioural practices among pregnant and lactating women to continue attended ANC clinics throughout their pregnancies despite of taboos. Perceived benefits of actions “The decision to obtain care for women with obstetric complications is determined by recognition of danger signs, perceived severity of illness, perceived aetiology and available quality of interventions. The perception of a condition as normal or minor interacts with the possible overall cost of treatment and level of awareness of illness severity” (Galvan, 2016). Women who might perceive the delivery of a baby to be a normal physiological process might be unlikely to select hospitals or clinics to deliver their babies, because they might associate hospitals and clinics with illness, not with normal physiological processes.

Such women might benefit from health education emphasising the potential risks of pregnancy and childbirth and the treatments that could be implemented at clinics and hospitals to address such risk factors, but these facilities are not available in homes. Perceived quality of care, which partly overlaps with medical quality of care, is an important factor influencing the utilisation of health care services. Assessment of the quality of services "largely depends on (people's) own experiences with the health system

and those of people they know" (Moore, 2014).

Some elements, such as waiting times at health care institutions, can be measured objectively. However, people's perceptions, as to whether issues are indeed problems that might affect the perceived quality of care, are more subjective. Elements of satisfaction with health care services include satisfaction with the outcomes, the interventions and the services received – including staff members' friendliness, the availability of supplies and waiting times. Perceptions are shaped by general awareness of the dangers of childbirth and interventions available at health facilities, by individuals' past experiences with pregnancy, childbirth and health services. The fact that women in Musina Municipality of Vhembe District use ANC services shows some degree of recognition of the importance of skilled care during pregnancy. Their perceived factors contributing to maternal mortality rate should be understood in-depth and this is what the researcher intends to unveil.

2.3.1.5 Perceived barriers to using ANC

Perceived barriers are "possible blocks or hindrances to engage in preventive behaviors, including such factors as cost, inconvenience and unpleasantness" (Chan et al.,, 2016) and Mikhail (2014) state that perceived barriers to health actions include such items as phobic reactions, physical as well as psychological barriers, accessibility factors and personality characteristics. Monetary cost of transport to antenatal clinics might also contribute to the negative utilisation of contraceptive services because of the distances from where the teenage girls reside. Moore (2014) found that barriers to contraceptives include a country's laws, the influence of foreign agencies, medical barriers, as well as social, ethical and political issues.

2.3.1.6 Perceived cost

The fifth component of the HBM is perceived cost. An estimated 120 million women, young and old, in developing countries do not use preventive methods such as use of contraception, even though they do not want to conceive. The main reasons for delaying the use of ANC might be the costs in terms of transportation fees, payment for buses/taxis

to go for consultations and treatment and the time missed from housework, paid work (Moore, 2014).

The researcher found no similar studies on the LP. However, cost implications might hinder seeking behaviors and best practices and health services. If so, this would justify the need to persuade the LP Department of Health and Social Welfare to continue offering free ANC, labour and postnatal period.

2.3.1.7 Efficacy

Efficacy means that the "effectiveness of a health services procedures such as ANC in preventing complications of that might occur during pregnancy is the standard measure against which other care system like Traditional birth attendance in areas where they practice such services (Chan, 2014). There are two measures of efficacy, namely method effectiveness and user effectiveness. According to Polit and Beck, (2015), method effectiveness is the protection a woman receives when a method is used correctly, while user effectiveness is the success of a method in preventing pregnancy or preventing complications.

2.3.1.8 Modifying factors

Factors that could modify women's choices of timing of the ANC to prevent any complications include demographic, socio-psychological and structural variables.

2.3.1.9 Personality factors

Personality factors can be positively or negatively associated with the practice of health behaviors (Murray, 2015).

2.4 SOCIAL CLASS AND ECONOMIC STATUS

When talking of socioeconomic status, poverty must be one of the topics that are included because this affects individuals and communities' wellbeing, ability to access healthcare

and quality of life which no doubt, among other negative effects, have a part in vulnerability and risk of maternal mortality due to inability to obtain certain things that are required for maintenance of quality of life in pregnancy and child birth, such as quality food.

Zimbabwean study on women's health by Ismail (2011) revealed that although women were generally worried about their health, the cultural background of gender roles blinded them from recognizing their rights to maintaining good health. These women considered the right to good health as contingent on fulfilling their purpose of taking care of and meeting the needs of "others" (such as the husbands) at the expense of their own physical health and well-being. There is a religious and socio-cultural dimension for this consideration. In a study among the Hausa of Northern Nigeria, Osoubor et al., (2015) found that the most important factors contributing to maternal deaths include an Islamic culture that undervalues women; a perceived social needs for women's reproductive health capacities to be under strict male control and the practice of purdah (wife seclusion), which restrict women's medical care; almost universal female illiteracy; marriage at an early age and pregnancy often occurring before maternal pelvic is complete and harmful traditional medical practices among others (WHO, 2014).

Socio-economic factors have been inseparably linked with the high burden of poverty-related diseases and the vulnerability of women (Mikhail, 2014). In South Africa, the roots of poverty and the associated maternal and child mortality are a result of the previous apartheid era. The majority of black people living in rural areas were mostly affected and suffered from massive malnutrition. Mikhail (2014) highlights that infectious diseases and malnutrition which were eliminated in the white population destroyed the rural poor black population in the homelands with the resultant burden of infant and maternal mortality on this population group. During the same era, the education system was exclusive and black women were mostly affected (Mhlanga, 2015). The majority of women remained under-educated and illiterate, which in turn affected women's social positions and access to improved health.

Despite progress in increasing the use of antenatal care and access to health care facilities, only 57% of births are attended by a skilled birth attendant underdeveloped countries. There still a problem of many women who still deliver at home under the supervision of a traditional birth attendant and somewhere it is perpetuated by culture. A woman in Nigeria also has a 1 in 23 lifetime risk of dying from maternity-related causes, and more than 50% of maternal deaths occur among women under 35 years of age.

Many studies have revealed a number of causes of maternal mortality in Sub-Saharan Mikhail (2014). These include restricted access to emergency obstetric care, substandard quality of referral care, hemorrhage and related conditions such as hypertension and anemia and endemic diseases such as malaria during pregnancy.

Although many of these studies have identified problems affecting maternal health, their focus has mainly been on quantifiable obstetric causes of maternal death and structural barriers to formal healthcare delivery services.

2.4.1 Cultural practices in attempting to control pregnant women

It is the responsibility of the family members particularly a mother in law to control a pregnant woman. Cultural beliefs on most of the practices done during pregnancy is seen as important to the unborn baby. Culturally, it is widely believed that the activities of the mother and to a lesser extent of the father can affect the unborn child. Some prescriptive and restrictive beliefs and taboos attempt to increase a sense of control over the outcome of pregnancy (Mashao, 2015). Food taboos in among pregnant women's diet are thought to stem from the danger and uncertainty associated with pregnancy and childbirth. Among the black culture, elderly women in families would not support a pregnant who eats eggs, and eggs are full of protein which is highly needed for an unborn child. It is believed that egg yolk will form a vaginal plug during delivery, therefore a woman will experience obstruction/difficulties in delivery. The reality is that a pregnant woman needs protein for good nutrition and for her survival. Such practices is no exception in Musina Municipality especially in more deep rural areas.

According to Mashao (2015), most women deliberately delay attendance of ANC because of variety of things done by health workers. Women do not understand the emphasis placed on urine testing, blood test, blood pressure readings, and abdominal palpation conducted in ANC. Cultural women above 30 year for example, vaginal examination may be so interpreted as very intrusive and embarrassing, and that will perpetuated the avoidance of attending prenatal visits, some women prefer to be attended by a female physician or midwife." Maulana (2014) reported that the respondents indicated that minor disorders and discomforts during pregnancy were treated and managed through folk, herbal, home remedies and the advice from the relative. Mashao (2015) report similar findings that such information from the relatives could result in complications in pregnancy, pregnant women by receiving misleading information.

2.4.2 Socio-cultural practices among pregnant and lactating mothers and the perceived factors contributing to maternal mortality in rural villages

Cultural practices and barriers have also been linked to low acceptance rate of contraceptives in South Africa and elsewhere in Sub-Saharan Africa. Similarly, the utilization rate of contraceptives in Kenya during postpartum varies with residence characterized by a multicultural influence with uptake estimates of 53% in urban and 43% rural societies (Myer and Harrison, 2014). Low contraceptive acceptance in various rural areas in Limpopo has been linked to cultural and religious believes. Modern contraceptives which could assist in preventing unintended pregnancy and improve child spacing have a lot of stigma and negative attitude from the community with condoms perceived to encourage prostitution and unfaithfulness to the partners endangering women health in general (Maulana, 2014).

Harmful practices attached to the culture surrounding pregnancy and delivery among the rural communities has also been linked to poor maternal health outcomes. The culturally prescribed practice for example the use of a knife in cutting umbilical cord during delivery of a baby girl and a spear in the cases of a boy encourages home deliveries (Maulana, 2014).

This harmful practice of using unsterilized tools may also result in transmission of other infectious disease for example hepatitis, tetanus and HIV to both mother and the baby. The community also believes in a special way of disposing the placenta in their homesteads thus promoting a home delivery which could lead to maternal mortality (Maulana, 2014).

Traditional believes in what causes maternal deaths particularly during pregnancy in some indigenous communities' remains another significant problem. The association of eclamptic fits of pregnant woman to being possessed by evil spirit and the profound influences of unknown forces (sorcery/witchcraft) of causing maternal deaths remain elusive. In most cases it leads to a first consultation of a traditional healer delaying referral (Chan et al., 2016). Communities in South Sudan with similar traditional practices like those of Turkana community associated obstructed labour with adultery (seeing someone other than her husband). The woman is asked to confess causing delays of referrals to the next level of care. In most cases the health outcome is either debilitating morbidity or maternal death due to the mother being blamed to be 'hiding the truth' (Chan et al., 2016).

2.4.3 Educational status

According to Ammisah and Moyo, (2014), most women with higher academic qualifications are much more likely to delay in child bearing. Some of the Sub-Saharan African countries have many women with very less than seven years' education have a child before they are 18 years than ones with seven or more years of education. United States of America (USA) study by Beckmann et al., (2015) report similar findings that approximately 30% of young women who have less than a basic education (at least seven years) have a child before they are 18 years compared to 5% of those who have at least twelve years of education. The social disparities in education, poverty and general women status in the society have been attributed to posing a threat to safe motherhood initiative (AbouZahr & Wardlaw 2014).

The risk of pregnancy is greater among adolescents with no formal education than with those with secondary education (Beckmann et al., 2015). Moreover, a lack of parental guidance and appropriate sex education contributes to teenage pregnancy (Beckmann et al., 2015).

2.4.4 Social class and economic status

Poverty is one of the main problems for most women. They might be offered free health services but might be unable to pay for transportation from home to the health facilities (Moore, 2014). South African government declared that all the maternity services are free till the child is five years old but in reality the women have to pay user fees, pay for transport to reach the ANC clinics, delivery and post-natal services (Moore, 2014). Poor women are unable to pay even small amounts of money for services, are more likely to delay seeking care in emergency situations and also more likely to deliver at home without skilled care and assistance (WHO, 2015). Women from the richest households are almost five times more likely to use health care facilities for child birth than women from poorer households. Poverty is an important factor influencing pregnancy outcomes among women in different parts of the world. “A pregnant woman who is suffering economically may also suffer physically…. For a woman in the developing world, the average lifetime risk of dying of a pregnancy-related cause is between 1:76 compared to an average lifetime risk of 1:8000 for a woman in the developed world” (WHO,2015).

2.4.5 Income and access to resources

A poverty stricken population has high chances of not being able to access the basic human needs for example food, health, safe water, shelter and education which directly translates to poor health outcomes. Due to a low socio-economic status of woman, the risk of dying compared to their rich counterparts is high. Poor and uneducated women have a high possibility of marrying early, poor child spacing and unlikely to use contraceptive than their rich counterparts. The consequences of poverty have also a direct effect on the new-born that is likely to be malnourished posing a risk of dying due

to dietary related disorders and other childhood illnesses (WHO, 2015). Studies in Kenya and Bangladesh reveal that women's socio-economic status can influence the preference and frequency of utilizing health services. This shows better economic status improves access and choice of services not only based on need but on individual economic capability (Anwar et al., 2016).

The most affected are pregnant mothers, lactating mothers and under-fives (Mashao, 2015). Men are the head of the family and their decision on the available resources use matters. Although women own animals, they do not have a right to sell or slaughter thus their access to the household income is limited. The economic activities are governed by gender and income generating activities of an individual family. For example female engage in housemaid work and men do herd related activities like buying and selling cows. This income disparity takes from a woman away her right to decide on her own health. It leaves women dependent on men decisions, on whether to attend ANC or not, whether to use contraceptives or not.

2.4.6 Knowledge about safe assisted deliveries

Attending ANC clinics avails the opportunity of promoting healthy behaviours among these women and to increase their knowledge about pregnancy and its potential complications. The WHO (2014) maintains that while some mothers are advised to deliver their babies at health care institutions during ANC visits, they might be constrained by their lack of knowledge about the potential problems for themselves and their babies should they encounter obstetric problems while delivering their babies. Maulana (2014) reported that retrospective analysis of MMR at Harare's Central Hospital (in Zimbabwe), revealed that women who did not attend ANC, had an almost 15 times greater chance of dying during childbirth than women who attended ANC clinics. However, even women who attended ANC clinics and failed to deliver their babies at health care facilities might put themselves and their babies at undue risk of mortality or morbidity which could be reduced by delivering their babies at health care institutions.

Specific knowledge about the risks of childbirth and the benefits of skilled attendance could increase preventive care-seeking, while recognition of danger signs and knowledge about available beneficial interventions should increase timely care-seeking actions for identified potential obstetric complications (Maulana, 2014). Contact with a skilled attendant during ANC could increase a pregnant woman's knowledge about childbirth, if effective health education is provided. Specific knowledge might also be associated with the woman's general education level. According to Myer and Harrison (2014), an important aspect of ANC is health education. It should aim at increasing the pregnant woman's knowledge of physiological changes in pregnancy, possible complications to watch for and what to do in cases of such complications during pregnancy, correcting misconceptions and strengthening women's confidence. Maulana (2014) identified the critical need for targeting health messages during ANC visits and assisting Zimbabwean women to understand these messages. According to Moore (2014), in their study on "determinants of place of delivery among semi-urban women in northern Nigeria" concluded that ANC attendance did not influence hospital delivery as 46% of the respondents, who had attended at least four ANC appointments, 30 delivered their babies at home. This study is aimed to find out on the perceived factors contributing to maternal mortality among women in rural villages of Limpopo province since Limpopo is no exception to all the deliberated problems in terms of socio-economic status.

2.4.7 Danger signs leading to complications death during ante-natal, labour and Postpartum period

Severe bleeding nausea or vomiting, severe weakness or tiredness, spotting or bleeding from the vagina, shortness of breath, fever, high blood pressure, anaemia, swelling of face, hands and legs are the major danger signs during pregnancy (Beckmann et al., 2015). Abdominal pain, prolonged labour, premature rupture of membranes, severe bleeding right after birth, and trouble with vision are danger signs during labour and childbirth WHO, (2015) state that labour which begins before the eighth month of pregnancy; fever; water breaking but labour not starting within 8-12 hours; strong contractions lasting for more than 12-24 hours; cord prolapse; cord wrapped tightly around the baby's neck; baby breech; placenta not coming out after one hour or only part

of the placenta coming out; heavy bleeding; womb coming out with the placenta, and convulsions are danger signs during labour and childbirth. According to Chan et al., (2016), bleeding more than heavy monthly bleeding; fever; convulsions; offensive discharge or unusual colour, pain in the abdomen; painful, red, or swollen breasts, and red, hard and swollen legs are the most common danger signs after childbirth.

Due to lack of knowledge and ignorance, every 4 out of 10 women who give birth are usually unaware of the seriousness of the complication until it is too late (Chan et al., 2016).

2.4.8 Barriers to utilisation of Health Care services

There are several barriers to effective and optimal utilisation of health facilities by pregnant and postnatal women, such as accessibility, affordability, availability and staff shortages and attitudes.

2.4.9 Accessibility, affordability and availability

WHO (2015) emphasised that accessibility includes poor roads, which may be impossible at certain times of the year, infrequent or inconsistent public transport, financial constraints and non-availability of trained personnel.

The Alma Ata Declaration of 1978 emphasised bringing affordable and available health care as close as possible to where people work and live. Included in the declaration is the principle of accessibility (UN national report, 2013). According to Myer and Harrison (2014), accessibility, availability and affordability as well as age, marital status and schooling are barriers to the utilisation of antenatal care.

This contributes to the MMR due to the fact that in rural areas, most women are not allowed to do anything without the permission of their husbands and usually we find that the husbands work too far and hardly come back home than once every 3-4 months hence the women has no money to travel to clinics which are far distanced nor permission to go to the clinics hence never attending ANC and increasing the risk of the unknown because

nothing can be cleared early due to intendance which results to Maternal Mortality during birth (Magoma et al., 2014).

In the past, the doctor saw the patient once during pregnancy and at this visit determined the expected date of delivery, and that was the sum of the antenatal care that was given. The challenge facing contemporary perinatal health care is to ensure that healthy mothers give birth to healthy infants. In SA, Myer (2014) found the maternity services inaccessible to women in the rural areas and that the previous government had provided insufficient hospitals and clinics in these areas. In the area of this study, the services are accessible to all pregnant women.

2.5 CONCLUSION

This chapter discussed the literature review on perceived factors contributing to maternal mortality among women, internationally, nationally and locally. Chapter 3 describes the research design and methodology used for the current study.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The previous chapter presented the literature review perused for the study. In this chapter, the research methodology adopted for the study to answer the research questions is discussed. Research methodology describes the steps, techniques or strategies used in the collection and analysis of data. The discussion also includes the design, population and sample, research instruments, data collection and data analysis and was chosen with the aim of effectively answering the research questions.

3.1.1 Purpose

The purpose of the study was to determine the perceived factors contributing to maternal mortality among women attending Health Services in Musina Municipality, Limpopo Province. Based on the research results, recommendations were drawn to be utilised in the addressing of women's needs/preferences so that the number of deaths could decrease and antenatal attendance could also be expected to be maintained according to R2488 of October 1990.

Before discussing the research method and design of this study, this section will also describe the questions and objectives of the study.

3.1.2 Research questions

Based on the above background, the following questions were formulated:

- What are the perceived factors contributing to maternal mortality among women in health facilities at Musina Municipality of Limpopo Province?
- What attitudes do women have concerning ANC attendance during pregnancy in Musina Municipality?
- What knowledge do women have regarding health services available in public health facilities to reduce factors associated with maternal mortality in Limpopo

province?

- What are the socio-cultural and economic factors surrounding maternal mortality In Musina Municipality?

3.1.3 Objectives

Burns and Grove (2015) describe objectives as clear, concise, declarative statements expressed in the present tense and for clarity with only one or two variables. This study aims to determine perceived factors contributing to maternal mortality among women in health facilities at Musina Municipality of Limpopo Province. Specifically, the study objectives were:

- To identify perceived factors contributing to maternal mortality among women in health facilities at Musina Municipality of Limpopo Province.
- To describe the knowledge that the women have concerning reproductive health services available in public health facilities in Limpopo province.
- To establish whether accessibility to reproductive health services influence women to decide whether to attend or not to attend reproductive health services during pregnancy, labour and puerperium.
- To examine the socio-economic, cultural and knowledge factors that influence women to attend ANC services in health facilities in Musina Municipality.

3.2 RESEARCH METHODS AND DESIGN

According to Burns and Grove (2015), the design of a study is the end result of a series of decisions made by the researcher concerning how the study will be conducted. The design is closely associated with the framework of the study and guides planning for implementing the study.

A quantitative, descriptive research design was chosen for this study in order to give a detailed description of the perceived factors contributing to maternal mortality among

women at Musina Municipality. Quantitative research is a formal, objective and systematic process for generating information about the world. The specific questions addressed may generate knowledge, which could directly improve the utilisation of the health care facilities (Burns & Grove, 2015).

According to Brink (2014), a descriptive survey design may be utilised "to study characteristics in a population for the purpose of investigating probable solutions of a research problem".

The survey was chosen for the following reasons:

- It is appropriate for the research objectives of this study as the aim of the study was not to interpret cause and effect but to describe the nature of the research in the topic (Brink et al., 2014).
- It provides data about the present and tells what people are thinking, anticipating, planning and doing.
- There is no active intervention on the part of the investigator that may produce researcher bias (Brink et al., 2014).
- It is useful for gaining new insight, finding new methods and pointing out the typical or average response (Brink et al., 2014).

According to Burns and Grove (2015), a survey design may be utilised to study characteristics in a population to investigate probable solutions of a research problem. In this study, the survey design was used to investigate the perceived factors contributing to maternal mortality among women at Musina Municipality. It is impartial, there is no prejudice in the selection of units participating in the research. The research data can be collected in the natural setting and in a short time, using an administered questionnaires (Brink 2014). In this study, the setting was Musina Municipality. Five health facilities (clinics and hospital) were used to conduct the study. A prepared private room was chosen in the clinics and hospital to promote privacy for the patient. Data was collected using a self-administered questionnaire.

3.2.1 Setting

Vhembe is one of the five districts of Limpopo Province of South Africa and covers an area of 25,597.42 km². It is the northernmost district of the country and shares its northern border with Zimbabwe. Vhembe consists of territories that were part of the former Tsonga homeland of Gazankulu, Namely Hlanganani and Malamulele, hence the ethnic diversity of the district (Stats SA, 2011).

Musina is the northernmost town of the Limpopo Province of South Africa It is located near the confluence of the Limpopo River with the Sand River and the border to Zimbabwe. It has a population of between 20,000 and 40,000. It consists of 4 clinics and 1 hospital (five health facilities). The clinics namely: Maruleng Clinic, Nancefield Clinic, Musina Medical Centre, and Musina Mobile Clinic. The hospital namely: Musina Hospital. It is one of the oldest hospitals in the country and mainly receives patients from the border villages and settlements of Zimbabwe.

The study was conducted in the Musina Municipality in the sampled health facilities. Musina Municipality covers 10 347 km² of land and is approximately 300 km away from the city of Polokwane.

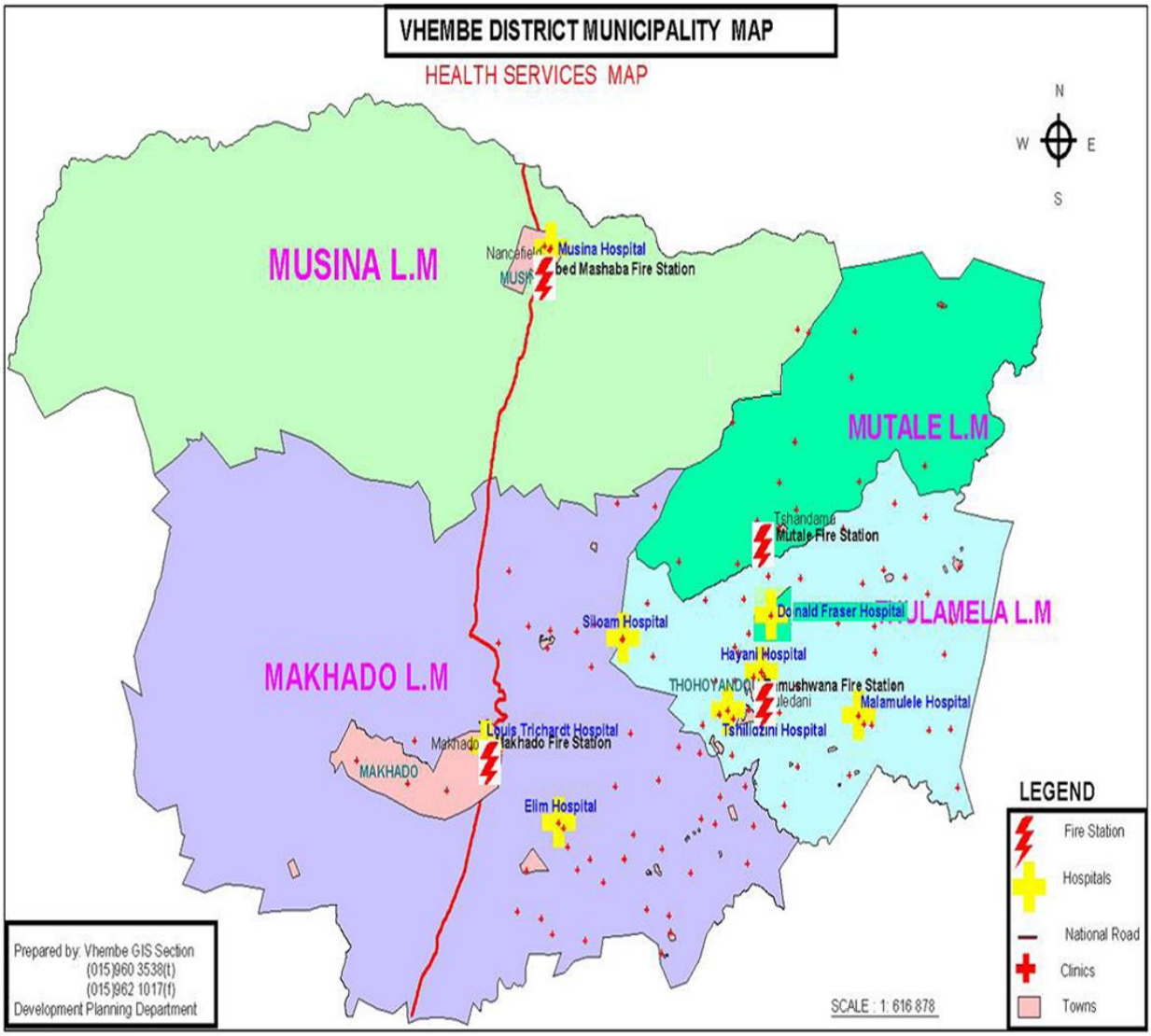


FIGURE 3.1: VHEMBE DISTRICT MUNICIPALITIES

3.2.2 Quantitative research

According to Burns and Grove (2015), quantitative research is a formal, objective, systematic process in which numerical data are used to obtain information about the world. This research method is used to describe variables, examine relationships among variables, and determine the cause and effect of interactions between variables.

The research was quantitative because the data collected from this study was analysed in quantitative (numerical) form. Quantitative analysis involves the "manipulation of numerical data through statistical procedures for the purpose of describing phenomena or assessing the magnitudes and reliability of relationships among them" (Burns & Grove, 2015).

Quantitative research uses structured tools to generate numerical data and uses statistics to interpret, organise and represent the collected data (Burns & Grove, 2015). In this study, the research approach was quantitative as the researcher used a structured self-questionnaire schedule to collect data from the respondents. This method allowed the researcher to ask all the respondents the same questions with predetermined responses, which allowed objective data to be collected throughout the study. The researcher also used frequency tables and graphs to analyse and interpret the findings.

3.2.3 Descriptive design

Burns and Grove (2015) define a descriptive design as a method to gain more information about variables within a particular field of study. The purpose is to provide a 60 picture of situations as they naturally happen. The design is used to identify a phenomenon of interest, identify variables within the phenomenon and develop conceptual and operational definitions of variables in the study (Burns & Grove, 2015). Descriptive studies provide valuable base-line information. The method is also flexible and can be used to collect information from a large group of respondents (Polit & Beck, 2015).

With the descriptive design the researcher plans either to assemble new information about an unstudied phenomenon or to gain more information about characteristics of individual situations, or groups, and the frequency within a particular field of study (Burns & Grove, 2015). In this study, the descriptive design was used to describe and investigate the nature of the phenomenon of perceived factors contributing to maternal mortality among women at Musina Municipality.

3.3 CONTEXTUAL

A contextual study is one where the phenomenon of interest is studied in terms of its immediate context (Burns & Grove, 2015). This study was contextual in that it focused on the perceived factors contributing to maternal mortality among women at Musina Municipality in Limpopo province.

3.4 TARGET POPULATION

Burns and Grove (2015) defined population as the entire aggregate of cases that meet a designated set of criteria. In this study the population was pregnant and postnatal mothers who consulted the participating health facilities in Musina Municipality, respondents might be consulting for their ANC or Postnatal check-ups, despite booking at the participating clinics for antenatal care and delivery. These mothers were attending the Musina Municipality areas for 3days postnatal checkup following delivery and their six week postnatal checkup.

3.4.1 Inclusion criteria

According to Brink et al., (2014), inclusion criteria are the characteristics that those people in a sample should possess.

The inclusion criteria for the study were pregnant women and postnatal mothers who:

- Resided in any area under Musina Municipality in Vhembe district
  (Because that is where the study is based and focused).
- Attended antenatal care and postnatal at Musina Municipality clinics and hospital
  (Because those are the sampled health facilities for the study).

- Should be pregnant at the time of data collection
  (Because the study is on maternal health).
- Had delivered their babies at the hospital or clinic after they were booked to deliver at Musina Municipality participating clinics
- We're attending postnatal clinic for their six week check-up at Musina Municipality participating clinics
- We're willing to participate in this study.
  (Because no one can be forced to participate in unwilling).

3.4.2 Exclusion criteria

Brink et al., (2014) described exclusion criteria as characteristics, which a participant may possess, that could adversely affect the accuracy of the results.

- Women who booked or did not booked for ANC in Musina Municipality areas
- Must be residing at the jurisdiction of Musina Municipality areas
- Did not attend antenatal care at Musina Municipality areas
  (Because they form a statistical point of another area and are not within range of the study).
- Attended antenatal care at Musina Municipality areas but delivered at hospital by Caesarean section
- Women who consulted the participating clinics but not pregnant and not postnatal mothers
  (Because they don't fall within the focus of the study).

3.5 SAMPLING DESIGN AND PROCEDURES

According to Burns and Grove (2015), sampling involves selecting a group of people, events, behaviour, or other elements with which to conduct a study. Burns and Grove (2015) describe a sample as subset of the population that represents the entire population in order to obtain information regarding the phenomenon. The samples represent the

population. A sample is a sub-section of the population, which is selected to participate in a study. The selected sample should therefore have similar characteristics of the population under study to allow generalisability of the results to represent the population (Polit & Beck, 2015).

There are two methods of sampling; one yields probability samples in which the probability of selection of each respondent is assured. The other yields non-probability samples in which the probability of selection is unknown (Brink et al., 2014).
This study used a convenience sampling method of non-probability sampling design to select the clients used as respondents. A convenient sample consists of using the most readily available or most convenient group of subjects for the sample (Brink et al., 2014). This method was chosen because it provided easy access to the respondents. It was simple, practical, economical, and quick and did not require an elaborate sampling frame which was not available. All women visited the participating health institutions in Musina Municipality at the time of data collection were recruited to participate in the study, only those who met the criteria of inclusion and were attending the ANC and postnatal clinic at Musina Municipality areas when the researcher was present at the clinic for data collection. The parameters of generalisability in the sample were negligible; the study did not seek to generalise to a wider population. This study simply represented itself as mentioned by Burns and Grove (2015).

3.5.1 Convenience sampling

In convenience sampling, the researcher chooses the sample according to ease of access (Brink et al., 2014). It makes use of people who are easily or readily available, are easily recruited or who volunteer for sample inclusion (Christensen et al., 2011). This was done in total, five (5) health facilities in Musina Municipality were used: namely: Maruleng Clinic, Musina Mobile Clinic, Nancefield Clinic, Musina Medical Centre as well as Musina Hospital, and the population was easily accessed their availability for data collection was also at their convenience.

3.5.2 Sample size

The sample size was calculated by proportion formula considering the prevalence of late antenatal booking and 95% confidence interval at Musina Municipality as local area (Polit & Beck 2015). According to District Health Information System (DHIS) between 5 April 2015 and 31 March 2017 there were over 300 pregnant women who started antenatal care after 28 weeks of pregnancy as prescribed by R2488 of 1990 as Amended.

Three hundred and forty two (342) respondents participated in the study by completing self-administered structured questionnaire from the sampled health care facilities from May 2017 to December 2017.

The general formula is ME= $z\frac{\sqrt{p\,(1-p)}}{n}$

Where:

≥ME is the desirable margin of error

≥ z is the score that we use to calculate the confidence interval

≥ p is the standard variable

Therefore:

ME= $z\frac{\sqrt{p\,(1-p)}}{n}$

Which also translates to $n=\frac{P(1-P)Z^2}{ME^2}$ (with ME=0.04 P=0.2 Z=1.96)

$n=\frac{0.2\times0.8\times1.96\times1.96}{0.4\times0.4}$

n=342.2

342 participants were used in this study.

3.6 DATA COLLECTION

Data collection is a systematic means of gathering information related to the research purpose or questions (Burns & Grove, 2015).

Data was collected in May to December 2017, using a self-administered structured questionnaire. The prospective respondents attending the ANC and postnatal clinic were recruited to participate in the study following the explanation made by the research on the

purpose of the study. Detailed information about the study was given to the women using their own home language before consent to participate was obtained. Both verbal and written consent was obtained before participating in the completion of the questionnaires.

The researcher provided each respondent an opportunity to be invited into an already prepared private room in order to complete the questionnaire if able to read well and write. All the respondents who were willing to participate were invited by the researcher to fill in the self-administered questionnaire in an already prepared private room. Data was collected during tea and lunch time as a means to avoid interruption of the services of the clients because most of the clinics are short staff, and data were collected only on Monday to Thursdays because the Operational Managers indicated that Friday most staff knock off at 13h00. Therefore the remaining staff would be quite busy mostly.

3.6.1 Research instrument

According to Brink et al., (2014), the choice of a data-collection method is one of the most important steps in the research process. Different instruments can be used on their own or in combination with one another. A structured questionnaire schedule was designed after the literature review and with the help of the two Supervisors and the Statistician.

Individual questionnaires were administered and was used as the data collection instrument. The structured questionnaire was selected because it enabled the investigator to be consistent in asking questions and data yielded was easy to analyse with the help of a Statistician and using the SPSS version 23 computer program (Burns & Grove, 2015).

In the structured questionnaire schedule the researcher asked open-ended and closed - ended questions to enquire on the knowledge that the respondents have on factors contributing to maternal mortality as well as their thoughts about the phenomenon under study.

The respondents were given questionnaires directly to avoid misinterpretation and to and

to ensure clarity on all issues. Burns and Grove (2015) maintain that a questionnaire is the best method of collecting data especially if the survey strategy is used.

The questionnaire has specific advantages. Polit and Hungler (2015) points out that the specific advantages of using a questionnaire are:

● It is a rapid and efficient method of gathering information.
(To promote freedom to express themselves better through answering freely what they feel in the questionnaires).
● Measurement is enhanced because all subjects respond to the same questions.
(Promoting equality and not being biased).
● Subjects are kept anonymous.
(To promote confidence within the participants so that they can be able to express themselves freely without worrying of being exposed.)

The researcher collected data by using self-administered questionnaires. The items included in the structured questionnaire were designed by the researcher with an assistance of the Supervisors and based on information acquired during the literature review. A Statistician evaluated the items on the questionnaire.

The researcher designed a structured questionnaire schedule with both open-ended and closed – ended questions. A questionnaire schedule is a questionnaire with closed or fixed alternative questions as well as indications of how to answer each question (Brink, 2014). Structured questionnaires are formalised so that all respondents hear/see the same questions in the same order and in the same manner.

3.6.1.1 Structured questionnaire have the following advantages:

- Questionnaires are more feasible for most people.
  (They help them feel more comfortable knowing that their answers won't be linked back to their identities).
- The responses can also be obtained from individuals who cannot read or write.

- The response rate for questionnaires is usually high as respondents are less likely to refuse to be interviewed if they are available.
- A questionnaire is a flexible method, which allows the researcher to explore the deeper meaning of phenomena.
- Questionnaires also produce information through personal observations of the respondents' verbal and non-verbal communication.
- The researcher can clarify ambiguous or confusing questions.
- The respondents are less likely to leave a question unanswered. (Burns & Grove, 2015; Polit & Beck, 2015).

The structured questionnaire schedule was divided into four sections:

Section A: Items relating to biographic information of the respondents, which sought to obtain respondents' details such as age, marital status, educational status and occupational status.
Section B: Questions relating to information on the sociocultural practices such as their families involvement in the pregnancy or interaction with them during the pregnancy period.
Section C: Questions relating to the maternal mortality and obstetrical information such as their awareness of the importance of check-ups and if they are actually aware of ANC check-ups etc.
Section D: Questions relating to availability and implementation of health care services, work behaviours and attitudes such as exploring the women's on opinions on improvement of health services.

The structured questionnaires schedule consisted of mostly closed and some open-ended questions on the perceived factors contributing to maternal mortality among women in Musina Municipality areas. The questions were clear and arranged in such a way that data collected was as easy and accurate as possible (Polit & Hungler, 2015).

3.6.2 Data collection procedure

Individual questionnaires were administered to allow the antenatal women and postnatal mothers who were unable or unlikely to complete questionnaires on their own, such as those who were not literate enough for reading, writing and ability to express themselves in the English language (Burns & Grove, 2015). The questions in the questionnaire where written in their own language. The researcher is fluent on the three main languages spoken in Limpopo, thus, Tshivenda, Sotho and Tsonga, which were the mother languages of the majority of the communities under study, in order to maintain consistency and to enhance confidentiality as well as anonymity for those who do not understand English by avoiding the use of interpreters. During each session of filling in the questionnaire in each clinic or hospital, the respondents were given an opportunity to ask questions concerning the research.

The total number of respondents was 342 and each of them were thanked by the researcher for participating in the study. Each filling of questionnaire took approximately twenty minutes to some of the respondents but the maximum time was half an hour to complete the questionnaires in most of the respondents.

3.6.3 Validity

Polit and Hungler (2015) defined validity as the degree to which an instrument measures what the researcher intends to measure. Validity addressed the appropriateness, meaningfulness and usefulness of the specific inferences made from instrument scores. It has to do with truth strength and value (Burns & Grove, 2015). The structured questionnaire mostly focused on content validity, which refers to the accuracy with which an instrument measures the factors under study. Therefore, content validity was concerned with how accurately the questions asked intended to elicit the information sought. The research instruments were tested for content validity.

3.6.3.1 Content validity

Content validity refers to the extent to which various research elements measures what each one purport to measure (Polit & Hungler, 2015).

An instrument cannot be measuring the validity attribute of interest if it is erratic, inconsistent and inaccurate. However, an instrument can be reliable without being valid. The central aim of a data collection instrument is to establish a relationship between the independent variable and dependent variable with high degree of certainty. A data collection instrument should measure what it is supposed to measure. The content validity was achieved through a critical review of the instrument by the supervisor and joint supervisor and other experts in the area of study. The statistician scrutinised the items constructively for subsequent statistical analyses using the SPSS Version 23.0 computer program. The sections in the structured interview schedule are relevant for identifying perceived factors contributing to maternal mortality which might be thought to influence women's choice to attend the ANC and to deliver their babies at the clinics or hospitals in order to reduce maternal mortality rate in Musina Municipality areas. A pre-test was also carried out to ensure validity.

3.6.3.2 Construct validity

Construct validity ensures that abstract concepts are measured adequately and logically, and relationships between variables are identified with the instrument based on theory, and clear operational definitions (Brink, & Wood, 2014; Burns, & Grove, 2015).

Construct validity includes the definition of variables in line with existing literature or theory and differentiates between respondents who possess the trait and those without the trait (Burns & Grove, 2015). In this study the interview schedule was based on the literature reviewed and the relevance to the variables in the study. The variables were operationally defined to create common understanding between the researchers and readers.

3.6.3.3 Threats to internal and external validity

Validity is an instrument to which the instrument actually reflects the abstract construct being examined (Burns & Grove, 2015).

These are the types of validity below:

3.6.3.3.1 Internal validity

Internal validity is the extent to which the results of the study reflect reality rather than extraneous variables. Threats to internal validity are factors that may give false positive or false negative in the measurement of variables. Lack of internal validity may be observed when other variables rather than the independent variables under study are responsible for part of or the entire observed outcome on the dependent variable. Therefore, the researcher has to be observant to other variables rather than the dependent variables that may affect the outcome of the results (Burns & Grove, 2015). The researcher was observant of the following factors, which could give false or negative measurement of the variables in the study.

3.6.3.3.2 External validity

External validity deals with the ability to generalise the findings of the study to other members of the population rather than the sample (Burns & Grove, 2015). The study has limited generalisability due to the sampling approach of respondents and a small sample size.

3.6.3.3.3 Reliability

According to Burns and Grove (2015), reliability is defined as an extent to which an instrument consistently measured a concept. Reliability relates to the precision and accuracy of the instrument. If used on a similar group of respondents in a similar context, the instrument should yield similar results (Brink et al., 2014).

Accurate and careful phrasing of each question to avoid ambiguity and leading respondents to a particular answer ensured reliability of the tool. The respondents were informed of the interview and of the need to respond truthfully.

3.6.4. Pre-test

A pre-test is a trial run of the major study. Its purpose is to check the time taken to complete the questionnaire whether it is too long or too short too easy or too difficult and

to check the clarity of the questionnaire, items and to eliminate ambiguities or difficulties in wording (Brink et al., 2014).

A pre-test was conducted to test the questionnaire for reliability and validity. Almost ten respondents with similar characteristics to the research sample who were not included in the main study were recruited for filling in questionnaires. This participants were recruited within the clinics. All questions with some problem were re-worded and corrected. Time for conducting filling of questionnaires each respondent was approximated (Brink, 2014).

3.7 DATA ANALYSIS

Data analysis is “the systematic organisation of research data and the testing of research hypothesis, using those data” (Polit & Hungler, 2015).

It also entails “categorising, ordering, manipulating and summarising the data and describing them in meaningful terms” (Brink et al., 2014). The completed questionnaires were given to a Statistician who used the SPSS version 23 computer program to analyse the data. Most of the questions included in the questionnaire were closed- ended questions. The questions were coded for easy analysis by computer. The open-ended questions were categorised by hand by the researcher. A member of Computer Support Services at the University of Venda captured the data. The findings were discussed and the data presented in the form of frequency tables and bar graphs.

Descriptive and inferential statistics were used in the data analysis and summaries included descriptive statistics, frequencies and percentages.

3.8 ETHICAL ISSUES

Conducting nursing research requires not only expertise and diligence but also honesty and integrity (Burns & Grove 2015). When human subjects are used in a research study, they have to know the activities they will be involved in, that their rights need to be protected and their person should be safeguarded hence the researcher needed to

ensure their adequate protection.

Brink et al., (2014) defined ethics as “a code of behaviour considered correct”. It is crucial that all researchers are aware of research ethics. Ethics relate to two groups of people; those conducting research, who should be aware of their obligations and responsibilities, and the “researched upon”, who have basic rights that should be protected.

The study therefore had to be conducted with fairness and justice by eliminating all potential risks. The respondents must be aware of their rights. Ethical issues observed in the study included:

- Informed consent
- Right to anonymity and confidentially
- Right to privacy, justice, beneficence
- Respect for persons (Brink et al., 2014)

3.8.1 Ethical considerations

The researcher outlines the measures that were taken to ensure an ethical study as much as is possible. Creswell (2015) as well as Burns and Grove (2015) state that five basic moral principles exist for ethical guidelines: respect for persons and their autonomy, beneficence and non-maleficence, trust, justice, fidelity and scientific integrity (Polit & Beck, 2015). The researcher discussed these as well other ethical considerations such as the necessary approvals. In addition to these factors, the researcher ensured that completion of research questionnaires were carried out in private venues: a designated room within the sampled health care facilities. The researcher considered it ethical to disallow anybody else to have access to any of the data collection information such as responses checking of the questionnaires by an unauthorized persons. The researcher therefore, kept all the physical data (questionnaires) stored in a lockable immovable cupboard where the key was kept on the researcher’s person till the finalization of capturing of the data by the Statistician.

3.8.2 Research approval

Ethical clearance was obtained from the University of Venda, Univen) as well as from the Provincial Department of Health, as demonstrated by the clearance certificate and the approval letter granted by the Department of Health. In addition, the researcher also sought approval to carry out the research in the sampled health facilities in the Musina Municipality, Namely: Nancefield Clinic, Maruleng Clinic, Musina Medical Centre, Musina Mobile Clinic and Musina Hospital.
For application of permission (see Annexure A) and for permission granted approvals (see Annexure B**).**

3.8.3 Voluntary participation/autonomy

Autonomy occurs when a person is in the stage where he/she can make decisions and committing to them. Respecting this means that a person has the right to choose to be in a study and to be allowed to do so. This can be facilitated by offering the relevant information for a study and allowing a person to accept or refuse to participate (Polit & Beck, 2015).

Written (through consent form) as well as verbal assurance, was given to all the recruited respondents during the study, that they are free to participate or to drop out of the study at any time, should they choose to do so. Consent ought to be sort, but the respondents needed to have adequate information about the study, which they obtained.

Informed consent involves obtaining consent from the respondents after providing information about the study, for example, adequate purpose, the funder, introducing the researcher explaining how the data is to be used, what is required of the respondents, an overview of the likely topics and the duration of the data collection (Polit & Beck, 2015).

Informed consent was sought before engaging in the completion of the self-administered questionnaires from each individual recruited respondent. The respondents were offered language appropriate informed consent forms, which outlined the purpose and issues

surrounding the study; their concerns and questions were addressed before they were asked to sign the consent forms. The signed consent forms were an indication that they had understood and accepted their role and this was proof of the following ethical guidelines by the researcher.

3.8.4 Anonymity and confidentiality

3.8.4.1 Anonymity

The issue of anonymity was explained and clarified to the respondents. Anonymity guarantees the identity of a respondent will not be known outside the research teams. In a case where a third party (organisation) is involved in facilitating participation to a study, it should be clarified that absolute anonymity cannot be given (Polit & Beck, 2015).

3.8.4.2 Confidentiality

Confidentiality means that attribution of comments in reports or presentations to identified respondents must be avoided. This is in both directly (linkage to a name-specific role) or directly (referring to a collection of characteristics that may lead to identification).

3.8.4.3 Confidentiality and anonymity

Confidentiality is “a basic ethical principle while anonymity is one way in which confidentiality is maintained. To ensure anonymity, steps are taken to protect the identity of the individual by neither giving their name when presenting research results, nor including identifying details which may reveal their identity such as workplace, personal characteristics and occupation” (Brink et al., 2014).

In this study, anonymity was achieved by not putting names on the questionnaire. The researcher at the end should not be able to link any information to any participant. The filling of the self-questionnaires was conducted in a private office where no third person could overhear any form of conversation or see anything inside.

3.8.5 Avoiding harm

Avoiding harm is another basic human right to be considered when conducting research on human beings. According to Burns and Grove (2015), risks that may be encountered such as psychological and emotional harm. . In this study, psychological harm through periods of long waiting and maintaining confidentiality and anonymity was the probable risk the patients could have encountered. The researcher spent 20 - 30 minutes in allowing each respondent to complete the self-administered questionnaires with no rush. Maintaining privacy, confidentiality and anonymity during the filling of the questionnaires also prevented psychological harm.

3.8.6 Informed consent

Informed consent is “a legal requirement before one can participate in a study” (Brink et al., 2014). After a full explanation of the nature of the study, respondents were asked to give either verbal consent for those who could not read or write or written consent of their willingness to participate in the study (see Annexure C).

3.8.7 Justice

Justice seeks to answer the question: who is the recipient of the research benefits and who bears the burdens? The goal is for a sense of fairness in the distribution of the study benefits to be established. Therefore, the following should be under consideration as the study is designed and carried out: the distribution of possible benefits of the study; whether all research respondents should receive equal benefits; whether non-respondents and research respondents should benefit equally. It is suggested that the research respondents should benefit more. However, this is a simplistic view as the varying benefits at distinct stages are not always known, including for respondents. It is unlikely that justice will be achieved as, according to Brink et al., (2014); (Polit & Beck, 2015), it is a difficult moral principle to accomplish.

3.8.8 Beneficence and non-maleficence

3.8.8.1 Beneficence

Doing well is termed beneficence. Studies are required to be designed in such a manner that maximal probability of benefit is rendered to the respondent minimal probability of harm is rendered to the respondent. This ethical consideration is screened by second and third parties: it is considered when approvals are being sought to carry out the study. The researcher obtained an Ethical Clearance Certificate for the study from the University of Venda Ethics Committee and permission from Department of Health provincially as showed by certificate and an approval letter to utilise health facilities to collect data.

3.8.8.2 Non-maleficence

Doing no harm is termed non-maleficence (Polit & Beck, 2015). Consideration needs to be given to how a study may potentially harm a respondent and mitigating actions to be implemented. This is common in studies of sensitive topics since painful experiences may be uncovered and previously undisclosed information may be divulged.

As a result, respondents were given clear understanding of the issues to be addressed before consent to participate was sought. Sensitive and potentially sensitive topics were addressed through clear and direct questions. In this manner, respondents were not faced with ambiguity or confusion about subjects they might have possibly preferred to avoid. Throughout the study there was cognisance to signs of discomfort and sensitivity and flexibility in continuing or stopping in the completion of the forms if anything is experienced. The researcher did not envisage that the study would harm any of the respondents in any way. No harm was reported during or after the study.

3.8.9 Respect for persons as autonomous individuals

Respect for persons is a basic human right. Autonomous individuals have the right to choose to either participate or not, in the research. The Collins English Dictionary (2016) defined choice as “the act or an instance of choosing or selecting; the opportunity or power of choosing”. The decision is to be made without coercion. Respondents were allowed to act independently by giving their informed consent to participate in the study.

In this study it was ensured that respondents gave informed consent to participate in the study. Prior to the respondents giving consent, the purpose of the study was fully explained to them in the language they were well conversant with. Risks and benefits were highlighted. The respondents were informed that participation was voluntary and they were free to withdraw should they so wish. The respondents were assured that neither participation, withdrawal nor refusal to participate would affect their entitlement to health services. Prior to signing the consent, there was a period of question time to ensure that the participants fully understood the explanations. At the end of the explanations, the respondents were asked to sign a written consent (see Annexure C).

3.9 CONCLUSION

This chapter described the research methodology, including the research design, research population and the sample. It discussed methods of data collection and analysis, the validity and reliability of the data collected and ethical issues. Chapter 4 presents the interpretation of findings.

CHAPTER 4

INTERPRETATION AND DISCUSSION OF FINDINGS

4.1 INTRODUCTION

The previous chapter dealt with the research methodology used for this study. This chapter discusses the results of the statistical analysis of the quantitative data derived from the completed questionnaires. The data focused mainly on women's knowledge for the perceived factors contributing to maternal mortality in Musina Municipality. Results presented in this chapter reflect data of all women who participated in the study.

Where applicable, comparisons were noted between adult women from adolescents who are already mothers and who also visited the ANC or postnatal clinics during the time of data collection, however, no substantiation done, since it was not the purpose of the study to do age specific analyses. Statistical measures were limited to frequency distributions and percentages.

Researchers can use quantitative analysis to interpret raw data and quantity as well as the value of variables by counting and measuring them in order to provide answers to research objectives and draw conclusions from the data (Creswell, 2015).

4.2 PURPOSE OF THE STUDY

The purpose of the study was to determine the perceived factors contributing to maternal mortality among women attending Health Services in Musina, Limpopo Province. Based on the research results, recommendations were drawn to be utilised in the addressing of women’s needs/preferences so that the number of deaths could decrease and antenatal attendance could also be expected to be maintained according to R2488 of October 1990.

4.3 STUDY OBJECTIVES

The study aims to determine perceived factors contributing to maternal mortality among women in health facilities at Musina Municipality of Limpopo Province. Specifically, the study objectives were:

- To identify and describe perceived factors contributing to maternal mortality among women in health facilities at Musina Municipality of Limpopo Province
- To describe the knowledge that the women have concerning reproductive health services available in public health facilities to reduce factors associated with maternal mortality in Limpopo province
- To establish whether accessibility to reproductive health services influence women to decide whether to attend on not to attend reproductive health services during pregnancy, labour and puerperium
- To examine the socio-economic, cultural and knowledge factors that influence women to attend ANC services in health facilities in Musina Municipality.

The research results address the objectives of the study and are organised according to the sections of the structured questionnaire as follows:

Section A: Items relating to biographic information of the respondents.
Section B: Questions relating to Socio-cultural issues regarding pregnancy and postnatal
Section C: Questions relating to knowledge on antenatal care and its benefits
Section D: Questions relating to perceived factors and danger signs of maternal complications leading to morbidity and mortality

ANALYSIS FROM FEMALE AND MALE ADMINISTERED QUESTIONNAIRES

4.3.1 SECTION A: ITEMS RELATING TO BIOGRAPHIC INFORMATION OF THE RESPONDENTS

Polit and Beck (2015) state that data analysis is the systematic organisation and synthesis of research data. Burns and Grove (2015) indicates that the term analysis refers to the computation of certain measures, along with a search for patterns of relationship that exist among data groups. Brink (2014) state that data analysis refers to reducing, organising, and giving meaning to the data; it includes the use of descriptive analysis techniques in order to describe demographic variables and study variables and statistical techniques to test proposed relationships among variables, make predictions, and to examine group differences.

Data collected from the respondents were analysed and presented in terms of the structured interviews.

Item 4.2.1.1: Age distribution of respondents

One of the criteria for inclusion in the study was that women should be between 15 – 20 years and classified as adolescents pregnant women or lactating mothers, adult women ranged from 21 years to 40 years and above. Women presenting for ANC and postnatal clinics services were considered and categorised as adults and adolescents women. Adult ages ranged from 21 years to 40 years and above, while adolescent ages ranged from 15 years to 20 years.

The purpose of this categorisation was to enable the researcher to identify and distinguish the knowledge of factors contributing to maternal mortality amongst adult women and adolescents who already categorised as mothers. The correlation of ages and contraceptive practices are indicated throughout the analysis. Table 4.1 presents an analysis of the age categories of respondents.

Table 4.1: Age, parity and marital distribution of respondents

Characteristics	Number of respondents	Percent
		%
Age in years		
From to 16 – 19 years	97	32.5
20 – 24 years	88	25.7
25 – 29 years	70	20.5
30 – 34 years	51	14.9
35 - 40 years	22	6.4
41 years and above	14	
Total	**342**	**100.0**
Parity		
0	139	40.6
1	173	50.6
2 and above	30	8.8
Total	**342**	**100.0**
Marital status of respondents		
Single	297	86.8
Married	35	10.2
Widowed	10	1.5
Divorced	5	1.5
Total	**342**	**100**

Table 4.1 shows an analysis of respondents' ages' distributions as well as marital status. Only 35 (1.9%) respondents were married and 297 (53.6%) were single- never married. The age was of significance in this study trying to find the association if it has an effect in late antenatal care booking. Since the study included only respondents who were 16 years and above, the age category for below 20 years of age ranged from 16 to 20 which

was 97 (39.8%). About 5 (4.7%) reported to had divorced, and the finding was surprising because these were elderly women in whom you suspect maturity. Marital status was included in the structured interview schedule as marital partners could influence each other with regard to seeking for health care.

The age, parity and marital status are shown in Table 4.1, additional analysis was performed to compare the characteristics of women with severe maternal morbidity who were and who were not interviewed and no significant differences were found in age, parity, marital status and mode of delivery. Contrast, Mhlanga (2015) confirmed that males who are legally married, encourage their wives to commence ANC early in first semester.

In terms of marital status, it was found that minority 35 (2.9%) of respondents were married monogamous and there were no large differences by as there were also a minority percent of women who were married –polygamous about 29 (1.5%). However, there were also 10 (0.8%) widowed women in in the Municipality but were also found pregnant while the husband passed on four years ago. But the issue of being pregnant while the husband died some years ago was not pursued since it was not the aim of this study. Not only that but also there were a total of 297 (86.8%) single-never married respondents in the area where the study focused with significant difference by sections/sites. Nigerian study by Babalola and Fatusi (2015) shared similar findings as in this study, found that there were 4% in their study single-never married women particularly in Townships as compared to rural areas as it found that over 4% are single and are never-married women. However, overall these differences across the areas of Musina Municipality were statistically significant in terms of influences of reducing maternal mortality among women and health seeking behavior.

Figure 4.1: Residential areas of respondents

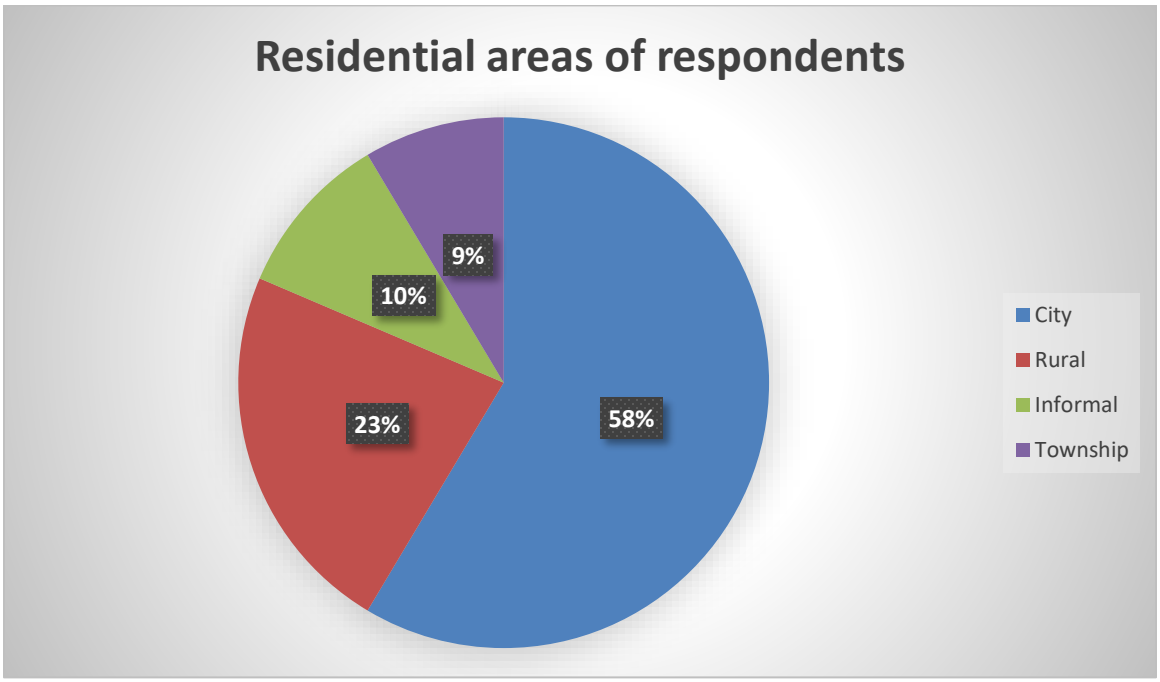


Figure 4.1 distinguishes five residential areas where the respondents lived as depicted in this table. Out of 342 respondents, 276 (23%) reported to be residing in the rural areas around Musina and Mutale. Informal settlements located in these areas particularly in Musina area were indicated as residences by 55 (10%) respondents. 35 (9%) could not report their place of residences probabilities are there that they maybe residing in the remote areas far from the health facilities as well as mobile health facilities. Findings shows no respondents reporting to be residing in the suburbs nor the city.

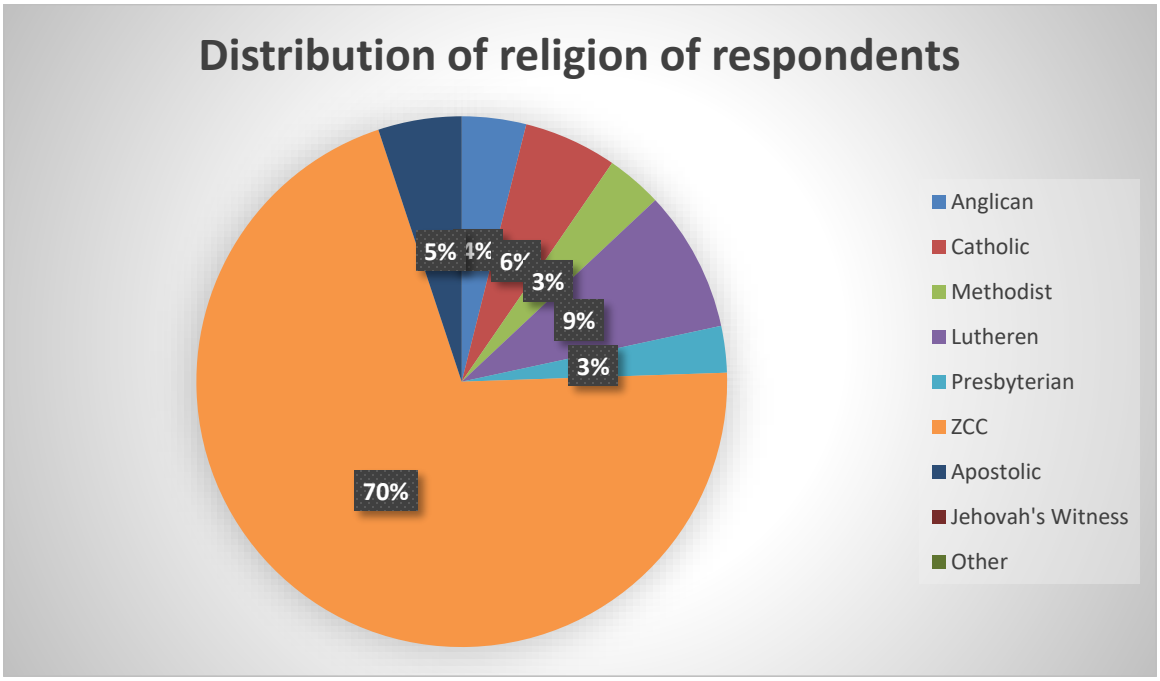
Residential areas of the respondents of this study as seen in the graph, most of the women (43%) in Musina Municipality travel by bus while majority others walk to get to the health facilities because they lived significantly longer distances away from the Hospital or clinics. Rural women and women from the urban areas differ in terms of using health facilities than traditional healers. A Sub-Saharan study by Babalola (2015) reports that a distance is the most barrier for women to book ANC in early first semester.

Items 4.2.1.2 Level of education of respondents

Out of 342 respondents, only 79 (23.0) had passed Grade 12, 129 (37.7%) had lower qualifications than Grade 12 and 69 (20.1%) had no schooling. The analysis of educational status indicated that most of the respondents had some form of schooling, which is an aspect that could positively influence their knowledge, perceptions and proper health services seeking behaviour when health service is required. However, the findings show that 69 (37.5%) had no form of education, this may also affect the knowledge, perception and seeking behavior of health services and contraceptives to prevent unwanted pregnancies. In addition, very few respondents 16 (4.7%) stated that they either had a tertiary qualifications or were registered students at tertiary education institutions.

Studies conducted in Ethiopia by Anwar et al., (2016) and in South Africa by Mashao (2015) on timing of first antenatal care and importance of attendance of antenatal care as well as associated factors among women revealed that 82, 6% of pregnant women initiated antenatal care in third trimester, this was due to the fact that majority of pregnant women had no education and only attained primary school on at all.

Figure 4.2: Distribution of religion of respondents



As depicted in figure 4.2, several Christian denominations, were represented in the sample although no one represented the Jehovah's Witnesses. About 18 (5.2%) were affiliated to the Apostolic and the Catholic Churches, respectively, 246 (72.0%) belonged to the ZCC. As these religions were evenly represented, no religion could be singled out as predominating in preventing its members not to seek health care services particularly checkups when a woman is pregnant, although one particular religion encourages its members to use some water from the dam to wash and drink during pregnancy as a preparation for smooth delivery. Such practices for a pregnant woman might be a detrimental to the life of the mother and her unborn baby.

The predominant ethnic group was found to be Vhavenda 199 (58.1) in the area, followed by Sotho/Pedi 99 (29.4) lastly by Tsonga 44 (12.8) and the rest were one or less than one

percent. Also the table shows that 342 (100.0%) of the respondents were Christians. However, there were not any Muslims and pagans in the area where the study focused. Although these differences were smaller than the socio-economic variables they were still statistically significant because in a way or another, they may influence the health seeking behavior as it is guided by the Health Believe model (HBM) that guided the study, thus reducing maternal mortality in Musina Municipality.

Table 4.3: Socio-economic status, Cultural Variables and Place of birth

Socio Economic Variables	Facility	Clinic	Hospital	Total (%)
Ethnic Group	Vhavenda	102	30	
	Sotho	20	6	
	Tsonga	83	20	
				342 (100.0)
Does the Traditions/Customs/Religion/Culture prevent women from delivering at health facility?	No	22	200	
	Yes	48	72	
				342 (100.0)
Type of water Source	Borehole/well	100	25	
	Piped – Inside House/yard	4	6	
	Piped - public	100	76	
	River/Stream	10	21	
				342 (100.0)

The table above shows the analysis of the socio-economic status in the Municipality as most households 176 (43%) use piped-public supplied to the villages outside households. While 125 (32%) use Borehole/well as the main source of water. Minority of the respondents confirmed that they get water from the in house taps, this is evidenced by the number of those also using the outside toilets as indicated by 332 that they use Pit Latrine as a main type of Toilet. Only the minority 10 of respondents reported to be using flushed ablutions as a means of toilets. As many as 189 (78.00%) households use wood as a main type of fuel for cooking. Also 83 (64.75%) households have houses made out of Bricks and 258 have houses made out of ordinarily wood. Only 40 (9.8%) of the respondents reported that they are employed, however, most members of the family depend on regular part time (piece job) employment. However, it was found that as many as 100 of women depend on home employment (income generating activities performed at home) and only 43 (10.75%) are currently employed. While majority 222 of the respondents depend on child grant in which the maximum payment is R390 per child. irregular employment. Findings of the study revealed that a number of socio-economic variables show that respondents of this study have significantly poorer resources and only the minority reported to be able to manage the financial situations of their households.
This affects the MMR due to the fact in the poor environment that most of this women live in, they find it hard to get to health facilities with lack of resources and income. This shows that going to ANC facilities does not seem to be a necessity to them.

Employment status and income of respondents

Majority of the 222 of the respondents in this study were reportedly not employed and some depend on child grant and home selling business. Almost 10 adult women and 12 adolescents women had incomes exceeding R2 000 per month. A further 10 adult women and 4 adolescents women received incomes ranging from R1 000 to R2 000 and 6 females and 10 (3.8%) adolescents women received between R350 to R500 per month.

Having a job means having an income and being able to improve one's socioeconomic status. Although ANC and postnatal care are offered freely in South Africa, clients need the financial means to reach health care facilities for needed services as well as

consultation and supplies. In some health care clinics, services are closed by 16h00, or services required in this particular clinic are not available, therefore clients will have to consult private doctors where they pay for such services. Money is also used for transportation purposes. Without money, clients may end up risking by consulting the readily available service of the traditional healers.

The respondents of this study as showed by the analysis of the findings, were the poorest in a Municipality as they had the lowest household income which may not cover the required amount of money for the family in a month.

Table 4.3: Knowledge of antenatal care (ANC)

Impact	**Category**	**Percentage**
Sufficient	13-18 years	38%
Little	19-35 years	50%
None	36 years-45 years	12%

Women's knowledge on early and regular attendance of antenatal care by pregnant women is imperative as it is the key to prevent factors contributing to maternal mortality. Delayed access to antenatal care (ANC) has been linked to maternal and foetal mortality and morbidity. Earlier commencement of ANC could lead to identification of birthing complications and amongst others, measuring of blood pressure to exclude pregnancy induced hypertension and measuring of weight to exclude intrauterine growth restriction.

Table 4.3.1: Knowledge about importance of Antenatal care (ANC)

Impact	**Category**			**Percentage**
	13-18 YEARS	**19-35 YEARS**	**35-45 YEARS**	
Majority			✓	50%
Minority		✓		38%
Ignorant	✓			12%
None				

Respondents were asked to indicate whether they had any knowledge regarding timing on the commencement of antenatal care (ANC). Of the respondents, 172 (50%) affirmed that they knew about ANC. However issues of commencement of ANC and the timing of commencement was not known by 8, while the majority of the respondents 202 claimed to be ignorant about ANC and when to commence. Of the respondents who affirmed that they were knowledgeable about ANC, 79 (23.1%) were adults and 61 (17.8%) were adolescents. Minority 40 (8.5%) of the respondents reported to have commenced the ANC at first trimester in order to be checked if no complication such as other sickness.

Respondents of this study were asked questions relating to the most appropriate time for commencement ANC. Majority 241 (70.5%) of the respondents indicated that at least between five to six months of gestation. From the results, it is worth noted that parity was significantly associated with the period at which respondents regarded as the most appropriate to comments ANC particularly at second or following pregnancies.

It was important to enquire about benefits of antenatal care in order to determine the level of awareness of antenatal benefits and prioritization. According to the results of this study, the following were prioritized as more beneficial by 100 (29.2%) that it was to get tested for HIV, while 45 (13.2%) were to indicate that confirmation of pregnancy was more important, suspicion is raised by 49 (14.3%) of the respondents who reported that they were having problems with their current pregnancies, probabilities are there that had it not be the problem they experience with the current pregnancies, they would have not yet initiated ANC. The benefits of attending ANC early in pregnancy was weakly associated with occupation by 49 (14.3%) and the reasons why a pregnant woman should seek antenatal care, and not significantly associated with the best time to commence seeking antenatal care.

Table 4.3.2: SOURCES OF HEALTH INFORMATION FOR MAKING DECISION.

Characteristic	category		Percentage	
	13-18 YEARS	19-35 YEARS	36-45 YEARS	1 1.2%
Radio			✓	30.4%
Newspaper				0%
Friend	✓	✓		30.2%
Family members	✓	✓	✓	36.8%
Television				0%
Health Workers			✓	2.6%

Of the respondents who responded to the question on source of health information for taking a decision on health care attendance, findings of this study showed that as many as 45 of the respondents reported that they obtained the information from the health workers. While of the respondents report to have obtained the information from other source of information or advice for making decisions, followed by 61 of respondents used community members, 189 of respondents report that they obtained the information from the television, newspaper or magazine and some friends) as the source of information or advice for making decisions and none of them suggested traditional healer as the best source of information for making decision, probalities are the fact that South African health practices in particular, maternity care do not encourage the practice of traditional birth attendants (TBA).

Table 4.5: Antenatal screening on respondents

Investigation	Frequent	%
Height Measurement		
Measured	160	47.1%
Not Measured	182	53.2%
Urine Testing		
Tested	200	58.4%
Not Tested	142	41.5%

Number of times:		
1	199	58.2%
2	93	27.2%
Full blood count		
Performed	83	24.3%
Not Performed	259	75.7%
Blood Pressure Checking		
Checked on all ANC visits	247	72.2%
Not checked at least on a visit	95	27.7%
Never attended ANC		32.7%
	112	

Table 4.5 analysis the important antenatal screening performed among the respondents who visited the sampled clinic during the time of data collection. A question was asked if a woman visited the health facility, and what was done as an important investigation during the period of visit. Of the respondents, majority of the women 247 (72.2%) were checked at the visits they conformed on to. All the visits. Surprisingly, 112 (32.7) of the respondents of this study never attended ANC, this implies that no investigation done on all important checking that need to be done during the visits. At 230 (67.3%) attended prenatal care clinic at least once. Of those who attended prenatal care and their ANC cards were checked, 6 (1.8%) of the women commenced ANC during the first trimester, while 56 (16.4%) of the respondents commenced ANC during the second trimester and 168 (49.1%) commenced ANC during the third trimester of pregnancy. Possibilities are there that the last group of the respondents might have attended ANC once only, therefore checking of important investigations were compromised.

According to R2488 of October 1990 as amended, the prescribed guidelines for antenatal care in South Africa is that a pregnant women should visit ANC once she misses the monthly menstruation, once till 28 weeks, then forty night till 36 weeks of gestation and lastly, weekly till delivery.

Maulana (2014) emphasised that using the guidelines on maternity care, of the cases

check early in pregnancy, some are found to be high risk pregnancies. Furthermore, of the some are declared by the care providers, while some declared as high risk pregnancies according to the guidelines.

Table 4.6: Reasons for late antenatal care booking

Reasons cited	frequency	%
Not aware of pregnancy	50	14.6
Long distance to clinic	289	84.5
Unemployed and Lack of money	312	91.2
Attitude of health workers	295	86.3
Poor Infrastructure	44	12.9
Privacy in the clinic	275	80.4
Waiting time too long	264	77.2
Unfavour for HIV testing	193	56.4
Clinic hours not user friendly	198	57.9
Pregnancy not supported	162	47.4

Table 4.6 shows the commonest reasons cited for not booking in early first semester. Most respondents 283 (82.7%) reported that the distance was the main reason as well as long waiting time made them to attend ANC late. A South African study by Myer (2014) reported similarly findings that the respondents strongly agreed that they mainly ignored signs of pregnancy during early conception or gestational period, and hence they started attending antenatal care late.

Majority 275 (80.4%) further report poor provision of privacy especially in counselling for HIV testing. Contrary to the above mentioned by Amnesty International Researchers (2014) on struggle for maternal health: Barriers to antenatal care in South Africa stated that some clinic visited were in unsuitable buildings which lacked privacy, the rooms were small and overcrowded making it impossible to protect confidentiality. Interestingly, respondents were asked whether the reason for late clinic attendance is the fact that pregnancy was not supported or not, 162 (47.4%) showed uncertain by confirming that no support from the father of the baby, some by the family members.

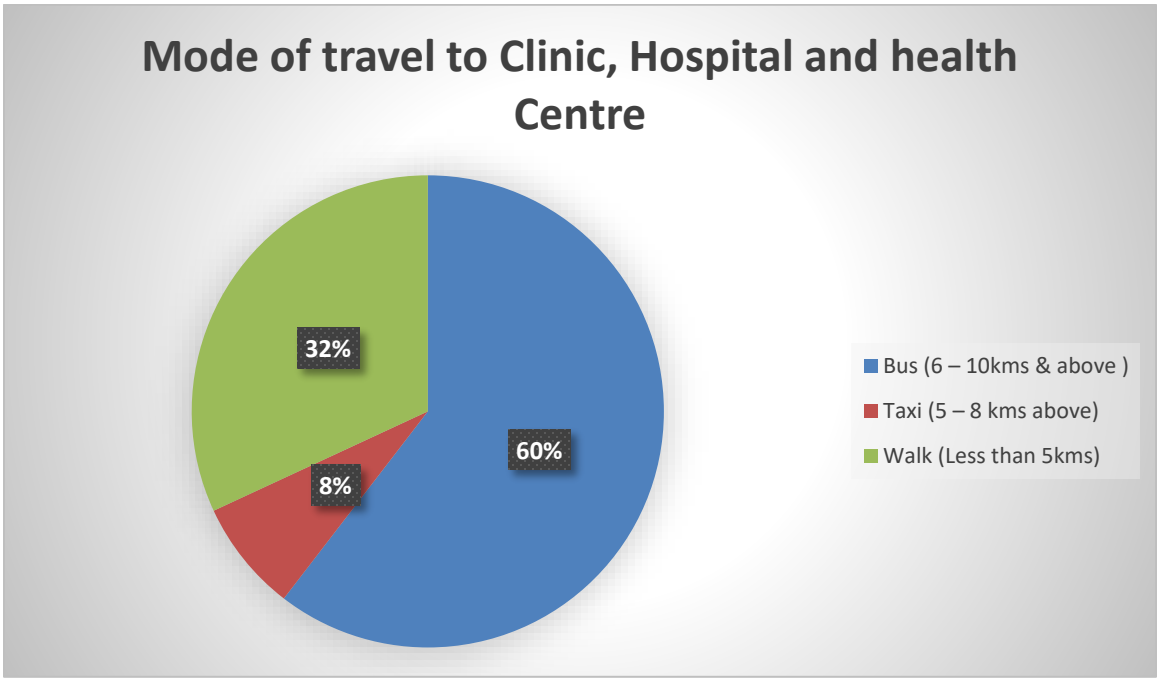


Figure 4.7: Mode of travel to Clinic, Hospital and health Centre

The above table displays the mode of transport used by the respondents of this study. Of the 342 respondents who responded to the question on mode of transport used to go to the health facilities. The table above shows clearly that in in all areas of Musina Municipality where the study focused, women predominantly walk 100 (29.2%) to get the nearest clinic, health center or hospital. There were significant differences between the areas in terms of the mode of transport to reach the health facilities especially to hospital. As seen in the table above, most of the women 100 (29.2%) walked to get to the hospital because the distances travelled were less than 7kms mostly. Majority 189 (55.3%) of the respondents used buses, however, minority 24 (7.0%) in this study used taxis to get to the hospital because the transport was easy and distance was not very far to the hospital. However, when the researcher interacted with the respondents, in open-ended question, the respondents 210 (61.4%) showed that they use both buses/taxi and walking to get to the hospital because they lived significantly longer distances away from the Health facilities P-value 0.0000 which statistically was significant.

Of the 342 respondents those responded to the question on the reasons why booking ANC late, majority 289 (84.5%) of the respondents cited the distance from their residences to the health facilities. Although 180 (52.6%) indicated that reason to visit the health care center was to check the progress of pregnancy. Mkhari (2016) discovered that pregnant women do not book for ANC early in pregnancy due to the distances to be traveled to the health care facilities. Women prefer to visit at least once before delivery or not at all particularly women who are giving birth for the third and above. Distances and shortage of transport particularly in rural Limpopo was reported as a stumbling block for regular attendant of ANC by Mashao (2015); Maulana (2014).

Table 4.3.3: Comparison on different categories of women by area of origin within Musina Municipality in late antenatal booking among different age groups

Characteristics	**category**			**Percentage**
	13-18 YEARS	19-35 YEARS	36-45 YEARS	
No information		✓	✓	8.6%
Ignorance	✓			34.5%
Parity			✓	56.9%

Findings of this study clearly showed that the parity had a significant contribution to late ANC booking 222 (64.9%) of the respondents reported that they prefer to be seen by a nurse once only on not all before delivery. Mashao (2015) warn that the respondents who are giving birth second or more pregnancies were likely to attend antenatal care. These results were also confirmed by a study conducted in Ethiopia by Yilala (2015) on assessment of late initiation of antenatal care and associated factors among antenatal attendees in selected health centers of Addis Ababa which stated that 96.6% of the respondents had pregnancies before. These respondents started antenatal care late due to experience of pregnancy compared to women who had no previous experience of pregnancy as they were more careful with their first pregnancies and therefore started antenatal care earlier. Lack of information on antenatal care contributed to late antenatal

booking, the majority of respondents 222 (64.9%) had knowledge about antenatal care and (n=65, 51%) obtained antenatal information from family and friends, those with poor information on antenatal care information could also have misinformed the respondents.

Table 4.3.3 Reasons why visiting the health facilities by respondents

Characteristics	**Category**			**Percentage**
	13-18 YEARS	**19-35 YEARS**	**35-45 YEARS**	
Complications				54%
Good service			188	0.4%
Check-ups (ANC)			20	12.4%
Non response			40	7.4%
Illness				25.8%

A question on the knowledge why visiting the health facilities (ANC) by respondents, all the respondents indicated difference reasons. Almost 212 indicated that they visit the health facilities to get good help/services when you have problems/complications, 29 of women filled in the questionnaire explaining that the reason was to get advice/reassurance/counselling/ education on pregnancy, 20(8.5%) of women interviewed explained that the reason was to get treatment while finally 81 of women report their concerns they cannot recommend other women to the public health care facilities because nurses neglect pregnant women.

Minority 67 of the respondents indicated that they were satisfied with the level of service delivery at the clinics where they were assisted, while majority 210 reported that they were dissatisfied for the following reasons: nurses are always rude, lack of respect, unprofessional behaviour, unfriendliness and hostile behaviour. However, almost 40 did not respond to the question of attitudes of nurses to patients. Probable because of the sensitivity of the question. According to the South African Health Rights Charter (1996:9-12), it is expected that health care workers should display a welcoming attitude to patients; be friendly; offer seats to their patients, listen to their patients and talk to them in a way that they can understand; be patient with their patients and provide general information

as well as pregnancy related information.

Findings of this study support the findings reported on the Confidential Enquiries into Maternal Deaths in SA which was conducted from (2012-2014) that poor interaction exists between clients and health care providers.

In her study, Mashao (2015) revealed that negative attitudes of health workers was the main reason given by the mothers for not utilising the maternity services in the Limpopo province. Osubor et al., (2015) indicated that positive interactions between women and health care providers lead to client confidence and compliance.

Item 4.3.4: Knowledge of danger signs known by respondents

Table 4.8: Danger Signs known by respondents

Danger signs	frequency	%
Previous bad obstetric history / abdominal scars / previous stillbirth	20 (5.8)	(5.8)
Hypertension / high blood pressure	144	(42.1%)
severe headaches	288	(84.2%)
Swelling of face, hands, feet or legs	180	(52.6%)
fits/seizures	13 (3.8)	(3.8%)
Anaemia	78 (22.8)	(22.8%)
Severe exhaustion/unable to do normal daily activities	69 (20.1)	(20.1%)
Breathlessness/problems breathing/short of breath	20 (5.8)	(5, 8%)
cessation of fetal movement	10 (2.9)	(2.9%)

abnormal lie / position of foetus /breech	10 (2.9)	(2.9%)
sepsis / infection	90 (26.3)	(26.3%)
Fever	55	(13.7%)
cough that lasts several weeks or more	199 (58.1)	(58.1%)
diarrhoea) that last several weeks or more	30 (8.8)	(8.8%)
foul smelling discharge from vagina	10 (2.9)	(2.9%)
loss of weight	10 (2.9)	(2.9%)
Bleeding/ haemorrhage	6 (1.8)	(1.8%)
Multiple pregnancy / large abdomen	310	(90.6%)

Table 4.8 analysis the knowledge of all the respondents of this study regarding known danger signs that could lead to death of a pregnant women of a postnatal mother within 42 days following the delivery of a baby. Of the 342 women who participated in this study, 180 (52.6%) of the respondents were aware of the swelling of face, hands, feet or legs were danger signs, while the majority 310 (90.6%) of the respondents affirmed that knew that multiple pregnancy/large abdomen was a danger sign, 199 (58.1%) agreed that also cough that lasts several weeks or more was a danger sign. Surprising, it is pathetic to note that the most danger sign that lead to so many complication in pregnancy was only known by minority 78 (22.8%)of the respondents. As many as 144 (42.1%) of the respondents associated hypertension with danger in pregnancy and lactation as well as severe fatigue/exhaustion/unable to do normal daily activities, including breathlessness in which fewer report as asthma. However, 210 (61.7%) of the respondents did not have any idea on most of the danger signs asked, some questionnaires were empty in some of the section of the danger signs, did not know any kind of danger signs.

However, some of the factors appear to be very new to the respondents as shown above. This is a course for concern as is the danger signs that mostly lead to severe complications.

Findings on the danger signs that could lead to death, 180 (52.6%) of the respondents were aware of the swelling of face, hands, feet or legs were danger signs. About 310 (90.6%) of the respondents affirmed that knew that multiple pregnancy/large abdomen was a danger sign. A course for concern when 210 (61.7%) of the respondents did not have any idea on most of the danger signs asked. This was a complementary of Mashao's findings where 76.2% of the respondents had no information about the danger signs during pregnancy, labour and puerperium.

Table 4.9: Pospartum complications

Complication	Number and percent %		Likelihood ratio [95% CI]	
Eclampsia	Yes	No don't know /not sure		
In previous pregnancy, did you have the following problems: convulsions, seizures during pregnancy, labour or postpartum	4(1.2)	120(35.1) 218 (63.7)	87.5 [84.2 - 90.3]	7.7 [6.4-9.9]
Increase and uncontrolled blood pressure, swelling and "blurred vision" during pregnancy, labour or postpartum	59 (17.3)	130 (38.0) 189 (55.3)	95,4 [93,0 - 97,0]	7.8 [4.10 - 14.85]
Hemorrhage				
Did you have bleeding during pregnancy or an increased bleeding after labour or postpartum period	12 (3.5)	214 (62.6) 116 (33.9)	69.7 [65.2 - 73.9]	2.7 [2.22 - 3.22]
Did the bleeding wet the clothes, the bed or the floor	12 (3.5)	214 (62.6) 116 (33.9)	81.6 [77.6 - 85.0]	3.0 [2.25 - 4.06]
Infection				
Ever had hot body and fever during pregnancy or after Labour or postpartum period	27 (7.9)	102 (29.8) 213 (62.3)	77.2 [73.2 - 80.8]	3.0 [2.24 - 4.12]
Thick yellow and stinky vaginal discharge	241 (70.5)	50 (14.6) 52 (15.2)	92.8 [90.0 - 94.8]	3.2 [1.47 - 6.88]

Procedures				
Admission to hospital after delivery	10 (2.9) 118 (34.5)	214 (62.6)	96.0 [90.4 - 98.5]	24.3* [10.29- 57.33]
Blood transfusion	5 (1.5) 0 (0.0)	337 (98.5)	92.9 [89.9 - 95.1]	12.6* [8.90 - 18.19]
Inter-hospital transfer	3 (0.9) 0 (0.0)	339 (99.1)	74.6 [70.0 - 78.8]	3.4 [2.84 - 4.10]
Postpartum stay for one week and above	21 (6.1) (0.0)	321 (93.9) 0	65.3 [60.4 - 70.0]	2.5 [2.17 - 2.94]

Table 4.9 reflected information from all the respondents who participated in this study on questioning the respondents whether they are conversant with the diagnosis of eclampsia, hemorrhage, infection and some important procedures performed during pregnancy, childbirth that would be seen as indicators for maternal mortality. As many as 189 (55.3%) of the respondents were not aware of convulsions, seizures during pregnancy, labour or postpartum, not able to recall. While most of the respondents 116 (33.9%) have idea of bleeding in confinement. Majority 213 (62.3%) of the respondents report that they cannot recall how bleeding occurred with the previous pregnancies. Findings of this study are supported by the study conducted in Nigeria by Babalola (2015) who report that 73.2% of the study were not knowledgeable about danger signs of eclampsia and severe bleeding postnatal period.

4.10 CONCLUSION

This chapter analyzed the data that was collected from the women in the sampled clinics and the results were discussed with literature control. The data also revealed that more women find it difficult to get to health facilities due to lack of transportation.

Religion also seems to have major impact in the health seeking behaviour of the women.

A major role is also played by health care workers who tends to mistreat the patients and give them attitude which leads the women to abandon going to health facilities.
These themes and more where discussed using the literature control. The next chapter will discuss the conclusions, limitations and recommendations of the study.

CHAPTER 5

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The previous chapter discussed the data analysis, presentation and discussion. This chapter presents the objectives, study methods, overview of the results, conclusion based on study objectives, recommendations, limitations of the study, future research and conclusions.

5.2 STUDY METHODS

The study was on perceived factors contributing to maternal mortality among women in Health services in Musina Municipality of Limpopo province. Ethical clearance to conduct the study was granted by the University Higher Degree Committee of the University of Venda and Limpopo provincial Department of Health Research and Ethics Committee, sub-district managers of Vhembe district where the study focused were also given the permission from the provincial Department of Health. As many as 342 women who visited all the participating health facilities under Musina Municipalities, pregnant women or postnatal mothers were told about the study and recruited to participate in the study. After signing a consent form, the respondents were given self - administered questionnaires to complete in front of the researcher in a side room which was prepared for the purpose. A questionnaire was administered to obtain data. The questionnaire was in English and Tshivenda. However, respondents who could not read and write were assisted by the researcher to fill in the form.

5.3 PURPOSE OF THE STUDY

The purpose of the study was to determine the perceived factors contributing to maternal mortality among women attending Health Services in Musina, Limpopo Province. Based on the research results, recommendations were drawn to be utilised in the addressing of women's needs/preferences so that the number of deaths could be decreased and antenatal attendance could also be expected to be maintained according to R2488 of October 1990.

5.4 OBJECTIVES

The study aims to determine perceived factors contributing to maternal mortality among women in health facilities at Musina Municipality of Limpopo Province. Specifically, the study objectives were:

- To identify and describe perceived factors contributing to maternal mortality among women in health facilities at Musina Municipality of Limpopo Province
- To describe the knowledge that the women have concerning reproductive health services available in public health facilities to reduce factors associated with maternal mortality in Limpopo province
- To examine the socio-economic, cultural and knowledge factors that influence women to attend ANC services in health facilities in Musina Municipality
- Based on the findings, to draw recommendation that will assist in the review of policy

5.5 CONCLUSION BASED ON THE RESULTS

Maternal mortality in South Africa, like in any other developing country, continues to be a serious public health problem and contributes to the low life expectancy among women. The study fulfilled four objectives which were to identify and describe perceived factors

contributing to maternal mortality among women in health facilities, also to describe the knowledge that the women have concerning reproductive health services available in public health facilities to reduce factors associated with maternal mortality, to examine the socio-economic, cultural and knowledge factors that influence women to attend ANC services in health facilities, to draw recommendations that will assist in the review of policy that will improve early antenatal care booking by women.

5.5.1 Objective 1 was to identify and describe perceived factors contributing to maternal mortality among women in health facilities at Musina Municipality

Several perceived factors that women are not aware of, and that can have a serious influence on maternal mortality among the women in the study area were identified in this study. Among these are variables such awareness of pregnancy complications and knowledge of the timing of the ANC for treatment, among others, severe haemorrhage following the delivery of a baby. The findings of the study was beneficial in the fact that it provided insight on factors influencing maternal mortality and prospects of pregnancy care and intervention programmes as seen in the R2488 of October 1990. Many women preferred to progress their pregnancies on their own than to engage nurses at an early semester.

Results revealed that the most common primary cause of maternal mortality was Non-pregnancy-related infection (NPRI) (26.7%). This finding is similar to the findings of the NCCEMD, which indicated that NPRI is the most important primary cause of maternal deaths in South Africa (Republic of South Africa, 2012) and Limpopo province is no exception in this serious problem. In the public health institutions in South Africa, NPRI was also the most common cause of maternal mortality (Republic of South Africa, 2015). However, according to the most recent NCCEMD report, NPRI as a primary cause of death had decreased with 25% in 2011 to 2013 since 2008 to 2010 (Republic of South Africa, 2015). There was also a decline in NPRI as a primary cause of maternal death at level one hospitals and MOUs in the Western Cape in 2012. The decline in NPRI was possibly the result of more effective HIV/AIDS treatment specifically at MOUs where all

the pregnant mothers with AIDS received HAART. Therefore, effective treatment for HIV/AIDS should be implemented at all health facilities in all health districts. The prevalence of tuberculosis in the Limpopo province is high and the results showed that tuberculosis was one of the most common categories of NPRI causing maternal deaths at public health facilities. This finding is supported by the findings in the most recent NCCEMD report indicating that tuberculosis is the most common NPRI cause of maternal deaths in the country (Republic of South Africa, 2015). Therefore, the screening of pregnant mothers for tuberculosis and effective treatment of tuberculosis at public health institutions are very important and should be done during the antenatal period.

5.5.1.1 Patient related avoidable factors

The patient related avoidable factors were also found to be problematic in Musina Municipality health facilities. Within the participated institutions in Musina Municipality, antenatal attendance (15.1%) was identified as the most common avoidable factor whereas delay in seeking medical help by the mothers (70.3%) was the most common avoidable factor which could be dealt with in the whole province. Antenatal attendance includes mother who did not attend antenatal care (unbooked mothers) and the infrequent attendance of antenatal care. There may be a link between the lack of antenatal care and delay in seeking medical help. The reasons for the lack of antenatal care may be transport problems and accessibility to the services and mothers who did not attend antenatal care, are more likely to wait too long before they seek assistance.

Lack of antenatal care was the second most common factor in the participated health facilities followed by declining medications such as iron preparation or advice. As many as (46.0%) of the respondents reported that attended ANC only once before delivery, whilst, (40.4%) of the respondents never attended the any antenatal care and were never taken blood for the investigation of full blood count, HB, and HIV tests and then also declined medication or advice. However, (55.3%) of the respondents reported that they attended antenatal care, but they delayed seeking medical assistance and then also declined medication or advice.

Whilst the results of the study showed that the three most common causes of maternal deaths at level one hospitals and MOUs were NPRI, hypertension and acute collapse (cause unknown), the second most common cause in the Western Cape was medical and surgical disorders (Republic of South Africa, 2013). Mothers with pre-existing medical and surgical disorders are classified as high risk pregnancies and needed to be referred to a level two or three hospital during their pregnancy. The results of the study indicated that cardiac disorders as a medical and surgical disorder, were the main problems among the patients.

Long distance was mentioned as one of the reasons for respondents' preference for not booking for an antenatal early, at least a women can only be seen just once before the delivery. Furthermore, addition to the cost of transport, lack of privacy in most of the health facilities clinics and health centers at the area where the study focused was also brought forth as problematic as well as the harsh attitudes of health care providers which really a course for concern.

From the results resented in Chapter 4, the majority of the respondents 241 (n=70, 5%) indicated that they knew about booking for the ANC, but they were not so certain about issues of the commencement when to start the ANC. However, as many as 140 (41.0%) indicated that the best time to start antenatal care was between five and six months. Only the minority 70 (20.5%) who affirmed that they commenced ANC at first trimester. According to Maternal Care Guidelines a woman should visit the health care provider as soon as she suspects pregnancy and this is also supported by R2488 of October 1990, even as early as the first missed menstrual period (DOH; 2015). Therefore (67.0%) of the respondents commenced the antenatal care late as compared to the instructions or rules in Maternal Care Guidelines and R2488 of October 1990. In this study, some of the respondents indicated that they delivered their babies, but never attended ANC. Findings of being knowledgeable on ANC clinic also have been reported in this study. Contrary, early booking was a reality by only (17.5%) respondents. The results of this study are complementary to the emphasis on antenatal care by the South African National Health

Policy, as well as the result of free provision of maternal and child health care services in accordance with Millennium Development Goal 5. DOH (2015).

The majority of the respondents 310 (90.6%) had reported that they had knowledge about antenatal care but the source of information is from family, friends and media as well as health care providers. It is not understandable when the majority of the respondents report that they had the information that could lead to the improvement of health seeking behaviours. It might be possible that the respondents were misinformed because some women who booked late for antenatal care would have advised others to do so. WHO (2015) on recommendation of antenatal care for a positive pregnancy experience revealed that pregnant women should be offered health care advice and pregnancy related information by health providers as this will make pregnant women to engage with health services with high confidence (WHO, 2015).

As many as 141 (41.2%) of the respondents reported that they ignored the signs of pregnancy similar results were revealed in the study conducted in the United Kingdom by Haddrill et al., (2014) on understanding delayed access to care. The respondents had experienced pregnancy symptoms but had misinterpreted them due to lack of knowledge and experience.

Respondents also reported that nurses' attitudes not welcoming. Such attitudes among the respondents was associated with the factors preventing them from attending health care facilities 112 (32.7. Similarly, the study conducted by Myer and Harrison (2014) on factors influencing the gestational age at booking among primi-gravidae clients within the Prevention of Mother to Child Transmission of HIV at Khayelitsha revealed that health workers attitudes play a great role in determining how a pregnant woman perceives antenatal clinic services and bad attitudes forms a barrier to accessing antenatal care, the pregnant woman who experienced bad attitudes might share her nasty experience with her peers and community members, thus pregnant women might delay antenatal booking.

Health facilities operating hours and long waiting time contributed to late antenatal care booking, 212 (62.1%) of the respondents feel that clinic operating hours was a barrier and the majority of the respondents strongly supported that it took long to get services at health facilities 100 (29.2%), this was supported by the results of the study conducted by Mhlanga (2015) on perception of pregnant teenagers with regard the antenatal care environment which revealed that respondents came early to be first may be before six o'clock and go home after four pm as midwives took long tea and too long lunch breaks. Poor infrastructure was also stated in which there is no provision of privacy 119 (34.8%) as another factor and this might have contributed to the strongly supported of lack of privacy.

Marital status was found to be another important for the respondents who were married by 30 (8.8%) for late antenatal booking in this study. Early booking was associated with couple influencing one another. However, most of the respondents were unmarried 32 (91.2%) of the respondents were single which is similar to a study conducted by Myer and Harrison (2014) on psychosocial factors associated with early booking and frequency of ANC visits in rural and urban setting in South Africa, revealed that single or never married, divorced or separated pregnant women were less likely to attend ANC compared to married women with husbands to give support.

Distance was another factor contributing to late antenatal booking (85.4%), 53.5%) of the respondents used buses, taxis and some of the distance they had to take two taxis or two buses to reach the clinic which increased transport costs, a similar study was conducted in People's Democratic Republic by Say et al., (2014) on quality and utilization of antenatal care services in rural Lao, which revealed that distance and transport has been shown to affect the decision of the pregnant women to use health care services.

Respondents (60.2%) strongly disagreed that pregnancy was planned which resulted in late attendance of antenatal care as they had to conceal the pregnancy from the family and friends or thought about abortion thus delaying to start antenatal care, this was supported by the study conducted by WHO (2014) on women's views and experiences of

antenatal care in Iraq which concluded that women's perception of antenatal care could be due to having unintended pregnancy that might have resulted in poor utilization of antenatal care services.

This study also demonstrated relationship between parity and late antenatal care booking (65.2%) of the respondents had parity of three and above as they perceive themselves to be of low risk due to experience from previous pregnancy this finding was similar to the study conducted in Ethiopia by Ammisah and Moyo (2014) on magnitude and associated factors of late booking for antenatal care in public health centers of Adigrat town which stated that pregnant women with parity one and above were likely to book late for antenatal care compared to those with zero parity and these women feel that they don't need to attend ANC early because they already know what to expect during pregnancy and childbirth and they may also have difficulty of arranging childcare for other children in order to attend antenatal care.

Lack of education and unemployment had also contributed to late antenatal care minority of the respondents (12.6%) had attained tertiary qualifications and (82.7%) of the respondents were unemployed, poor education led to poor knowledge on importance of antenatal care and, it was supported by a study conducted in Ethiopia by Ammisah (2014) on previous early antenatal service utilisation improves timely booking which concluded that pregnant women who had formal education were likely to attend antenatal care earlier than their uneducated counterparts and they were also financial independent.

Of the respondents 276 (80.7%) reported to be residing in the rural areas around Musina and Mutale, this is the most rural area in which transport leave the area of residence early in the morning and return in the afternoon. There might be possible that the probability of making some of the respondents fail to attend ANC.
In unemployment-of the respondents, 312 (91.2%) reported to be unemployed. It might be possible that unemployment is associate with poverty, "thus lack of money". Late booking might have precipitated by the problems of inability to pay for the transport to visit the health facilities for any consultation.

Haemorrhage, eclampsia and infection were assessed and about 213 (62.3%) of the respondents could not remember nor to recall the occurred of this conditions. Findings of a study conducted in Nigeria by Babalola and Fatusi (2015) shared same findings in which 73.2% of the respondents were not knowledgeable about danger signs of eclampsia and severe bleeding postnatal period.

5.6 RECOMMENDATIONS

Based on the findings of this study, the researcher made the following recommendations for the purpose to reduce of maternal mortality improving antenatal care booking in Musina Municipality:

●THE GOVERNMENT

The findings from this study may be able to help government, civil society organizations/nongovernmental organizations and private organizations to design comprehensive interventions toward reducing the high maternal mortality in the study area and, by extension, the entire country. The government should subsidize health care services and establish MSDPs to reduce the problem of distance and further bring grass roots health care services closer to the rural population. The health education and mass enlightenment should be strengthened to create greater awareness on pregnancy complications and zero non-institutional delivery tolerance. The empowering and improving the status of women may reduce maternal mortality, prompt better utilization and increase the survival chances of women in the study area. In addition, government should train TBAs to reduce all their limitations and improve on their performance. The outcome of this study will be made known to the local government and equally disseminated to the communities in the study area.

●THE DEPARTMENT OF HEALTH

Clients visiting clinics for antenatal care should be a priority; they should not wait in the queue.

Women should be made aware to plan ahead before falling pregnant including how to get to health facility for antenatal care if they need transport. Client satisfaction and staff satisfaction survey should be conducted on quarterly basis, results should be analyzed to identify areas for improvement. Facilities should conduct self-assessment on National Core Standards and Ideal Clinic Realization so that they can be able to identify gaps, develop quality improvement plan and quality improvement plan progress report quarterly. 60 Health workers should always maintain privacy when consulting clients. Nurse's attitude should be addressed through trainings on interpersonal communication skills. Other forms of media television, radio and school curricula in subjects such as Life Orientation and IEC materials should be used to raise awareness on the importance of early antenatal care.

Community awareness campaigns and health talks in the facility about importance of early booking may change the behaviour of those who are already pregnant to book earlier in the next visit. Antenatal booking should be done on daily basis and no client should be turned away without getting the service. The pregnancy tests should be accessible in health facilities to reduce uncertainty amongst women. The Department of Health should consider changing working hours to accommodate working hours to accommodate working women e.g. the clinics should have call system so that nurses are available in the evening. Awareness should be raised on the importance of HIV testing especially in pregnancy as it may alleviate the fear that pregnant women have of being tested. The department should provide mobile clinics to provide ANC services for hard to reach communities; this will help to alleviate the challenge of the increased costs regarding transportation in case of pregnant women.

●SCHOOLS AND COLLEGES

Prevention of teenage pregnancy awareness campaign should be conducted at primary and high schools. Women should be encouraged to complete schooling before they fall pregnant and the school or college administration should also be encouraged to draw an

action plan which will allow married women to participate fully in education either in or out of school or college as better educated women would appreciate the importance of early antenatal booking than the less educated ones.

●THE COMMUNITY

Men's forums should be established in the communities to encourage partner involvement in ANC so that they can be able to support their pregnant wives and girlfriends.

There must also be campaigns in the communities for pregnant and lactating women even young girls who have not fallen pregnant too should be included in such campaigns for women to be educated on the danger signs to look out for during postnatal period preferably in the form of a drama like scenario such that they will understand the concept and be aware of the signs.

5.7 LIMITATIONS OF THE STUDY

Some of the respondents were not sure of their last normal menstrual period which made it difficult to determine whether it was late or early booking. There were a lot of enquiry on the previous pregnancies and this is associated with recall of information which might have been forgotten, for example they were asked about gestational age in previous pregnancies, bleeding convulsions which they could have forgotten and guessing anytime. Due to the specific context of the study, the results of this study cannot be generalized in the entire province, or region but are generalized for the Musina Municipality.

5.8 FUTURE RESEARCH

A quantitative study involving interviewing pregnant women in other Vhembe sub-district local areas on the determinants of antenatal care services utilization to provide insight as to why some women book late for antenatal care.

- A repeat study after three years using the same sample to determine any improvements in antenatal care booking.
- Researchers could explore ways in which the challenges faced by women in utilizing ANC can be addressed.

- Special future research on reasons for poor antenatal attendance

5.9 CONCLUSION

In view of results and discussion it is feasible to conclude that although ANC attendance was revealed to be high, the majority of women have home deliveries. Most of the women were aware of maternal risks during pregnancy as seen in table 10. However socioeconomic factors, and less or lack of knowledge on danger signs, are among the factors that compel women from health facility utilization. Also long distance, lack of transport to travel to health facility and cost of service influence them to deliver at home. Furthermore, women lack education on key elements on birth preparedness, as most of them complain of sudden onset of labour. Poor quality of health care services in health facilities are among the factors that contributes women to decide or not to use the facilities. This have been cited several times by participants for instance lack of drugs and Supplies, Uncooperativeness of health staff influenced underutilization of health care facilities. Other social factors that compel to deliver at home are wrong advice from friends, relatives, presence of TBAs whom they liked/trusted, and self-preference. In addition, in the majority relatives were mentioned to assist deliveries at home, while self-deliveries also existed due to experience as perceived by themselves.

Maternal mortality in South Africa continues to be a serious public health problem and contributes to the low life expectancy among women in South Africa. This study has identified several factors that have an important influence on maternal mortality in the study area. Among these are variables such as place of consultation/diagnosis, the person who pays the treatment costs, awareness of pregnancy complications and knowledge of the place of ANC treatment, among others. The FGD technique was beneficial and provided qualitative insight on factors influencing maternal mortality and prospects of pregnancy care intervention programs. Many women preferred non-institutional delivery. Long distance was mentioned as one of the reasons for respondents' preference for home delivery or non-institutional delivery, in addition to the cost of medical treatment, poor treatment at health care clinics and the harsh attitudes of health care providers.

The findings from this study may help government, civil society organizations/nongovernmental organizations and private organizations to design comprehensive interventions toward reducing the high maternal mortality in the study area and, by extension, the entire country. The government should subsidize health care services and establish MSDPs to reduce the problem of distance and further bring grass roots health care services closer to the rural population. Health education and mass enlightenment should be strengthened to create greater awareness on pregnancy complications and zero non-institutional delivery tolerance. Empowering and improving the status of women may reduce maternal mortality, prompt better utilization and increase the survival chances of women in the study area. In addition, government should train TBAs to reduce their limitations and improve on their performance. The outcome of this study will be made known to the local government and equally disseminated to the communities in the study area.

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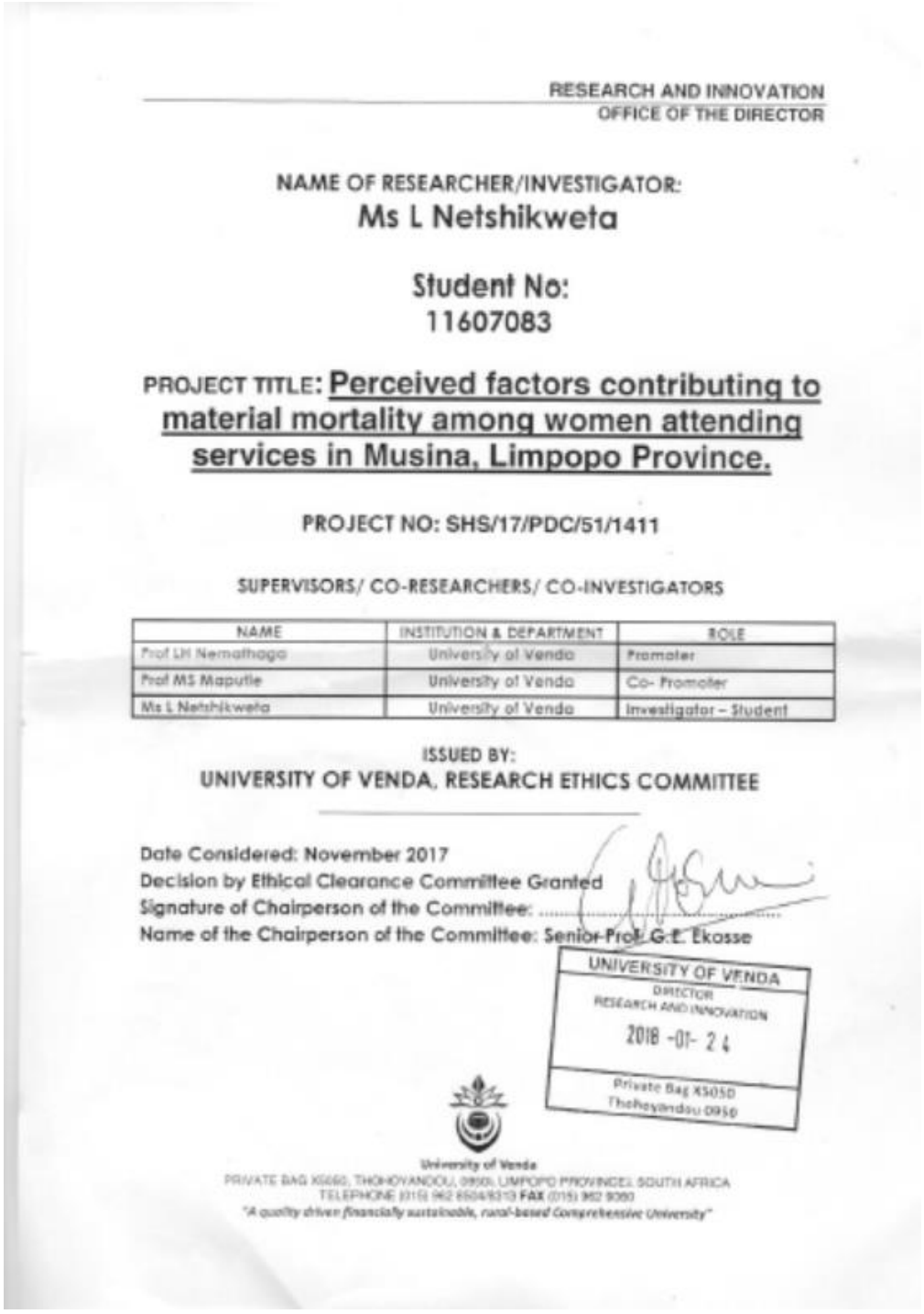
6. APPENDICES

Ethical clearance



RESEARCH AND INNOVATION
OFFICE OF THE DIRECTOR

NAME OF RESEARCHER/INVESTIGATOR:
Ms L Netshikweta

Student No:
11607083

PROJECT TITLE: Perceived factors contributing to material mortality among women attending services in Musina, Limpopo Province.

PROJECT NO: SHS/17/PDC/51/1411

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

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Prof MS Maputle	University of Venda	Co- Promoter
Ms L Netshikweta	University of Venda	Investigator – Student

ISSUED BY:
UNIVERSITY OF VENDA, RESEARCH ETHICS COMMITTEE

Date Considered: November 2017
Decision by Ethical Clearance Committee Granted
Signature of Chairperson of the Committee: .....
Name of the Chairperson of the Committee: Senior Prof. G.E. Ekosse

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UHDC APPROVAL

UNIVERSITY OF VENDA

OFFICE OF THE DEPUTY VICE-CHANCELLOR: ACADEMIC

TO : MR/MS L. NETSHIKWETA

SCHOOL OF HEALTH SCIENCES

FROM: PROF J.E. CRAFFORD

DEPUTY VICE-CHANCELLOR: ACADEMIC

DATE : 30 AUGUST 2017

DECISIONS TAKEN BY UHDC OF 24TH AUGUST 2017

Application for approval of Master's research proposal in Health Sciences: L. Netshikweta (11607083)

Topic: "Perceived Factors Contributing to High Maternal Mortality among Women attending Health Services in Musina, Limpopo Province."

Supervisor	UNIVEN	Prof. M.H Nemathanga
Co-supervisors	UNIVEN	Prof. M.S Maputle

UHDC provincially approved the Masters proposal with the following recommendations:

Remove High on the topic

PROVINCIAL LETTER

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

Enquiries: Latif Shamila (015 293 6603)

Ref 4/2/2

University of Venda
Private Bag X5050
Thohoyandou
0950

Greetings,

RE: **Perceived factors contributing to maternal mortality among women in health services in Musina, Limpopo Province**

The above matter refers.

1. Permission to conduct the above mentioned study is hereby granted.
2. Kindly be informed that:-
   - Research must be loaded on the NHRD site (http://nhrd.hst.org.za) by the researcher.
   - Further arrangement should be made with the targeted institutions, after consultation with the District Executive Manager.
   - In the course of your study there should be no action that disrupts the services.
   - After completion of the study, it is mandatory that the findings should be submitted to the Department to serve as a resource.
   - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
   - The above approval is valid for a 3 year period.
   - If the proposal has been amended, a new approval should be sought from the Department of Health.
   - Kindly note, that the Department can withdraw the approval at any time.

Your cooperation will be highly appreciated.

Head of Department

14/12/2016
Date

LETTER FROM LANGUAGE EDITOR

STEVENS EDITING AND PROOFREADING
~ EDITING ~ PROOFREADING ~ WRITING ~

BA: English; Industrial psychology (Unisa)
Sole Proprietor
Membership:
PEG (SA)
SfEP (UK-Intermediate)
IPEd (WA)

08 May 2018

THIS IS TO CERTIFY THAT:

I have language edited a Dissertation titled *Perceived factors contributing to maternal mortality among women in health services in Musina, Limpopo Province* for Ms Livhuwani Netshikweta, E-mail: livhu.netshikweta@gmail.com, a Masters of Nursing student in Health studies at the University of Venda, South Africa.

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The scope of my editing comprised:

- Spelling
- Vocabulary
- Word usage
- Checking of referencing style
- Tense
- Punctuation
- Language and sentence structure

It has been a gratifying experience working with this student who has clearly displayed integrity in a well-prepared paper and prompt communication with the editor when necessary.

Yours faithfully,
Charlotte Stevens (Ms)
Stevens Editing and Proofreading
e: ajc.stevens@gmail.com
[Note: Signature withheld for security purposes.]