

**Knowledge, attitudes and practices of nurse-midwives related to obstetric care  
at Thaba-Tseka district in Lesotho**

**by**

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**at the**

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## **Declaration**

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I declare that **Knowledge, attitudes and practices of nurse-midwives related to obstetric care at Thaba-Tseka district in Lesotho** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.

Fungai Muzeya

29 June 2015

**Full Names**

**Date**

**Dedication**

I dedicate this work to my parents Mr. Brasswell Muzeya and Mrs. Tendai Muzeya for the gift of education and nurturing me into what I am. May God increase them in life, health and wisdom.

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I would like to acknowledge the grace of God during my studies. My research supervisor Dr. T.G. Lumadi for the guidance and her belief in my ability. I will also thank my wife Mrs. Bertha Muzeya for the support and persistent encouragement as I worked on this project. I will also mention my work colleagues at Paray School of Nursing for the support, reviewing and critiquing some of my work. My Principal Nurse educator for the support and permission to carry out my studies.

**Knowledge, attitudes and practices of nurse-midwives related to obstetric care at Thaba-Tseka district in Lesotho**

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**ABSTRACT**

The purpose of the study was to describe the knowledge, attitudes and practices of nurse-midwives related to obstetric care at Thaba-Tseka, Lesotho. A quantitative, descriptive, cross-sectional research design was used. Data were collected using structured questionnaire from 45 nurse-midwives. The findings revealed that nurse-midwives had mean knowledge score of 10.5(80.7%) out of a possible 13(Standard Deviation (SD) 1.31) on obstetric care issues. However, the majority of nurse-midwives (n=28, 62.2%) did not have knowledge on the steps of the active management of third stage of labour according to the WHO. The mean scores on practice were 34.5(86.2%) against a possible 40(SD 5.43) for antenatal care, 39.2(89%) against a possible of 44(SD 4.66) and 22.4(93.3%) against a possible of 24(SD 2.18) for postnatal care. The study revealed that nurse-midwives had positive attitudes towards obstetric care practices with mean score for attitudes was 23.4(86.7%) against a possible score of 27(SD 3.02).

**KEY CONCEPTS:** Knowledge, attitude, practice, obstetric care, nurse-midwife, antenatal care, intrapartum care and postpartum care



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## List of acronyms

ANC	Antenatal care
CHAL	Christian Health Association of Lesotho
DHMT	District Health Management Team
FIGO	International Federation of Gynaecology and Obstetrics
GoL	Government of Lesotho
LDHS	Lesotho Demographic Health Survey
LNC	Lesotho Nursing Council
MDG	Millennium Development Goal
MOH	Ministry of Health
MOHSW	Ministry of Health and Social Welfare
PHC	Primary Health Care
WHO	World Health Organisation

## **CHAPTER ONE**

### **ORIENTATION TO THE STUDY**

#### **1.1 INTRODUCTION**

Maternal and neonatal deaths have been a worldwide problem for years. Member states of the United Nations, including Lesotho, agreed to the Millennium Development Goals (MDGs) in 2000. Of the eight goals, MDG number 5 was specifically aimed at 75 per cent reduction in maternal mortality from its 1990 level by 2015 (WHO 2013). Provision of quality obstetric care is regarded as an important component of maternal health which assists in the reduction of maternal and neonatal death rates. Knowledge, attitudes and practices are essential elements of competency. Improving the quality of obstetric care by ensuring optimum knowledge, attitudes and practices of nurse-midwives caring for women is one of the strategies for achieving this target (Fullerton, Johnson, Thompson & Vivio 2011:310).

The Lesotho government, through its Ministry of Health and a multiplicity of partners, is committed to the provision of quality maternal and child care. The Lesotho government developed a National Strategic Development plan which covers the period 2012/13 -2016/17. Included in this plan are health-related aspects including the targets to reduce the maternal mortality rate and improve the quality and quantity of skilled health personnel including nurse-midwives (Government of Lesotho (GoL) 2014:119). Investigating the knowledge, attitudes and practices of nurse-midwives related to obstetric care could contribute to evidence-based improvement of obstetric practices in Lesotho.



## **1.2 BACKGROUND INFORMATION ABOUT THE PROBLEM**

### **1.2.1 The source of the research problem**

The highest proportion of global maternal mortality estimates comes from Africa. Roughly 56 per cent of documented global maternal deaths happen in the continent. A woman's chance of dying during pregnancy is reported to be at 1 in 42 in Africa, which is in sharp contrast to that of a developed country like Greece which is estimated at 1 in 25500 (Bazuaye & Okonofua 2013:9). The lifetime risk of dying related to pregnancy and child-birth related conditions is estimated at 1 in 32 in Lesotho. Progress in reducing maternal mortality in developing countries has been too slow to meet the projected 75 per cent reduction of the MDGs (WHO 2013). Maternal mortality estimates in Lesotho increased from 762 per 100,000 in 2004 to 1155 per 100,000 in 2009 according to the Lesotho Demographic Health Survey (LDHS) (Ministry of Health and Social Welfare (MOHSW) 2010:259). The difference of maternal health indicators in the developed world and developing world is attributed to the accuracy and swiftness with which complications are detected and managed (Nyango, Mutihir, Laabes, Kigbu & Buba 2010:131).

Interventions such as skilled attendance during pregnancy, labour and delivery, use of basic and comprehensive emergency obstetric care for complicated pregnancies and family planning have been identified to solve the problem of maternal mortality and morbidity (Margaret, Nkechinyere, Muibat & Adeyanju 2013:29; Walker, DeMaria, Suarez & Cragin 2011:18; Altaweli, McCourt & Baron 2014:899).

A skilled attendant is defined as "an accredited health professional such as a midwife, doctor or nurse who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal, and in the identification, management and referral of complications in women and new-borns" (Adegoke, Hofman, Kongnyuy & van den Broek 2011:350). Nurses form the majority of healthcare professionals and hence skilled birth attendants in Lesotho.

The percentage of births attended by skilled professionals in Lesotho increased from 40 to 55 for the period between the years 1990 to 1999 and the years 2000 to 2008 according to the WHO atlas of health statistics for the Africa region (WHO 2011:43). By 2009, the percentage of births attended by skilled professionals had increased to 62 per cent according to the LDHS of 2009 (MOHSW 2010:111). Emphasis has been placed on the number and not the actual knowledge, attitudes and practices of skilled birth attendants in considering improvement in maternal health in countries (Margaret et al 2013:29; Walker et al 2011:18).

There are not many studies done on nurse-midwives' knowledge, attitudes and practices in relation to obstetric care in Lesotho. Studies done in Africa include one conducted in Ethiopia to assess the knowledge and utilisation of the partograph among health professionals using a cross-sectional study design. The research findings revealed that more than half of the participants had good knowledge related to the use of a partograph. The level of knowledge of the components of the partograph was very poor. The majority of the study participants showed favourable attitude towards use of the partograph. Approximately a third of the partograph papers that were reviewed were not properly documented (Abebe, Birhanu, Awoke & Ejigu 2013:26).

Puri, Thielman, Boyd and Wilkinson (2011:3) investigated the competency of obstetric care providers on safe motherhood knowledge, obstetric practice and attitude towards patients and their training approach. The study results showed that a majority of providers needed to improve their knowledge on the safe motherhood approach. The majority of the obstetric care providers needed to improve their skills confidence in relation to safe motherhood care the study revealed. The providers' performance on knowledge was worst on labour and obstetric complications. The study revealed that a significant proportion of providers still engage in the harmful practice of exerting pressure on the uterine fundus during vaginal delivery. A marginal section of the providers practised active management of the third stage of labour in all deliveries though this is regarded as the best approach in the management of the third stage labour in pregnant women to prevent post-partum haemorrhage (Society of Obstetricians and Gynaecologists of Canada (SOGC) 2009:982).

One of the strategies to reduce maternal and neonatal death is to encourage women to deliver their babies in the hospital or clinics.

However, incompetence and negative attitudes of staff were reportedly having a negative influence on patients' decisions to visit the institutions (Cham, Sundby & Vangen 2005:5-6). Another research study investigated the reasons for low levels of institutional deliveries in a district in Zimbabwe. The results showed that women's lack of confidence with the nurses' competence was one of the reasons for low levels of institutional deliveries. Furthermore, the same study done by Mugweni, Ehlers and Roos (2008:8) revealed that the majority of women were unhappy with many characteristics of nursing care provided during pregnancy.

Furthermore, the study conducted by Brighton, D'Arcy, Kirtley and Kennedy (2013:225) shows that interaction with healthcare workers was one of the major barriers to the utilisation of healthcare services including obstetric care. Healthcare workers were perceived as being uncaring, lacking empathy, exposing women to shame and restricting expression of feelings.

Competency of healthcare workers is important in ensuring that patients receive quality obstetric care. A study conducted in Mali found that most of the healthcare workers are competent on issues related to dystocic labour, Apgar scoring, haemorrhage and uterine rupture but were mostly incompetent on managing hypertensive conditions and post-partum infections (Traore, Arsenault, Schoemaker-Marcotte, Coulibaly, Huchon, Dumont & Fournier 2013:51).

Additionally, a study conducted by Nyango et al (2010:132) showed that fewer healthcare providers at the community level had the necessary skills or resources to monitor labour and offer 24 hour service. The study also showed that a minority of the participants could identify at least three conditions that could make pregnancy a risk. Improving the quality of obstetric care is important in developing countries if the high maternal mortality rates in Sub-Saharan Africa including Lesotho are to decline.

### **1.2.2 Background to the research problem**

Lesotho has embarked on a number of interventions to improve healthcare services including obstetric care. These include refurbishment of hospitals and clinics and building of new ones, incentives for healthcare workers working in hard-to-reach areas and reform of health worker training approaches. However, Lesotho has been backsliding in terms of health indicators. The maternal mortality rate which stood at 419 per 100, 000 live births in the year 2000 increased to between 970 and 1155 per 100, 000 live births in the year 2009 (GoL 2014:119; MOHSW 2010:259). Tracking the progress on maternal and neonatal health is important in determining the progress on the MDGs and to implement the necessary interventions.

One of the indicators for tracking the improvement of maternal health is the proportion of women delivered by skilled birth attendants. Nurse-midwives form the largest proportion of skilled birth attendants in Lesotho. There are 0.05 physicians compared to 0.62 nurses and midwives per 1000 population in Lesotho (World Bank 2011:2). There has been slow progress towards increasing the proportion of births attended by skilled professionals. In the year 2000 it was at 60 per cent and it had changed to 62 per cent by the year 2009 (GoL 2014:119).

Training of health professionals is important in acquisition of knowledge, skills and attitudes in order to render competent obstetric care. Training has been defined as the systematic acquisition of knowledge, skills, and attitude that lead to improved performance in a particular environment (Crofts, Ellis, Draycott, Winter, Hunt & Akande 2007:1538). Lesotho currently has six institutions that train nurses and midwives, and has been training and upscaling training of nurses and nurse-midwives with the help of development partners; which would ideally translate into better health outcomes including improvement in obstetric care. However, these institutions are faced with a lot of challenges including curriculum inadequacies and lack of appropriate clinical mentoring of students (Botma 2014:26; Stender, Phafoli, Christensen, Skolnik, Nyangu, Lemphane, Ramokhitli & Whalen 2014:3). Furthermore, it has been documented that nurse and midwifery training in Lesotho has, to a greater degree, been abstract and hospital-based with less importance on clinical aspects (Botma 2014:26; Stender et al (2014:3).

### **1.3 RESEARCH PROBLEM**

In the Lesotho healthcare system, nurses form the backbone of whatever intervention structure that exists to improve the health of women and children. Lesotho aimed at reducing the number of women dying due to factors related to pregnancy and childbirth to less than 300 by the year 2015. However, there has been a slow reduction of maternal mortality rates in Lesotho. Training of nurse-midwives is important in order for them to acquire the necessary knowledge and skills to provide quality obstetric care and consequently contribute to reduction in maternal deaths. However, problems with training and provision of quality obstetric care were reported (Botma 2014; Stender et al 2014).

Few studies, if any, have been conducted to evaluate the knowledge, attitudes and practices of nurse-midwives in relation to obstetric care of nurse-midwives of Lesotho including the district of Thaba-Tseka as known to the researcher. Therefore, it was important to look at the knowledge, attitudes and practices of nurse-midwives in relation to obstetric care. Such a study served as an educational diagnosis of the community of nurse-midwives currently caring for women and children in Thaba-Tseka.

### **1.4 AIM OF THE STUDY**

#### **1.4.1 Research purpose**

The purpose of the research study was to evaluate the knowledge, attitudes and practices of nurse-midwives with regard to obstetric care at the Thaba-Tseka district of Lesotho.

### **1.4.2 Research objectives**

- To describe knowledge levels of nurse-midwives on obstetric care.
- To describe the practices of nurse midwives on obstetric care.
- To describe the attitudes of nurse-midwives on obstetric care.

### **1.5 SIGNIFICANCE OF THE STUDY**

By investigating the knowledge, practices and attitudes of nurse-midwives in relation to obstetric care in Thaba-Tseka district of Lesotho, the extent of deficit in knowledge and practice was identified. The nurse-midwives' attitudes towards obstetric care was evaluated. The study helped to gather evidence-based information for interventions aimed at improving quality of obstetric care offered by nurse-midwives in Lesotho. This might lead to improvements in maternal and child health in the Thaba-Tseka district of Lesotho. The study gathered information for improvements on nurse-midwives' pre-service, in-service education, as well as stimulating future studies.

### **1.6 DEFINITION OF TERMS**

#### **1.6.1 Obstetrics**

Obstetrics refers to the science dealing with the care of the pregnant woman during the antenatal, parturient and puerperal stages (Brooker 2012:336). Hence, obstetric care in this research study refers to the care rendered during these three stages.

### **1.6.2 Obstetric Care**

Care is the process of looking after someone, especially when they are ill, old or very young (Longman Dictionary of Contemporary English 2009, “context”). In this research study, care was defined as to promote health, prevent disease or complications, treat effectively and rehabilitate as required. Obstetric care refers to the care provided to women and their children during the antenatal, parturient and puerperal stages.

### **1.6.3 Knowledge of obstetric care**

Knowledge refers to the information, skills and understanding gained through learning or experience (Longman Dictionary of Contemporary English 2009, “context”). In this research study, knowledge refers to aspects related to nurse-midwives’ scientific knowledge of obstetric care and is operationally defined as a nurse-midwife’s performance on knowledge questions of obstetric care.

### **1.6.4 Obstetric Practice**

Practise is a verb. If you practise something, you keep doing it regularly in order to do it better. Practising involves taking part in the activities associated with something (Compact English Dictionary 2004, “context”). In this research study, practice refers to the aspects related to interventions carried out by nurse-midwives in relation to obstetric care, and is operationally defined as a nurse-midwife’s self-report of their practice of aspects of obstetric care.

### **1.6.5 Attitude towards obstetric care**

Attitude refers to the opinion and feelings about something, especially when it is shown in behaviour. It can be good or bad, positive or negative, relaxed, favourable, critical, ambivalent, patronising and aggressive or hostile (Longman Dictionary of Contemporary English 2009, “context”). In this research study, attitude refers to the nurse-midwives’ attitudes to issues related to obstetric care. Attitudes is operationally defined as a nurse-midwives’ self-report of their attitudes towards obstetric care.

### **1.6.6 Nurse-midwife**

Nurse-midwife refers to a registered nurse who has qualified by advanced education and clinical experience in obstetric and neonatal care. The nurse-midwife manages the perinatal care of women having a normal pregnancy, labour and child-birth (Mosby’ Medical Dictionary 2013, “context”). A midwife is also defined as a practitioner of midwifery following appropriate education and assessment. A midwife is legally licensed in country of practice to supervise, care for and advice women during pregnancy, labour and postpartum period. A midwife conduct deliveries on his/her own responsibility and care for new-borns and infants (Bailliere’s Midwives Dictionary 2012, “context”).

In this study, a nurse midwife was a registered nurse with a post-basic qualification in midwifery or a registered nurse with a degree in nursing and midwifery.

## **1.7 OVERVIEW OF LESOTHO HEALTHCARE SYSTEM**

Lesotho is a comparatively small country that is entirely surrounded by South Africa. Lesotho has ten politico-administrative districts and all of them have borders with one of the following South African provinces: Free State, KwaZulu Natal and the Eastern Cape.



Districts of Lesotho include Berea, Butha-Buthe, Mafeteng, Maseru, Mphahle's Hoek, Mokhotlong, Quthing and Thaba-Tseka. The country is divided into four ecological zones namely foothills, mountains, lowlands and Senqu river valley (Budiaki 2009:1). Lesotho is largely a rural country with 28.3% per cent of its population living in the urban areas as of 2012. The country's population was 2,194,000 as of the year 2011 (United Nations 2013:111).

Healthcare services in Lesotho are provided mainly by the Government of Lesotho (GoL) and the Christian Health Association of Lesotho (CHAL). The healthcare system of Lesotho is made up of health facilities divided into three levels: the national (tertiary), the regional and district (secondary) and the community (primary) levels. The capital city Maseru has a tertiary referral hospital and 2 specialised tertiary care hospitals and 4 secondary level hospitals. The other districts comprise of hospitals that offer secondary care to patients from the clinics and community health posts (MOH 2011:17).

The community level is made up of a network of approximately 5000 volunteer community health workers. These community health workers provide first aid and preventative healthcare under the supervision of clinic nurses. The community level also consists of 170 clinics that serve communities mainly in the rural areas. Clinics consist of nurse clinicians, nurse-midwives, nursing assistants and counsellors. Doctors from district hospitals visit these clinics at least once a month. These health workers serve populations of 6000 to 10000. The Lesotho Flying Doctor Service supports all clinics that are not reachable by road (Monethi-Seeiso 2012).

The secondary level consists of four filter clinics-(term used to refer to referral clinics that filter patients). One filter clinic is located in the Leribe district and other three are located in Maseru and run by Tsepong-Netcare. These filter clinics are staffed by nurses, nurse-midwives, nursing assistants, counsellors and doctors. They also offer X-ray and laboratory services. The secondary level also consists of 18 district hospitals that are owned by the Lesotho government and the Christian Health Association of Lesotho (CHAL). Each district has a district hospital. In each district there is a District Health Management Team which is responsible for public health services and smooth running of health centres/clinics (Monethi-Seeiso 2012).

The hospitals serve as district hospitals offering secondary care services. They receive patients from the clinics. The clinics are the first point of care within the health system that is available to offer primary care services. Health posts are community initiatives where village health workers operate under the supervision of nurses from the clinics. The majority of personnel found in these institutions are nurse-midwives who are trained to provide primary health care services, including obstetric care.

The Family Health Division in the Primary Health Care (PHC) department in the Ministry of Health sets standards, policies and guidelines for maternal health for the entire country which include the following:

- Pregnant women are expected to book for antenatal care (ANC) and deliver in health facilities.
- Prim gravid and grand multipara women are urged to give birth in hospitals.
- Provision of shelters or waiting lodges in health facilities for expectant mothers staying far away from the facility where they intend to deliver. Pregnant mothers are expected to be admitted into these shelters at least a month before their estimated date of deliver (EDD).
- Delivery of babies at PHC facilities is free since they formed part of essential health service package from January 2009 (Budiaki 2009:4).

Another key characteristic of the healthcare system is that it is nurse based. Nurses make up the bulk of the healthcare workers in Lesotho.

There is one doctor and 6 nurses per 10,000 population in Lesotho (WHO 2011:24). According to the WHO the combined number of doctors, nurses and midwives per 10,000 populations that are required to deliver essential maternal and child health services is 23 (WHO c2014). Lesotho needed an additional 2,625 general and midwifery trained professionals to meet the disaggregated nurse/midwife density of 1.73 per 1,000 population by 2015 (United States (US) State department...2011)

Thaba-Tseka is one of the ten districts in Lesotho. The district's healthcare infrastructure consists of two CHAL hospitals namely Paray Mission Hospital and St James Mission Hospital, fifteen clinics and one health post. Some of these are government owned while others are privately owned.

## **1.8 RESEARCH DESIGN AND METHOD**

### **1.8.1 Design**

The researcher conducted a quantitative, non-experimental, cross-sectional and descriptive study. The researcher took into consideration the cost of carrying out the study in determining the study design and feasibility of the study. A cross-sectional descriptive study quantifies the extent of phenomena. This study quantified the extent of nurse-midwives' knowledge, practices and attitudes related to obstetric care.

### **1.8.2 Methods**

#### ***1.8.2.1 Population***

Population is defined as all the elements (individuals, objects or substances) that meet certain criteria for inclusion in a given universe (Grove, Burns & Gray 2013:44). In this research study, the population included all nurses that were nurse-midwives practising in Thaba-Tseka district at the time of the study.

#### ***1.8.2.2 Sampling***

A mix of probability and non- probability sampling technique was used. The researcher used a type of probability sampling called cluster sampling.

The researcher chose all clusters as the estimated population was small. The researcher then used convenience sampling to select participants in each cluster for the research study.

#### ***1.8.2.3 Data collection***

A structured, self-administered questionnaire was used to collect data from nurse-midwives working at the Thaba-Tseka district of Lesotho. The study focused on knowledge, practices and attitudes that are related to obstetric care. The questionnaire consisted of four sections, namely:

Section A: Demographic questions

Section B: Knowledge of obstetric care questions

Section C: Obstetric practice questions

Section D: Attitude towards obstetric care questions

#### ***1.8.2.4 Data analysis***

Data entry forms were created using Statistical Product and Service Solutions (SPSS) software version 16.0 and Microsoft Excel 2013. Data was then entered on the data entry forms for statistical analysis. Descriptive statistics was used to describe the characteristics of the sample from which the data was collected. The data was presented in the form of tables, graphs and charts.

## 1.9 SCOPE OF THE STUDY

The scope of this study was to evaluate the knowledge, attitudes and practices of nurse-midwives in relation to obstetric care at Thaba-Tseka district of Lesotho. The sample was not large enough as required by cross-sectional descriptive study designs because of cost and feasibility issues. Furthermore, the nurse-midwives were selected from one of the ten districts of Lesotho. This may have affected external validity. The study made use of a questionnaire designed by the researcher.

## 1.10 STRUCTURE OF THE DISSERTATION

The structure of the dissertation consists of five chapters as illustrated in Table 1.1. below:

TABLE 1.1: STRUCTURE OF THE DISSERTATION	
CHAPTER	DESCRIPTION
1	Orientation to the study
2	Literature review
3	Research design and method
4	Analysis, presentation and description of the research findings
5	Conclusions and recommendations

## 1.11 CONCLUSION

This chapter introduced the study and stated the research problem that motivated the study. The following chapter discusses information obtained from the literature on knowledge, attitudes and practices of nurse-midwives in relation to obstetric care.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

A literature review is an organised written presentation of what is found when reviewing the literature. Literature consists of all written sources relevant to the topic. The review consists of literature from relevant scientific journals and textbooks among others. A literature review thus summarises what has been published on a topic by scholars and presents relevant research findings (Grove, Burns & Gray 2013:97). This chapter presents the literature on obstetric care and nurse-midwives' knowledge, practices and attitudes pertaining to obstetric care.

#### **2.2 OBSTETRIC CARE**

Women in the developing countries experience death and disease more than any other place in the world because of pregnancy and childbirth. Providing quality obstetric care is important in order to identify and manage complications of pregnancy and child birth. Obstetrics refers to the science dealing with the care of the pregnant woman during the antenatal, parturient and puerperal stages (Brooker 2012:336). The WHO, FIGO and ICM maintain that the care of women during pregnancy, birth and immediate postpartum period should be provided by a skilled birth attendant to avoid maternal deaths and morbidity (WHO 2004:1). A skilled attendant is defined as “an accredited health professional-such as a midwife, doctor or nurse-who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal, and in the

identification, management and referral of complications in women and new-borns” (Adegoke et al 2011: 350).

It is expected that skilled birth attendants should be able to identify complications, provide emergency and essential obstetric care. WHO (c2015) refers to essential obstetric care or emergency obstetric care as those components of obstetric care that are vital for the management of normal and complicated pregnancy, delivery and the postnatal period. Obstetric care that is provided by Skilled Birth Attendants (SBAs) (midwives and doctors) at a well-equipped health centre can be basic or comprehensive (Kongnyuy, Hofman & van den Broek 2009:41). Comprehensive obstetric care that is provided at the district consists of all the major aspects listed below including performance of surgery (caesarean section) and blood transfusion (Kongnyuy et al 2009:41; WHO c2015).

Basic obstetric care that is provided at the healthcare centre consists of signal functions such:

- the administration of parenteral antibiotics
- the administration of uterotonic drug such as parenteral oxytocin
- the administration of parenteral anticonvulsants like magnesium sulphate for the treatment of pre-eclampsia
- the manual removal of the placenta
- the removal of retained products of conception by manual vacuum aspiration or dilatation and curettage
- the referral of a patient for assisted vaginal delivery by vacuum extraction or forceps delivery
- Performing basic neonatal resuscitation like bag and mask

Performance of surgery, removal of retained products of conception by manual vacuum aspiration, vaginal delivery by vacuum extraction or forceps delivery is the domain of advanced midwives and doctors. Nurse-midwives form the majority of the providers of emergency obstetric care in Lesotho who are responsible for the rest of the functions.

## **2.2.1 LEVELS OF OBSTETRIC CARE**

For ease of describing obstetric care provision, obstetric care can be divided into antenatal, intrapartum and postnatal levels. The following discussions explain care at each level.

### ***2.2.1.1 Antenatal care as a component of obstetric care***

Hollowell, Kurinczuk, Oakley, Brocklehurst and Gray (2009:7) define antenatal care as care that is directed to women between conception and the onset of labour. Ante natal care is aimed at improving pregnancy outcome and the health of the mother and child. Care at this level is provided to healthy pregnant women, women with moderate and severe diseases, including women with other complications.

#### ***2.2.1.1.1 Standard antenatal care***

A standard antenatal care is provided to healthy pregnant women and normally includes a number of timed consultations at a clinic or hospital (Hollowell et al 2009: 8). The World Health Organization and Lesotho guidelines on prevention of mother to child transmission of HIV recommend a minimum of four essential antenatal care visits for healthy pregnant women which is called focused antenatal care and is patient-centred (Zhenghong 2011:e260; Patil et al 2013:1191; Ministry of Health (MOH) 2013:23). Antenatal care is provided by a spectrum of health-care providers namely nurses, nurse-midwives, physicians and obstetricians. However, in developing countries, nearly all antenatal care is provided by midwives (Patil et al 2013:1191). In Lesotho, 81 per cent of antenatal care was provided by nurse-midwives, according to the Lesotho Demographic Health Survey of 2009 (MOHSW 2010:110).



#### *2.2.1.1.2 Benefits of antenatal care*

Literature documents the benefits of antenatal care although based on evidence from observational studies (Zhenghong 2011:e260; Doswell et al 2010:3; Majoko, Munjanja, Nystrom, Mason & Lindmark 2007:802). Antenatal care has been associated with lower maternal deaths, morbidity and better pregnancy outcomes. An association between the frequency of antenatal visits and gestational age at first antenatal visit and maternal outcome has been demonstrated (Doswell et al 2010:3). Furthermore, Patil et al (2013:1191) argues that antenatal care ensures improved health outcomes for pregnant women as it is the entry point for evidence-based interventions.

#### *2.2.1.1.3 Components of antenatal care*

Antenatal care components have been described in many studies (Holowell et al 2009:7; Zhenghong 2011:e260; Lazarus, Rull, Huws, Rasch & Liljestrand 2007:400). The WHO Integrated Management of Pregnancy and Child-birth (IMAPC) guidelines (WHO 2009:2) identifies variation in the components of antenatal care as being determined by specific country disease profiles. In countries where Human Immunodeficiency Virus (HIV) and/or malaria is endemic, HIV treatment and or antimalarial prophylaxis is provided. Important components of antenatal care include:

- early registration during pregnancy
- confirmation of pregnancy
- assessment of maternal well-being including taking of history, blood pressure measurements, urine analysis, blood tests for syphilis and severe anaemia, weight and height measurements
- physical examinations including pelvic assessment
- assessment of the foetal heart including auscultation of the foetal heart rate and assessment of foetal growth

- monitoring of the progress of pregnancy including measuring abdominal circumference and symphysio-fundal height
- detection of complications during pregnancy such as anaemia, hypertensive disorders, bleeding, mal-presentations and multiple pregnancies
- administration of tetanus immunisations and provision of vitamin supplementation; deworming and giving antimalarial drugs
- prevention of anaemia and its control by providing iron and folate supplementation
- provision of information and counselling on self-care at home, parenthood, nutrition, safer sex, breastfeeding, family planning and a healthy lifestyle
- planning of birth, advice on danger signs and emergency preparedness
- screening of infections and provision of treatment for syphilis, urinary tract infections and tuberculosis
- provision of HIV testing and counselling (Hollowell et al 2009:7; Zhenghong 2011:e260; Lazarus et al 2008:400; WHO 2009:2)

#### ***2.2.1.2 Intra-partal care as a component of obstetric care***

Intra-partal care is care that is provided to a woman during labour and delivery. It serves to support, supplement and occasionally replace the normal processes (Sarris, Bewley & Agnihotri 2009:258). Labour can be divided into four stages, namely, the first stage, the second stage, the third stage and the fourth stage (International Federation of Gynaecology and Obstetrics (FIGO) guidelines 2012:111). The management of normal labour can be described according to these four stages.

#### *2.2.1.2.1 Management of the first stage of labour*

The FIGO (2012:111) defines the first stage of labour as the stage that starts from the onset of regular painful contractions associated with descent of the presenting part and progressive dilatation of the cervix until the cervix is fully dilated. The National Institute for Health and Care Excellence (NICE) Guidelines (2007:139) divides the first stage of labour as latent first stage and established first stage of labour. The latent first stage of labour is characterised by painful contractions and some cervical changes, effacement and dilatation up to four centimetres. The established first stage entails regular painful contractions and progressive dilatation of the cervix from four centimetres. Components of care in this stage include:

- diagnosis of active labour
- monitoring progress of labour by abdominal examination to assess descent and contractions, maternal and foetal well-being using a partograph
- providing supportive care and pain relief
- bladder emptying every 2 hours
- vaginal examinations performed with consent every four hours to assess cervical dilatation, effacement, station and noting of amniotic fluid colour
- detection of problems including mal-presentations, prolonged and/or obstructed labour, hypertension, bleeding and infection

#### *2.2.1.2.2 Management of the second stage of labour*

The FIGO (2012:111) defines second stage of labour as the stage that starts from full dilatation of the cervix up to birth of the singleton baby or the last baby in multiple pregnancy. At the start of second stage, the foetal presenting part may or may not be fully engaged (meaning the widest part has passed through the pelvic brim), and the woman may or may not have the urge to push.

Literature documents care in this stage as consisting of:

- the delivery and immediate care of the new-born baby and initiation of breastfeeding if it is the preferred method of feeding
- the new-born resuscitation

#### *2.2.1.2.3 Management of the third stage of labour*

The FIGO (2012:111) defines the third stage as a stage that starts from the birth of the baby until expulsion of the placenta and membranes. Interventions of the third stage of labour include active management of the third stage of labour which involves interventions to assist in the expulsion of the placenta with the intention to prevent or decrease blood loss. Routine use of the active management of the third stage of labour is recommended by the International Federation of Gynaecologists and Obstetricians (FIGO), International Confederation of Midwives (ICM) and the WHO (Stanton et al 2009:1).

Active management of third stage of labour includes:

- administration of oxytocin/uterotonic
- delayed cord clamping for at least 3 minutes
- controlled cord traction (WHO 2012:16)

The fourth stage of labour will be discussed under post-natal care.

#### **2.2.1.3 Post-partum care as a component of obstetric care**

Post-partum care is care that is given to a woman after birth. It is the care that pertains to the woman and the baby after child-birth. This care covers the period between and immediately after birth to 42 days after birth of the baby.

The postpartum period can be divided into immediate, early and late postpartum period for ease of defining care provision (WHO 2010:12). Components of post-partum care include:

- immediate post-partum care of the mother that is provided during the fourth stage of labour. It involves observing for haemorrhage by checking the vital signs; checking the fundus for involution, the condition of the bladder, the type and amount of lochia , the condition of the perineum including the labial areas (Murray & McKinney 2010:294)
- monitoring and assessment of maternal well-being, prevention and detection of complications namely hypertension, infection, bleeding and anaemia
- treatment of moderate post-haemorrhagic anaemia
- provision of information and counselling on home self-care, nutrition, safe sex, breast care and family planning
- planning post-natal care, advice on danger signs and emergency preparedness (WHO 2013:5)

## **2.3 NURSE-MIDWIVES AS PROVIDERS OF SKILLED BIRTH ATTENDANCE**

Indicators for MDG 5 which were aimed at the reduction of maternal mortality rate by 75 per cent by the year 2015 include the proportion of births attended by skilled personnel, antenatal care coverage and contraceptive prevalence rate. The proportion of skilled personnel looks at the number of births attended by health professionals including nurse-midwives.

Skilled attendance has two key components, namely skilled attendance and an enabling environment (Spangler 2012:134; Adegoke et al 2010:351). An enabling environment makes reference to the environment with resources that support skilled birth attendance (WHO 2004:14). In Lesotho, the majority of health care providers are nurse-midwives.

Skilled birth attendance has been well-documented in terms of its effect on reducing maternal mortality (Adegoke et al 2010:351). In the early twentieth century, countries such as Sweden and the United Kingdom halved their maternal mortality figure through the provision of trained professional midwives and functioning healthcare facilities. Developing countries such as Sri Lanka, Malaysia, Thailand, Egypt, Honduras and Bangladesh have achieved similar successes. This has been through placing of emphasis on midwifery care and improvement of access to emergency obstetric care in addition to others (Adegoke et al 2010:351).

However, increase in proportion of SBA does not denote reduction in Maternal Mortality Ratio (MMR). Bangladesh managed to reduce MMR with a very low level of SBA according to two studies (Adegoke et al 2010:351). A multi-country survey on maternal and new-born health that evaluated 29 countries argues that high coverage of essential interventions alone does not lead to decreased MMR in healthcare facilities. The study also asserts that it needs to be complemented with comprehensive emergency care and total improvements in the quality of maternal health care (Souza et al 2013:1).

Skilled birth attendants including nurse-midwives provide obstetric care. Nurse-midwives' competence is important when rendering obstetric care. They are expected to carry out best practice by providing evidence-based care. It is important to determine how skilled the SBA is in relation to obstetric care. No study has been done in Lesotho to evaluate the knowledge, attitude and practice of nurse-midwives in relation to obstetric care. The three components, that is, knowledge, practice and attitude, make up competence of nurse-midwives.

## **2.4 COMPETENCE OF NURSE-MIDWIVES AS KNOWLEDGE, ATTITUDE AND PRACTICE**

The competence of healthcare professionals including nurse-midwives is important if they are to provide care that has good outcomes.

Competence has been defined as “the combination of knowledge, psychomotor, communication and decision making skills that enable an individual to perform a specific task to a defined level of proficiency” (Fullerton, Johnson, Thompson & Vivio 2011:310). Competency has also been defined as a broad complex statement, derived from nursing and midwifery practice, which describes a framework of skills reflecting knowledge, attitudes, psychosocial and psychomotor elements (WHO 2009:35). According to Skirton, Stephen, Doris, Cooper, Avis and Fraser (2011:e661), qualities of a competent midwife include the ability to practise safely, self-sufficiency, current knowledge and professional awareness as crucial to being a safe practitioner. Appropriate attitudes and communication skills were also identified as necessary competencies.

Research studies on healthcare professionals including midwives’ knowledge, attitudes and practices on obstetric care were conducted. A concept map on why women still die of or owing to pregnancy and childbirth identified failure of healthcare providers (Graham, Bell & Bullough 2000:13). This failure is in terms of knowledge, skills and attitudes and or facilities. The map identifies poor quality care as untimely care where there was a delay in diagnosis and treatment. Inappropriate care is the care which is clinically incorrect, unaffordable, ineffective and is not based on best practice (Graham et al 2000:13).

Raven, Hofman, Adegoke and van den Broek (2011:4) state that poor quality obstetric care occur as a result of limited knowledge and skills of health care providers. Furthermore, the study identifies issues related to healthcare worker competency such as lack of appropriate training, incorrect treatment, poor attitudes, delay in referral of patients, poor cooperation and interpersonal relationships between health providers as being common in resource restricted settings. This is corroborated by Jefford and Fahy (2014:1), who argue that poor effects in maternal care are a result of poor clinical reasoning and decision making. Sandin-Bojo, Hashimoto, Kanai and Sugira (2012:e881) stress that facility-based maternal service can be poor, disrespectful and inhumane. Women are discouraged from receiving obstetric care if they received low quality healthcare other than absence of health facilities (Sandin-Bojo et al 2012:e881).

### **2.4.1 Nurse-midwives' knowledge of obstetric care**

Knowledge is one of the components of competence. It is defined as “specific content of thinking based upon acquired wisdom or learned information or skills, cognizance and recognition of information” (Cardoso & Paiva e Silva 2010:429). Knowledge can further be described as that alertness, capability and understanding that one acquires through experience or schooling (Meakim et al 2013: S7). Thinking, an appreciation of theories, professional standards of practice and awareness derived from context, practical experiences, personal capabilities and leadership together produce knowledge (American Nurse Association (ANA) 2013:4).

Nursing knowledge comprises of empirical knowledge (scientific knowledge), aesthetic knowledge (art of nursing), personal knowledge and ethical knowledge as described by Carper in 1978 (Edwards 2002:40; Bailey 2004:38). Empirical knowledge includes empirical research, scientific writing and involves reductionism and positivism. “It is knowledge that is specific and measurable. It can be observed, tested and translated into practice where it can be used to explain and predict phenomena” (Rutty 1998:245). Moreover, empirical knowledge is abstract in nature and is derived from books, journals and borrows from the traditional sciences including biology, sociology, psychology and pharmacology (Rutty 1998:245; Edwards 2002:40; Bailey 2004:38).

Another important type of knowledge, as described by Carper 1978, is called aesthetic knowledge. Rutty (1998:245) and Bonner and Lloyd (2011:1213) describe aesthetic knowledge as consisting of instinct, nursing skills, personal experience and nursing action. It is expressive and made visible through action. The patient who is acted upon or who is interacted with is the one who witnesses aesthetic knowledge. The other central and essential type of nursing knowledge is personal or tacit knowledge. It is described as compound and tough to demonstrate and it is developed through life and involves internal experience and self-awareness (Bonner & Lloyd 2011:1213). It is therefore essential that nurses have personal knowledge such that they can be able to admit and respect the uniqueness of each individual.



The other category of knowledge is the ethical knowledge or the knowledge of morality. It deals with the moral issues of decision making. It is important with respect to the ability of a nurse to make judgements and decisions on what to do with each patient or in a particular situation (Rutty 1998:245). Gurm (2013:4) describes an additional category of knowledge called emancipatory knowing which relates to the ability to recognise domination and the transformations that need be done to rectify issues. Knowledge can also be categorised as subject, care and delivery, professional and ethical; personal and reflective knowledge. Hence knowledge can be understood in broad means (Edwards 2002:40; Bailey 2004:38).

In this research study, knowledge referred to nurse-midwives' evidence-based, scientific and empirical knowledge of obstetric care. Knowledge was operationally defined as a nurse-midwife's self-report of obstetric care. Knowledge was measured using a structured knowledge questionnaire designed by the researcher. The knowledge of a nurse-midwife would inform their obstetric practice.

#### **2.4.2 Nurse-midwives' practice of obstetric care**

Practice is defined as "the act of doing something; performance or action. It can also be defined as the actual application or use of an idea, belief or method as opposed to theories about such application or use" (Stevenson & Lindberg c2010). Nurse midwives need to be proficient in practising clinical skills. Skills are part of nursing practice bringing together knowledge, training and past experience or context to yield a required outcome (Scott, White, Johnson & Roydhouse 2011:1112). These skills require primary, secondary and tertiary prevention interventions.

The practice of nursing is defined by the Connecticut Nurse Practice Act, Section 20-87a as "the process of diagnosing human responses to the actual or potential health problems, providing supportive and restorative care, health counselling and teaching, case finding and referral, collaborating in implementation of the total health care regimen, and executing the medical regimen under the direction of a licensed physician, dentist or advanced practice registered nurse"(

[http://www.cga.ct.gov/current/pub/chap\\_378.htm](http://www.cga.ct.gov/current/pub/chap_378.htm)). This definition categorises the levels at which nurses in the health-care setting practice. The American College of Nurse-midwives (ACNM) and the International Confederation of Midwives (ICM) shows some resemblance in their definition of midwifery practice. They both allude to the care of women during pregnancy, labour and child-birth, the postpartum period as well as care of the new-born. The ICM definition further expands what care is, referring to it as consisting of prevention measures, promotion of normal physiologic labour and birth, identification of complication and appropriate referral. It also identifies the important role of the midwife in giving health information for women, families and communities. Evidence-based midwifery practice is another feature of midwifery (ICM 2013:1 and ACNM 2014).

In this research study, practice referred to interventions carried out by nurse-midwives in relation to obstetric care. Practice was operationally defined as a nurse's self-report of their practice of obstetric care. Practice was measured using the structured practice questionnaire designed by the researcher. The definition by the Connecticut Nurse Practice Act can be used to understand practice as follows:

- *Practice of diagnosing* - Nurse-midwives diagnose pregnancy, labour, complications, and discomforts
- *Practice of restorative and supportive care* - Nurse-midwives restore function during pregnancy, labour and childbirth. They support women during those three phases, namely antenatal, intra-partum and post-partum
- *Practice of health counselling and teaching* - Nurse-midwives give information during pregnancy, labour and childbirth and postpartum. Information giving in these phases also includes family, community and to the woman
- *Practice of case finding and referral* - Nurse-midwives identify complications, special situations and refer appropriately
- *Practice of collaboration* - Nurse-midwives collaborate with other healthcare professionals, including nurses and physicians for the welfare of the woman, family and her community

- *Practice of executing the medical/obstetric regimen* - Nurse-midwives make use of best practice guidelines to practice within their scope to render obstetric care ([http://www.cga.ct.gov/current/pub/chap\\_378.htm](http://www.cga.ct.gov/current/pub/chap_378.htm)).

#### **2.4.2.1 Standards of obstetric care for midwives in Lesotho**

Nurse-midwife practice can be defined as the expected range of roles, functions, responsibilities and activities that a registered nurse-midwife is educated, competent and has authority to perform (An Bord Altranais 2010:6). The Lesotho Nursing Council (LNC) sets out standards that are used as a yardstick to make decisions on what is expected from practising registered nurse-midwives. These standards are clustered into two major areas, namely those related to the professional role and caregiving role. Standards related to the professional role emphasise accountability, resource utilisation, legal and ethical behaviour, advocacy, research and maintenance of competence. Practice standards related to the caregiving role emphasise assessment, planning, direct care and evaluation (LNC 2013:14).

The LNC standards for nurse-midwifery practice include the following : application of theoretical and evidence-based rationales and professional values, promotion of safe and effective antenatal care, provision of appropriate and culturally sensitive labour, conduction of a clean safe delivery, management of complications during labour, provision of comprehensive, culturally sensitive care of the mother and baby after birth up to 2 months, provision of abortion-related care services for women and adolescents and prompt management and treatment of life threatening conditions (LNC 2013:15).

#### **2.4.3 Nurse-midwives' attitude towards obstetric care**

Attitude is described as a tendency to respond in a consistently favourable or unfavourable manner towards a specific topic, concept or idea.

It is the sum total of a man's inclinations and feelings, prejudice and bias, preconceived notions, ideas, fears, threats and convictions about any specified topic (O'Dowd 2003:13). Attitude is a settled way of thinking or feeling, typically reflected in a person's behaviour (New Oxford American College Dictionary 2010, "context").

Attitude does not automatically predict a specific behaviour, but does tell us about a certain amount of affect towards the object in question. Nurse-midwives need to have the appropriate attitudes that will lead to positive patient outcomes. Attitudes therefore tend to affect clinical care and outcome. In this research study, attitude is referred as the nurse-midwives' attitudes to issues related to obstetric care. Attitudes were operationally defined as nurse-midwives' self-report of their attitudes towards obstetric care. Attitude was measured using the structured attitude questionnaire designed by the researcher.

## **2.5 CONCLUSION**

This chapter has discussed literature that relates to nurse-midwives' knowledge, attitude and practices. Various types of literature were referred to, including research articles, systematic reviews, and acts of law, best practice guidelines, textbooks and standards of care documents. In Chapter 3, discussion of the research design and the method used to collect data on the knowledge, attitudes and practices of nurse-midwives related to obstetric care will be done.

## **CHAPTER 3**

### **RESEARCH DESIGN AND METHOD**

#### **3.1 INTRODUCTION**

In Chapter 2, the literature study on the knowledge, attitudes and practices of nurse-midwives in relation to obstetric care was discussed. This chapter describes the research design, methodology and ethical considerations of the study. Justification for the choice of research design that was used will be highlighted.

#### **3.2 RESEARCH DESIGN**

A research design refers to the organised way utilised by researchers to respond to certain research questions (Morrone & Myer 2007:77). The research design is also defined as the overall plan for addressing a research question, including specifications for enhancing the study's integrity (Polit & Beck 2012:741). The research design defines the population, the sampling techniques to be used, the data gathering tools, the data-gathering procedure and the data analyses. The choice of the study design is determined by cost and ethical concerns that reciprocally affect each other (Morrone & Myer 2007:77). The research design is further seen as "the blue print for conducting a study that maximizes control over factors that could interfere with the validity of the findings" (Grove, Burns & Gray 2013:214). A quantitative study design was used in this research study.

### **3.2.1 Quantitative study**

A quantitative study is defined as a “formal, objective systematic study process to describe and test relationships and to examine cause and effect interactions among variables” (Grove et al 2013:706). The positivist tradition or paradigm influences the quantitative research approach (Polit & Beck 2012:13). A quantitative study design that involved data collection utilising a structured questionnaire was used in this research study.

#### ***3.2.1.1 Advantages of quantitative study design***

The quantitative research study design was chosen by the researcher because it involves data collection in a structured way. Structured questionnaires which are easy and cheaper to administer- were used to collect data (Botma, Greeff, Mulaudzi & Wright 2010:135). Quantitative research allows for control of the research situation. Numbers are the basic unit of analysis in quantitative research as opposed to words in qualitative research. This enabled handling of data through statistical procedures to describe the knowledge, practices and attitude of nurse-midwives.

#### ***3.2.1.2 Disadvantages of quantitative study design***

The quantitative research design has a disadvantage that a few concepts about individuals are investigated to make general conclusions. Inability to capture a phenomena holistically is one of the disadvantage of quantitative research (Polit & Beck 2012:13). A structured questionnaire was used to collect data. The questionnaire method of data collection is liable to low response rate, responses not representing the target population, flawed and missing responses.

### **3.2.1.3 Non- experimental research design**

A quantitative study can either be experimental, quasi-experimental or non-experimental. A non-experimental study is one in which the researcher gathers data and no interventions are utilised (Polit & Beck 2012:223). Typical descriptive or simple descriptive, time-dimensional and correlational study designs fall under non-experimental study designs (Botma et al 2010: 109; Grove et al 2013:215). Time-dimensional designs can further be divided into longitudinal, cross-sectional, prevalence and incidence studies (Botma et al 2010:109). This study made use of a cross-sectional descriptive study design. This design was appropriate for this study to describe the knowledge, practices and attitude of nurse-midwives.

### **3.2.1.4 Cross-sectional studies**

A cross-sectional study design entails collecting data from a cross-section of the population at a point in time. Data is gathered once from a specific sample (Botma et al 2010:109). The researcher took into consideration the cost of carrying out the study in determining the study design and feasibility of the study. This was to the benefit of the researcher as the data was collected at one point and there was no follow up to be done. A cross-sectional descriptive study quantifies the magnitude of phenomena. The study focused on personal and demographic characteristics, knowledge, practices and attitudes of nurse-midwives in Thaba-Tseka that are related to obstetric care. The setting of the study was the natural setting which is the workplaces where the nurse-midwives' work.

### **3.2.1.5 Descriptive research design**

A descriptive research design is one that describes variables of interest as they occur in nature (Botma et al 2010:110).

The design is characterised by lack of variable manipulation and does not involve the establishment of the relationships between variables. The frequency of occurrence of variables is what is important. Types of descriptive study designs include typical, comparative, prevalence and incidence studies (Botma et al 2010:110). This research used a typical descriptive study design to describe the personal and demographic characteristics, knowledge, practices and attitudes of nurse-midwives in Thaba-Tseka district that are related to obstetric care. The researcher considered financial resources and setting of study in considering the study design.

### **3.3 RESEARCH METHOD**

A research method is defined as a technique used to structure a study and gather and analyse information relevant to the research question in a systematic fashion (Polit & Beck 2012:13; 741). This section describes issues related to sampling, data collection, data collection instrument, data management and analysis and ethical issues to do with sampling and data collection.

#### **3.3.1 Sampling**

Choosing a group of people, events, behaviours, or other components for purposes of carrying out a study is defined as sampling (Grove et al 2013: 351). Sampling involves taking into considerations the study population, sampling methods to be used, eligibility criteria, and the sample size. The following section will discuss that and how it was applied to achieve the research study objectives.



### **3.3.1.1 Population**

Population is defined as all the elements (individuals, objects or substances) that meet certain criteria for inclusion in a given universe (Grove et al 2013:44). In this research study, the population included all nurses that were nurse-midwives practicing in Thaba-Tseka district at the time of the study. This meant all nurse-midwives who were nurse-midwives at Thaba-Tseka district practicing at any of the seventeen health facilities in the district. These included two hospitals namely Paray Mission and St. James Mission Hospital and fifteen clinics.

### **3.3.1.2 Sampling methods**

Sampling is defined as a process of selecting people, events and or other elements with which to conduct a study (Grove et al 2013:351). There are two main types of sampling namely non-probability and probability sampling (Botma et al 2010:125). A mix of probability and non-probability sampling technique was used. The researcher used a type of probability sampling called cluster sampling. The researcher divided the health facilities into the two hospitals, five government clinics under the Lesotho Flying Doctor service, four government clinics and six Christian Health Association of Lesotho (CHAL) clinics. These represented the clusters from which participants were chosen (Table 3.1). All clusters were chosen as the estimated population was small. Convenience sampling method was then used to select participants in each cluster for the research study. The researcher considered cost, feasibility, issues of validity and geographical distribution of the health facilities in choice of sampling techniques.

#### **3.3.1.2.1 Probability Sampling**

Probability sampling involves a random selection of elements.

This type of sampling gives each of the elements in the target population a calculable and non-zero probability of being selected (Botma et al 2010:125; Polit & Beck 2012:275). Types of probability sampling include simple, stratified/proportional, systematic and cluster random sampling. A type which combines these different methods is called multi-stage sampling (Trochim c2006). Cluster sampling method was used in this study.

#### *3.3.1.2.2 Cluster probability sampling*

Cluster probability sampling involves dividing populations into clusters, usually along geographic boundaries. Clusters are then randomly sampled. All units are then measured within sampled clusters. In this study, clusters consisted of two hospitals, five government clinics under the Lesotho Flying Doctor Service, four government clinics and six Christian Health Association of Lesotho (CHAL) clinics. All clusters were sampled and units within clusters were conveniently sampled as the population size was small.

#### *3.3.1.2.3 Non-probability sampling*

Non-probability sampling refers to a type of sampling where the chance of each element being chosen for inclusion in the study cannot be estimated. The researcher identified time and financial constraints and limitations in terms of accessing the population (Botma et al 2010:125). A type of non-probability sampling called convenience sampling was used by the researcher to sample within clusters made up of hospitals and clinics of Thaba-Tseka district Lesotho.

### ***3.3.1.3 Ethical issues related to sampling***

The study adhered to ethical principles relating to sampling. The study did not discriminate in the selection of participants based on any other criteria besides the inclusion criteria. All nurse-midwives and health institutions in Thaba-Tseka district, Lesotho were eligible to participate in the study. The five nurse-midwives who participated in the pilot study were excluded from the main study.

### ***3.3.1.4 Sample***

A sample is the subset or portion of the accessible population (Botma et al 2010:124). In this research study, the sample was selected from a population of nurse-midwives practising in Thaba-Tseka district at the time of data collection. Nurse-midwives that met the inclusion criteria and consented filled the questionnaires and returned them to the researcher. A listing of hospitals and clinics at Thaba-Tseka district, including a map of Thaba-Tseka with the estimated nurse-midwife staff establishment, was made. Estimations of the nurse-midwife staff establishment at Thaba-Tseka district was made based on enquiries made from the Thaba-Tseka District Health Management Team, Human resources representative and hospital administrations. Sampling was done from nurses working at the two Hospitals in Thaba-Tseka including the 15 clinics (See table 3.1).

#### ***3.3.1.4.1 Sample size***

The estimated total number of nurse-midwives working in the health institutions at Thaba-Tseka district was 70 at the time of carrying out the study. Paray Mission Hospital had 26 nurse-midwives, St. James Mission Hospital 14 nurse-midwives and the 15 clinics had an estimate of 2 nurse-midwives each. The five nurse-midwives who participated in the pilot study were excluded from the actual study.

Hence, the sample size was 65, as the researcher aimed at sampling all the available nurse-midwives in the district due to the small population size. Convenience sampling technique was used to sample from each cluster to make a total of 45 nurse-midwives who participated in the actual study.

**TABLE 3.1:TABLE ILLUSTRATING THE ESTIMATED DISTRIBUTION OF NURSE-MIDWIVES IN THE THABA TSEKA DISTRICT AT THE TIME OF STUDY**

<b>INSTITUTION</b>	<b>NUMBER OF NURSE-MIDWIVES</b>
Paray Mission Hospital	26
St. James Mission Hospital	14
Six Christian Health Association of Lesotho (CHAL)clinics	12
Four Government of Lesotho (GoL) clinics	8
Five GoL clinics under Lesotho Flying Doctors Services (LFDS)	12
Estimated total number of nurse-midwives in Thaba-Tseka (TOTAL)	70

#### *3.3.1.4.2 Inclusion criteria*

This research study included all nurse-midwives working in the health facilities at Thaba-Tseka district during the data collection process and who consented to participate in the study.

Nurses were included in the study if they were nurse-midwives with a diploma or degree in midwifery. The nurse-midwives who participated were working as nurse-midwives at any one of the health facilities in Thaba-Tseka district at the time of data collection. The participants were supposed to be able to read and write English.

#### **3.3.2 Data Collection**

Data collection is the precise systematic gathering of information relevant to the research purpose or specific objectives, questions or hypotheses of a study (Grove et

al 2013:45). Self-administered structured questionnaires were used to collect data in this study (Refer to annexure D).

### ***3.3.2.1 Data collection approach and method***

Questionnaires were distributed by the researcher to nurse-midwives who were available in the two hospitals as well as clinics. Participants who met the criteria were each requested to sign the information and consent form (Refer to annexure I), fill out the questionnaire and return to the researcher. A copy of the information and consent form was retained by the participants for their record.

### ***3.3.2.2 Development and testing of the data collection instrument***

The questionnaire that was used for data collection in this study was developed based on Indian guidelines for antenatal care and skilled attendance, WHO IMPAC guidelines, NICE Guidelines on intra-partum care and other literature (Government of India 2005, WHO 2009 and NICE 2007) . The draft copy of the questionnaire was reviewed by the research supervisor from the UNISA Department of Health Studies, a statistician and a colleague for language, technical presentation and validity. This review also helped in ensuring reliability of the data collection instrument.

#### ***3.3.2.2.1 Pre-testing of the questionnaire***

The questionnaire was pre-tested on five nurses-midwives based at Paray Mission Hospital. The five participants included one nurse educator responsible for midwifery education and four nurse-midwives working at Paray Mission Hospital. Nurse-midwives who participated in the pre-test were not included in the actual study. The pre-test aimed at determining the time taken to fill the questionnaire, to pick out questions which were not understandable to participants and evaluate content and

face validity. The pre-testing of the questionnaire was done between the 8<sup>th</sup> and 10<sup>th</sup> of June 2014. After the pre-testing exercise, the questionnaire was corrected and finalised.

### ***3.3.2.3 Characteristics of the data collection instrument***

The data collection instrument consisted of a four-part questionnaire (Refer to annexure D). It had a section on demographic questions consisting of six items, knowledge section consisting of 13 multiple choice questions, practice questions consisting of 27 questions and attitude towards obstetric care questions consisting of nine questions.

#### ***3.3.2.3.1 Demographic questions***

Section A of the questionnaire consisted of six items (Refer to annexure D). These included questions on the participant's age, sex, education, years of experience as a nurse-midwife, nursing school or university attended and work setting.

#### ***3.3.2.3.2 Obstetric knowledge questions***

Section B consisted of thirteen multiple choice questions. These included questions that checked the nurse-midwife's basic knowledge on antenatal care, intrapartum care and post-partum care (Refer to annexure D). Participants were expected to choose between three response items. Only one of the response items was correct. The knowledge questions included questions on comprehensive antenatal care assessment, minimum number of ANC visits, haemoglobin level for anaemia, common foetal positions, foetal position determination, management of eclampsia, foetal heart rate, stages of labour divided into latent and active phases, characteristics of second stage of labour, indicators for delivery of the placenta, active management of the third

stage of labour, infant feeding and on Prevention of Mother To Child Transmission(PMTCT) guidelines. Participants were scored 1 for a correct answer and 0 for a wrong answer. The highest possible score for knowledge was 13 and lowest was 0.

#### 3.3.2.3.3 *Obstetric practice questions*

Section C consisted of questions on practice. Participants were requested to rate themselves on their ability to carry out certain obstetric care practices on a scale between being **excellent** to **below average** (Refer to annexure D). A rating scale is defined as “an ordered array of categories of a variable that are assumed to be based on an underlying continuum” (Grove et al 2013:429). The rating scale was as follows: Excellent – 4, very good – 3, good-2, Average-1 and Below Average-0.

The possible total score for obstetric practice thus ranged between 0 and 40 for ANC; 0 and 44 for labour and delivery; and 0 and 24 for postnatal care.

The obstetric care practices questions included those related to care rendered during antenatal, labour and delivery, and postnatal care (Refer to annexure D).

- *Questions on antenatal care practices include* fundal height measurement, abdominal palpation, foetal movements, foetal heart rate, HIV testing and counselling, initiation and monitoring of HIV positive women on HAART, maternal assessment, maternal nutrition in relation to foetal growth, treatment of Genital Tract Infections and treatment of opportunistic infections.
- *Questions on practices during labour and delivery include* partogram use with assessment of the following aspects: maternal vital signs, foetal heart rate, condition of the amniotic fluid, moulding, condition of the cervix, strength of contractions and descent of the head, delivery of the baby, cutting of episiotomy and repair of an episiotomy/tear, management of eclampsia and use of oxytocin and antibiotics when indicated.
- *Questions on post-natal care practices include* estimation and recording of blood loss, active management of third stage of labour, Apgar scoring, management of fourth stage of labour including taking vital signs, fundal height

measurements and placental examination.

#### *3.3.2.3.4 Questions on Attitude towards obstetric care*

Section D of the questionnaire consisted of a section on attitude questions (Refer to annexure D). This section had nine (9) positively worded statements to which participants had to respond to and rate themselves on a Likert scale. A Likert scale comprises of some declarative statements that say a view on a subject. Participants will then grade how they agree or disagree with a statement. The participants' responses are then scored. A participant's total score is then calculated by adding together individual statement scores (Polit & Beck 2012: 301). Participants in this study had to respond on whether they **strongly agree, agree, disagree or strongly disagree** to the following statements related to obstetric care:

- register a woman who comes late for antenatal care(ANC) registration
- make efforts to seek/find women in the community who are likely to be pregnant who have not come for ANC registration
- encourage women to deliver at a health care institution
- respect the patient's choice of direction of care for example birth position
- respect the patient's cultural values
- advocate for the patient if I feel she is not being properly managed by another



health care provider

- ask /consult other health-care provider if I am not sure of what to do
- help the woman if its late /after hours
- use a partogram when caring for a woman in labour

The rating scale was measured as follows: Strongly agree-3, agree-2, disagree-1, strongly disagree-0. The possible total scores for attitude towards obstetric care ranged between 0 and 27.

#### ***3.3.2.4 Data collection process***

The data collection process involved the researcher physically distributing questionnaires at the two hospitals, that is, Paray and St. James Mission hospitals and DHMT clinic. Distribution of questionnaires to the other institutions included delivery by the clinic mail service as most of the institutions were in areas that were difficult to access. The motor bikers from the Lesotho Ministry of Health were used to distribute and collect filled questionnaires. Sixty-five (65) questionnaires were distributed to nurse-midwives working in the health facilities of Thaba-Tseka district between 20 June 2014 and 30 September 2014. The questionnaires required the nurse-midwives to respond to questions related to their knowledge, practices and attitudes towards obstetric care.

#### ***3.3.2.5 Ethical considerations related to data collection***

The researcher adhered to the principles related to data collection. Data that was collected was used for research purposes only. Ethical codes were used instead of names of individuals and institutions for protection of individuals and institutions' privacy and confidentiality. The following section describes how the ethical aspects related to institutions and individual participants were ensured.

#### *3.3.2.5.1 Ethical aspects related to the institutions*

Permission was sought and obtained to carry out the study from the Health Studies Higher Degrees Committee, College of Human Sciences of the University of South Africa (Refer to annexure A). After obtaining ethical clearance from UNISA, permission was then sought and obtained from the Ministry of Health (MOH) Lesotho's Research Review Board to carry out the research. A letter outlining the purpose of the study and who the participants were, was submitted to the MOH Research Review Board (Refer to annexure B). The researcher attached a copy of the research proposal, curriculum vitae, plan for the research and budget of the research and a covering letter.

A letter of request with an attached copy of the MOH ethical clearance (Refer to annexure G) was then submitted to the Thaba-Tseka district health management team (DHMT) through the Public Health Nurse. After getting permission from the DHMT, a copy of the stamped letter from DHMT was used to gain entry into district clinics via the nurses in charge of clinics/health centres and nurse managers of the hospitals (Refer to annexure H).

Questionnaires were distributed to all the institutions in Thaba-Tseka district. A letter addressed to the nurse in charge of the institution requesting permission was attached to questionnaires sent to the institutions. No health institution in Thaba-Tseka was excluded from the study.

#### *3.3.2.5.2 Ethical aspects related to participants*

The researcher ensured that the rights of participants were respected and protected. The researcher ensured this as discussed below:

- *Informed consent*

Information on the purpose of the study, what it entails and participants' right to discontinue with the study any time during the study process was indicated on the consent form.

Questionnaires were distributed to the nurse-midwives who were present at the institutions at the time of data collection. Those who consented filled the questionnaires which were then returned to the researcher. Informed consent forms (Refer to annexure I) with the researcher's signature were attached to the questionnaires and participants had to sign before filling the questionnaires.

- *Principle of beneficence and non- maleficence*

### *Beneficence*

Beneficence refers to the ethical principle that is based on the idea that a person has a right to be protected from harm and discomfort. The principle also imposes a duty to do good (Botma et al 2010:20). This study did not have direct benefits for the participants. However, it had potential benefits related to improvement of their profession. The extent of knowledge and practice of nurse-midwives in relation to obstetric care was identified. Hence, the study helped to gather evidence-based information for interventions aimed at improving quality of obstetric care offered by nurse-midwives in Lesotho. The study had a psychological benefit in terms of improvement of self-esteem of participants as they probably felt that they were participating in a noble endeavour. Gaining insight into their work situation was another possible benefit of this study.

### *Non-maleficence*

Non-maleficence refers to the ethical principle that instructs us not to harm others deliberately (Singh 2007:32). The study inconvenienced nurses in terms of their time. The research exposed participants to psychological/emotional harm due to self-disclosure. Emotional harm was due to answering personal questions that could lead to embarrassment. The researcher hence assured the participants that information that was collected will not be shared with any other party other than for research purposes (Refer to annexure I). A copy of an information brochure which explained the purpose and the processes of data collection and the time required for the participant to fill in the questionnaire was also indicated on the questionnaire.

- *Justice*

Justice is the ethical principle that means participants should be treated fairly (Botma et al 2010:20). The questionnaire was pre-tested to determine the time to be specified for completing the questionnaire. No other data was collected besides the data from the questionnaire. The questionnaire required 30 to 45 minutes of the nurse-midwife's time.

Participation in the research study was voluntary and participants were free to withdraw at any stage in the research. The study did not discriminate in the selection of participants based on any other criteria besides the inclusion criteria. All nurse-midwives present at the time of the study and all health institutions in Thaba-Tseka district of Lesotho were eligible to participate in the study.

- *Respect for privacy*

The ethical principle of right to privacy refers to autonomy over one's personal information (Botma et al 2010:13). Information pertaining to the research was only accessed by the researcher. No information was shared with any other person besides the researcher's supervisor from UNISA's Department of Health Studies and the statistician. Hard copies of questionnaires and/or information pertaining to the research were stored in a filing box and put in a lockable cabinet at the researcher's office. Research information stored on memory sticks was password-protected. Computers used by the researcher have firewall, virus and spyware protection.

- *Confidentiality*

Confidentiality relates to the way that data is treated. It alludes to measures that are taken to ensure that data collected cannot be linked to individual responses and that it will not be revealed to anyone outside the research team without the permission of the person whose confidence it is (Botma et al 2010:17). Only personal and identifying information that was essential for the research was collected for the research. Participants were not required to write their names on the questionnaire. The questionnaire was assigned identification numbers to ensure confidentiality of the participants' individual questionnaires.

- *Researcher integrity*

The researcher adhered to scientific ethos and rigor of scientific conduct in conducting the research. The researcher utilised the approved format/structure and organisation on the research report according to the Department of Health Studies at UNISA. A formal writing style was utilised by researcher. Sentences are in active voice tone in the document.

The researcher endeavoured to cover the whole research process and provide a factual account of the problem statement. This report shows how the research was done and includes findings of the research study. The Harvard system of referencing was used consistently in the research report and a bibliography of the sources used in the research was provided as indicated on the guidelines stipulated by the UNISA Department of Health Studies tutorial letter (UNISA MNUALL/301/0/2015:16-45).

### **3.3.3 Data analysis**

Polit and Beck (2012:725) define data analysis as “the systematic organisation and synthesis of research data and in quantitative studies, the testing of hypothesis using those data”. Data entry forms were created using SPSS version 16.0 and Microsoft excel 2013 with the help of a statistician. Data collected for this study was then entered into the data entry forms. Data cleaning was done by checking for outliers and for consistency visually. Data analysis was then done using SPSS version 16.0 and Microsoft excel 2013 with the help of the statistician. SPSS software version 16.0 and Microsoft excel 2013 was used to collate and analyse the data. (Refer to annexure E).

Descriptive statistics refers to summary statistics that allow the researcher to organise data in ways that give meaning and facilitate insight such as frequency distributions and measures of central tendency and dispersion (Grove et al 2013:692). Descriptive statistics were used to summarise and describe the data. These included frequencies, percentages, means and standard deviations.

Frequency distributions included those of:

- Sample demographic characteristics
- Knowledge of nurse-midwives on obstetric care
- Practices of nurse-midwives on obstetric care
- Attitude of nurse-midwives on certain obstetric care practices

Graphs showing distribution of scores, means and standard deviations included those of:

- Nurse-midwives performance on questions related to knowledge about obstetric care
- Nurse-midwives performance on obstetric care practices related to antenatal care
- Nurse-midwives performance on obstetric care practices related to labour and delivery
- Nurse-midwives performance on obstetric care practices related to post-natal care
- Nurse-midwives performance on their attitude towards obstetric care practices.

### **3.4 INTERNAL AND EXTERNAL VALIDITY OF THE STUDY**

This section will discuss issues relating to measures that were taken to enhance the study's integrity which will include aspects related to the study validity.

#### **3.4.1 Study Validity**

Validity refers to a quality criterion that relates to the degree to which inferences made in a study are accurate and well founded (Polit & Beck 2012:745). In the following discussion, internal validity and external validity will be described and how they were ensured in this study. Issues to do with questionnaire validity will also be discussed.

#### **3.4.1.1 Internal validity**

Grove et al (2013:697) define internal validity as the extent to which the effects detected in the study are a true reflection of reality rather than being the result of effects of extraneous variables. It is the extent to which the study measures what it is supposed to measure, that is, lack of selection bias, information bias and confounding bias. The researcher took into consideration issues such as cost and feasibility in choosing the research design. To minimise bias, the researcher ensured that the research design was adhered to in terms of sampling, data collection and data analysis.

#### **3.4.1.2 External validity**

External validity refers to the degree to which study results can be generalised to settings or samples other than the one studied (Polit & Beck 2012:727). To enhance external validity, the researcher followed the research design to enable getting as generalisable results as possible to nurse-midwives in Thaba-Tseka district.

#### **3.4.1.3 Instrument Validity**

Pre-test of the data collection instrument was done. It was to determine the time taken to fill the questionnaire, to pick out questions which were not understandable to participants and evaluate content and face validity. The research instrument was also reviewed by the researcher's supervisor from the Department of Health Studies of UNISA and a statistician.



#### **3.4.1.4 Questionnaire reliability**

Reliability is defined as the degree of similarity of the results obtained when the measurement is repeated on the same subject or group (Katzellenbogen & Joubert 2007:117). The researcher ensured that the research instrument is reliable by conducting a pre-test on five nurse-midwives. Pre-testing enabled refinement of the questionnaire and thus improving its quality. The questionnaire was also developed based on Indian guidelines for antenatal care and skilled attendance, WHO IMPAC guidelines, NICE guidelines on intrapartum care and other literature (Government of India 2005, WHO 2009 and NICE 2007).

### **3.5 CONCLUSION**

This chapter has outlined the research design and methodology followed by the researcher to answer the research question. It also highlighted justification for the approaches taken in the implementation of the research process. In chapter 4, the results of the data collection process will be presented and described. A discussion of the data analysis and research findings from 45 questionnaires completed out of 65 distributed to nurse-midwives in the Thaba-Tseka district of Lesotho during the year 2014 will also be done.

## **CHAPTER 4**

### **ANALYSIS, PRESENTATION AND DESCRIPTION OF RESEARCH FINDINGS**

#### **4.1 INTRODUCTION**

This chapter discusses the data analysis and the research findings. The purpose of this research study was to describe the knowledge, attitudes and practices of nurse-midwives with regard to obstetric care at Thaba-Tseka district of Lesotho. The objectives of the study were:

1. To describe knowledge levels of nurse-midwives on obstetric care
2. To describe the practices of nurse-midwives on obstetric care
3. To describe the attitudes of nurse-midwives on obstetric care

The findings of this study are discussed according to the sections of the questionnaire that was used to collect data from the participants. The four sections of the questionnaire were:

Section A: Demographic questions

Section B: Knowledge of obstetric care questions

Section C: Obstetric practice questions

Section D: Attitude towards obstetric care questions

## **4.2 DATA MANAGEMENT AND ANALYSIS**

Data was collected using structured questionnaires from 20 June 2014 to 30 September 2014. Data entry forms were created using SPSS version 16.0 and Microsoft Excel 2013. Data was then entered on the data entry forms for analysis. Descriptive statistics was used to describe the characteristics of the sample from which the data was collected. Graphs, pie charts and tables were used to show a visual presentation of the findings of the study.

## **4.3 RESEARCH RESULTS**

Questionnaires were distributed to nurse-midwives working in the health facilities of Thaba-Tseka district. After signing the consent form indicating their willingness to participate in the study, the nurse-midwives filled the questionnaire. The signed consent forms were separated from the filled questionnaires to ensure anonymity. A total of 45 nurse-midwives completed questionnaires at their places of work and returned them to the researcher between June 2014 and September 2014. This indicates a response rate of 69.2% based on the estimated number of 65 nurse-midwives.

### **4.3.1 Sample characteristics**

This section covered the participants' demographic information which includes the participant's age, sex, education, years of experience as a nurse-midwife, nursing school or university attended and work setting.

#### **4.3.1.1 Participants' ages**

The age of the participants ranged from 21 to 50 years and above. The majority of the participants (n=29, 64.4%) fell in the 21 to 30 years age group and only one (2.2%) was above 50 years of age. This indicates that the majority of nurse-midwives in Thaba-Tseka district were young adults as indicated in Table 4.1.

<b>TABLE 4.1: AGE OF PARTICIPANTS AT THE TIME OF FILLING THE QUESTIONNAIRE (N = 45)</b>		
<b>AGE RANGE</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
21-30 years	29	64.4%
31-40 years	12	26.7%
41-50 years	3	6.7%
50 years and above	1	2.2%
<b>TOTAL</b>	<b>45</b>	<b>100%</b>

#### **4.3.1.2 Participants' sex**

Females made up the larger percentage of nurse-midwives in Thaba-Tseka district. Of the 45 participants, 39 (86.7%) were females and only six (13.3%) were males (Table 4.2).

<b>TABLE 4.2: SEX OF PARTICIPANTS (N = 45)</b>		
<b>SEX</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Male	6	13.3%
Female	39	86.7%
<b>TOTAL</b>	<b>45</b>	<b>100%</b>

#### **4.3.1.3 Educational level of participants**

The majority (n=34, 75.6%) of participants had a Diploma in Nursing and Midwifery and 10 (22.2%) had a degree in Nursing and Midwifery. Only one (2.2%) of the participants did not respond to this question (Table 4.3).

<b>TABLE 4.3: THE EDUCATIONAL LEVEL OF PARTICIPANTS (N = 45)</b>		
<b>EDUCATIONAL LEVEL</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Diploma in Nursing and Midwifery	34	75.6%
Degree in Nursing and Midwifery	10	22.2%
Missing	1	2.2%
<b>TOTAL</b>	<b>45</b>	<b>100%</b>

#### **4.3.1.4 Participants' years of experience working as a nurse-midwife**

Most of the participants (n=18, 40%) had 2 years or below of experience whereas 17(37.8%) had between 3 and 5 years working experience. Less than a quarter (n=6, 13.3%) had between 6 to 10 years and four (8.9%) had 11 years and above of work experience. The results indicate that the majority of nurse-midwives working in Thaba-Tseka district of Lesotho have relatively less experience in the nursing and midwifery professions (Table 4.4).

<b>TABLE 4.4: YEARS OF EXPERIENCE (N = 45)</b>		
<b>YEARS OF EXPERIENCE</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Less than 2 years	18	40.0%
3 -5 years	17	37.8%
6 -10 years	6	13.3%
11 years and above	4	8.9%
<b>TOTAL</b>	<b>45</b>	<b>100%</b>

#### **4.3.1.5 Nursing school or University attended**

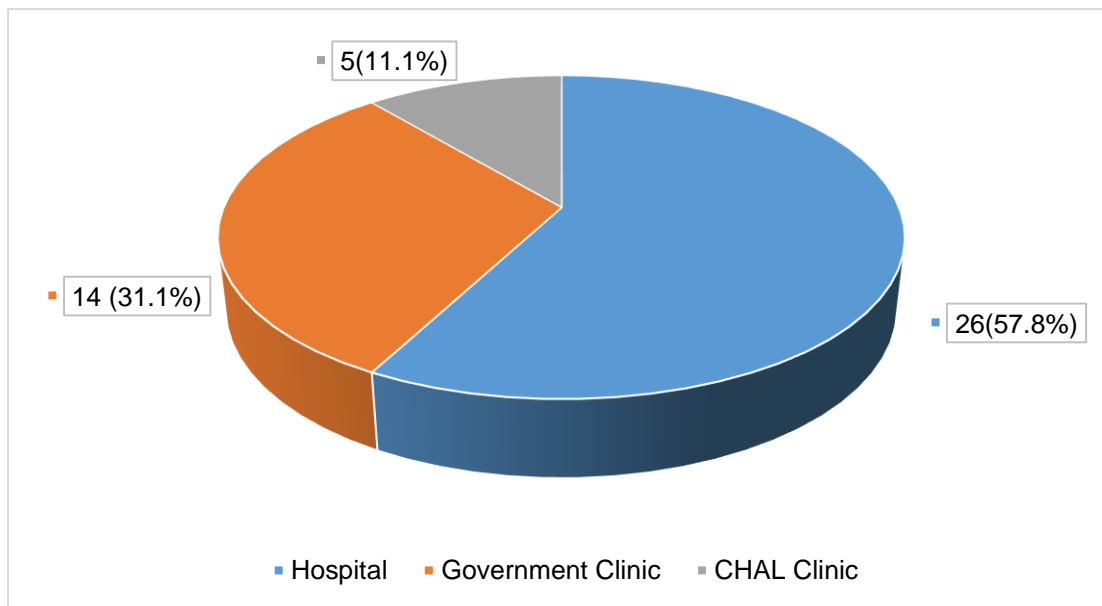
The nurse–midwives were requested to indicate the last nursing school or university in which they were trained as nurse-midwives. Nurse-midwives who trained at Roma College of Nursing made the highest number (n=16, 35.6%) and three (6.7%) were trained outside of Lesotho. The results indicate that there is a representation from most of the nursing and midwifery training schools in Lesotho amongst nurse-midwives in Thaba-Tseka district of Lesotho (Table 4.5).

<b>TABLE 4.5: SCHOOL OR UNIVERSITY ATTENDED ( N = 45)</b>		
<b>NURSING SCHOOL/UNIVERSITY</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Maluti School of Nursing	4	8.9%
National Health Training College	6	13.3%
National University of Lesotho	9	20.0%
Roma College of Nursing	16	35.6%
Scott School of Nursing	7	15.6%
Other*	3	6.7%
<b>TOTAL</b>	<b>45</b>	<b>100%</b>

\*These participants attended a Nursing school/University outside Lesotho

#### **4.3.1.6 Work setting**

Of the 45 participants who filled and returned the questionnaires, 26(57.8%) were working at a hospital setting, 14(31.1%) were working at a government clinic and five (11.1%) were working at Christian Health Association of Lesotho (CHAL) clinics at the time of filling the questionnaire (figure 4.1).



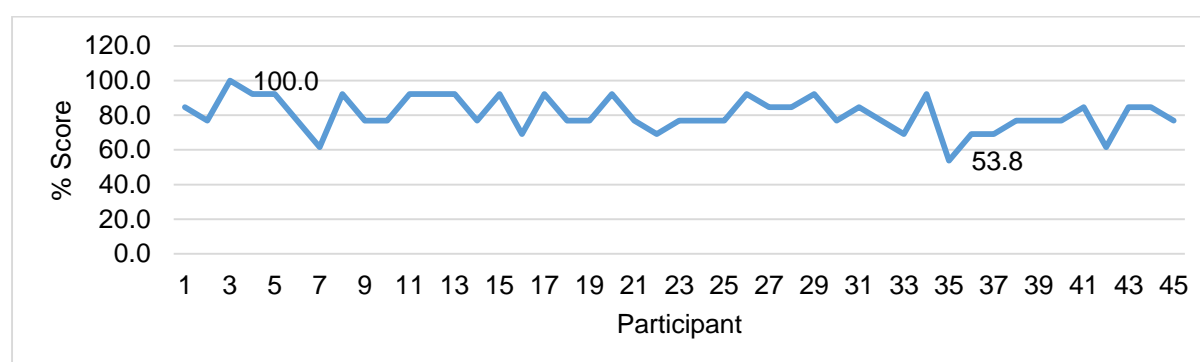
**FIGURE 4.2 THE PERCENTAGE DISTRIBUTION OF PARTICIPANTS IN TERMS OF WORK SETTING (N = 45).**

#### ***4.3.1.7 Summary of demographic data***

In this section, the discussion of findings on participants' age, sex, education, years of experience as nurse-midwives, nursing school or university attended and work setting was done. The majority of the participants were within the 21 to 30 age range (n= 29, 64.4%) and were mostly females (n=39, 86.7%). A large number of participants (n=34, 75.4%) had a Diploma in Nursing and Midwifery, and most of them (n= 26, 57.8%) were working in the hospitals in Thaba-Tseka District. There was variation in terms of years of work experience as a nurse-midwife and schools/universities attended by the participants as 18(40%) of them had less than 2 years of experience.

### 4.3.2 Knowledge of nurse midwives on obstetric care

The following section describes participants' reported performance on the individual knowledge questions. Thirteen questions on participants' knowledge in obstetric care were asked. A score of one for correct and zero for incorrect answers were given. The mean score of knowledge questions was 10.5(80.7%) out of a possible 13(Standard deviation (SD) 1.31). The highest score was 13(100.0%) and the lowest 7(53.8%). Graph 4.1 below shows the distribution of the total knowledge score amongst the participants for the 13 questions.



**GRAPH 4.1: DISTRIBUTION OF KNOWLEDGE SCORE**

Performance of the participants on knowledge pertaining to ante-natal care(ANC), labour and delivery care, post-natal care, infant feeding and PMTCT are discussed in the section below.

#### 4.3.2.1 Knowledge of nurse-midwives on antenatal care

Questions related to nurse-midwives' knowledge in comprehensive ANC assessment, minimum number of ANC visits, haemoglobin level to detect anaemia and common foetal positions were asked. Table 4.6 shows the participants' performance on the knowledge questions related to antenatal care.



**TABLE 4.6: FREQUENCY DISTRIBUTION OF NURSE-MIDWIVES KNOWLEDGE ON ANTENATAL CARE (N = 45)**

	FREQUENCIES AND PERCENTAGE			
	Correct Answers	Incorrect Answers	Missing/No Response	Totals
1. Minimum number of ANC visits	41(91.1%)	4(8.9%)	0(0%)	45(100%)
2. Haemoglobin level to detect anaemia	41(91.1%)	1(2.2%)	3(6.7%)	45(100%)
3. Comprehensive ANC assessment	32(71.1%)	11(24.4%)	2(4.4%)	45(100%)
4. Determination of foetal positions	32(71.1%)	12(26.7%)	1(2.2%)	45(100%)
5. Common foetal positions	30(66.7%)	15(33.3%)	0(0%)	45(100%)

#### *4.3.2.1.1 Minimum number of ANC visits*

The WHO recommends a minimum number of four visits for all pregnant women during antenatal care. Almost all (n=41, 91.1%) of the 45 participants answered correctly the question on minimum number of ANC visits and less than a tenth (n=4, 8.9%) answered incorrectly (Table 4.6).

#### *4.3.2.1.2 Haemoglobin level to detect anaemia*

Nurse-midwives are expected to know the level of haemoglobin in order to diagnose and provide treatment for anaemia early. A haemoglobin level of 11 grams per decilitre or below indicates anaemia according to WHO (Pavord, Myers, Robinson, Allard, Strong & Oppenheimer 2011:4). Most of the participants (n=41, 91.1%) answered correctly and only one (2.2%) answered incorrectly to this question. Three (6.7%) of the 45 participants did not respond to the question.

#### ***4.3.2.1.3 Comprehensive ANC assessment***

Most (n=32, 71.1%) of the participants provided correct answers on questions related to comprehensive ANC assessment. Almost a quarter (n=11, 24.4%) provided wrong answers and only two (4.4%) of the participants did not answer the question (Table 4.6).

#### ***4.3.2.1.4 Determination of foetal positions***

Determination of foetal positions in the antenatal care period is important if nurse-midwives are to predict the possibility of a risk pregnancy. Almost three quarters (n=32, 71.1%) of the 45 participants answered correctly, above a quarter (n=12, 26.7%) answered incorrectly and only one (2.2%) did not respond to the question relating to the determination of foetal position (Table 4.6).

#### ***4.3.2.1.5 Common foetal positions***

On the question relating to the common foetal positions, 30 (66.7%) of the 45 participants answered correctly and above a third (n=15, 33.3%) answered incorrectly (Table 4.6).

#### ***4.3.2.2 Knowledge of nurse-midwives on labour and delivery***

Table 4.7 shows the participants' performance on the knowledge questions related to labour and delivery. Questions related to nurse-midwives' knowledge on foetal heart rate, characteristics of second stage of labour, stages of labour divided into latent and active phases and management of eclampsia were asked.

TABLE 4.7: FREQUENCY DISTRIBUTION OF KNOWLEDGE OF NURSE-MIDWIVES (N = 45)				
	FREQUENCIES AND PERCENTAGE			
	Correct Answers	Incorrect Answers	Missing/No Response	Totals
1. Foetal heart rate	44(97.8%)	1(2.2%)	0(0%)	45(100%)
2. Characteristics of second stage of labour	40(88.9%)	5(11.1%)	0(0%)	45(100%)
3. Stages of labour divided into latent and active phases	36(80%)	9(20%)	0(0%)	45(100%)
4. Management of eclampsia	31(68.9%)	11(24.4%)	3(6.7%)	45(100%)

#### 4.3.2.2.1 Foetal heart rate

Almost all (n=44, 97.8%) of the participants answered correctly and only one (2.2%) answered incorrectly the question on the normal range of the foetal heart rate (Table 4.7).

#### 4.3.2.2.2 Characteristics of second stage of labour

It is important that nurse-midwives know about the characteristics of the second stage of labour and hence correctly manage women in this stage. Knowledge of the characteristics of second stage of labour will enable them detect and avert complications such as foetal asphyxia, obstructed labour and deteriorating or new maternal hypertensive conditions. A majority (n=40, 88.9%) of the participants correctly identified the characteristics of the second stage of labour and 5 (11.1%) could not identify them (see Table 4.7).

#### ***4.3.2.2.3 Phases of first stage of labour divided into latent and active phases***

Nurse-midwives' knowledge of the first stage of labour will enable them determine when to initiate monitoring of labour using a partograph. On the question relating to the phases of the first stage of labour, 36 (80%) of the participants responded correctly and 8(17.8%) provided wrong answers. Only one participant (2.2%) did not respond to this question (see Table 4.7).

#### ***4.3.2.2.4 Management of eclampsia***

Eclampsia is regarded as a major cause of morbidity and mortality in women who are delivering and those who have just delivered worldwide. It is important that nurse-midwives have knowledge about management of eclampsia. On the question relating to the management of eclampsia, above two thirds (n=31, 68.9%) answered the question correctly and under a quarter (n=11, 24.4%) answered incorrectly. A minority (n=3, 6.7%) of the participants did not answer the question on eclampsia (see Table 4.7).

#### ***4.3.2.3 Knowledge of nurse-midwives on post-natal care***

Table 4.8 shows the participants' performance on their knowledge related to post-natal care. Questions related to nurse-midwives' knowledge on indicators for the delivery of the placenta and active management of the third stage of labour were asked.

TABLE 4.8: FREQUENCY DISTRIBUTION OF KNOWLEDGE OF NURSE-MIDWIVES (N = 45)				
	FREQUENCIES AND PERCENTAGE			
	Correct Answers	Incorrect Answers	Missing/No Response	Totals
1. Indicators for the delivery of the placenta	40(88.9%)	4(2.2%)	1(2.2%)	45(100%)
2. Active management of the third stage of labour	17(37.8%)	28(62.2%)	0(0%)	45(100%)

#### *4.3.2.3.1 Indicators for the delivery of the placenta*

On the question relating to the indicators for the delivery of the placenta 40, (88.9%) of the participants answered correctly, four (8.9%) answered incorrectly and one (2.2%) did not answer.

#### *4.3.2.3.2 Active management of the third stage of labour*

The active management of third stage of labour is an important intervention that is recommended by the WHO and FIGO as it is effective in the prevention of post-partum haemorrhage (Stanton et al 2009:1). A majority of the participants (n=28, 62.2%) answered incorrectly the question on the active management of the third stage of labour. Less than a quarter (n=17, 37.8%) of the participants correctly identified the three WHO-recommended procedures for the active management of the third stage of labour.

#### 4.3.2.4 Knowledge of nurse-midwives on infant feeding and PMTCT

Nurse-midwives' knowledge on infant feeding is important as they are expected to educate mothers on how to feed their babies and aim at prevention of mother-to-child transmission of HIV. Table 4.9 shows the participants' performance on the knowledge questions related to infant feeding and PMTCT.

TABLE 4.9:FREQUENCY DISTRIBUTION OF KNOWLEDGE OF NURSE-MIDWIVES ON INFANT FEEDING AND PMTCT (N = 45)				
	FREQUENCIES AND PERCENTAGE			
	Correct Answers	Incorrect Answers	Missing/No Response	Totals
1. Infant feeding	40(88.9%)	4(2.2%)	1(2.2%)	45(100%)
2. PMTCT guidelines	43(95.6%)	2(4.4%)	0(0%)	45(100%)

##### 4.3.2.4.1 Infant feeding

Nurse-midwives must support women on their choices of infant feeding during the perinatal period. On the question about infant feeding, 40 (88.9%) answered the question correctly and only four (8.9%) answered incorrectly. Only one (2.2%) of the participants did not respond to this question.

##### 4.3.2.4.2 PMTCT guidelines

Lesotho is currently implementing the WHO-recommended Option B plus PMTCT strategy. In the guideline, it is recommended that all women who are HIV-positive and are pregnant should be initiated on Highly Active Antiretroviral Therapy (HAART). Most of the participants (n=43, 95.6%) answered the question correctly on PMTCT and only 2 (4.4%) answered incorrectly.

#### ***4.3.2.5 Discussion on nurse midwives' knowledge on obstetric care during ante natal, labour and delivery and post-natal care***

The research results mean score of knowledge on obstetric care was 10.5(80.7% against a possible of 13 (SD 1.31) The results also show that less than a quarter of the participants do not have enough knowledge on when comprehensive assessment is to be done during antenatal care, the correct management of eclampsia, the common foetal positions, the determination of foetal position and the active management of the third stage of labour. The majority of the nurse-midwives (n=28, 62.2%) did not know the three actions involved in the management of the third stage of labour, that is, administration of an uterotonic drug, cord clamping and cutting and controlled cord traction. Instead of cord clamping and cutting, participants chose placenta examination. Approximately a quarter (n=11, 24.4%) of the participants incorrectly answered the question on management of eclampsia.

The results of this study corroborate with a study conducted in Cambodia which found that healthcare professionals including nurses, midwives and doctors' practices were not all the time consistent with evidence-based criteria (Ith, Dawson, Homer & Whelan 2013:305). The same study reports incorrect use of uterotonics and poor compliance with the three elements of the active management of the third stage of labour. Senior midwives were concerned about the active management of the third stage of labour that it causes retention of the placenta. Hence, they believed that the physiologic management of waiting for 30 minutes after the baby is born was safe and effective (Ith et al 2013:305).

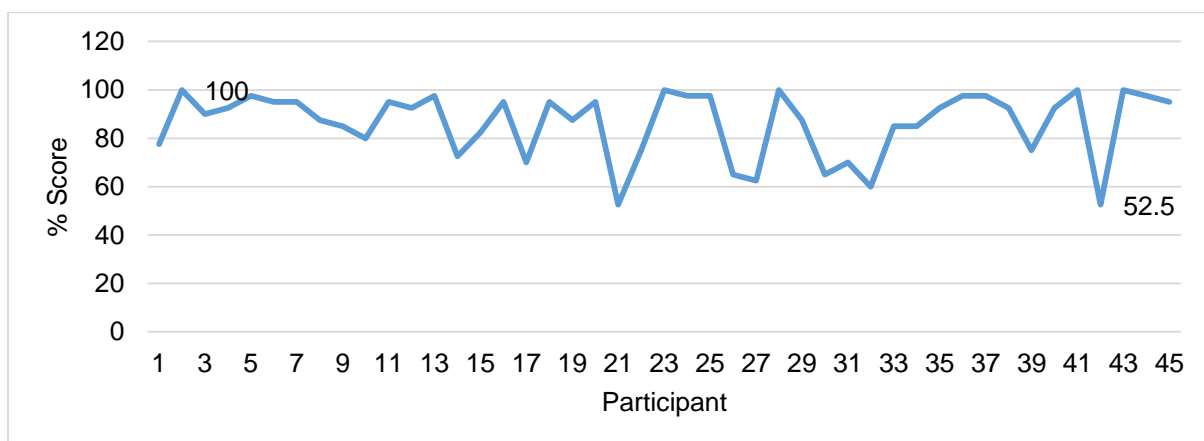
These results are also consistent with a United Nations Development Project (UNDP) report that 12% of the direct causes of maternal mortality in Lesotho are caused by pre-eclampsia and eclampsia and seven percent is caused by haemorrhage (United Nations Development Programme (UNDP) 2012:1). A study which was conducted by Rashied and Ali (2010:10) to assess knowledge and practices of nurse-midwives related to the second stage of labour showed high mean score for knowledge, whereas the mean score for practices were low.

### 4.3.3 Nurse-midwives' obstetric care practice

The following section describes the participants' reported performance on selected obstetric care practices. Questions relating to nurse-midwives' obstetric care practice were divided into three parts consisting of antenatal care, labour and delivery and postnatal care. Participants were requested to rate themselves on their ability to carry out certain obstetric care practices on a scale between being **excellent** to **below average** for each of the three parts. The participants were scored as follows, depending on their choice: Excellent - 4; very good - 3; good - 2; average -1 and below average - 0.

#### 4.3.3.1 Nurse-midwives' reported ability to carry out obstetric care practices during antenatal period

Participants were asked to respond to questions that required them to rate themselves in terms of their ability on 10 antenatal care practices. The mean score on the practice questions related to antenatal care was 34.5 (86.2%) against a possible score of 40 (SD 5.43). The highest score was 40(100.0%) and the lowest score was 21(52.5%). Graph 4.2 shows the distribution of the total score on 10 antenatal care practice questions amongst the participants.





#### GRAPH 4.2: DISTRIBUTION OF SCORES RELATED TO ANTENATAL CARE PRACTICE QUESTIONS

The following describes participants' reported performance on the individual antenatal care practices.

##### 4.3.3.1.1 Assessment of foetal status

Table 4.10 shows the participants' reported ability to carry out practices during antenatal care. This subsection presents the practices of nurse-midwives related to the assessment of foetal status namely, assessment of foetal heart rate, fundal height measurement, abdominal palpation and assessment of foetal movements.

TABLE 4.10: NURSE MIDWIVES' SELF-RATING ON ASSESSMENT OF FOETAL STATUS(N = 45)						
Obstetric Practice	Care	FREQUENCIES AND PERCENTAGES OF SELF-RATING SCORES				
		Excellent	Very good	Good	Average	Below average
1. Foetal heart rate		41(91.1%)	3(6.7%)	1(2.2%)	0(0%)	0(0%)
2. Fundal Height		40(88.9%)	4(8.9%)	1(2.2%)	0(0%)	0(0%)
3. Abdominal palpation		36(80.0%)	7(15.6%)	2(4.4%)	0(0%)	0(0%)
4. Foetal movements		30(66.7%)	11(24.4%)	1(2.2%)	0(0%)	0(0%)

- *Foetal heart rate*

Ability to check the foetal heart rate during the antenatal phase is an important practice for nurse-midwives.

In relation to the question on assessment of foetal heart rate, 41(91.1%), three(6.7%) and one(2.2%) participant/s rated themselves as being excellent, very good and good respectively.

- *Fundal Height*

Checking of the symphysio-fundal height during the antenatal care period assists to determine the progression of the pregnancy and age of the pregnancy. Of the 45 participants 40(88.9%),four(8.9%) and one(2.2%) rated themselves as being excellent, very good and good respectively in terms of ability to carry out fundal height measurement during antenatal care.

- *Abdominal palpation*

Abdominal palpation of a pregnant woman during antenatal care is one of the important skills that nurse-midwives should be familiar with. Of the 45 participants 36(80%), seven(15.6%) and two( 4.4%) rated themselves as being excellent, very good and good respectively with respect to abdominal palpation.

- *Foetal movements*

With respect to foetal movement assessment 30(66.7%), 11(24.4%) and only one (2.2%) participants rated themselves as being excellent, very good and good

respectively. Three (6.7%) participants' questionnaires had missing responses for this question.

#### 4.3.3.1.2 Care of pregnant women who are HIV positive

Table 4.11 shows the participant nurse-midwives' reported ability to carry out obstetric practices during antenatal care. These were practices related to the care of pregnant women who are HIV positive including initiation and monitoring of HIV positive women on HAART, HIV testing and counselling and treatment of opportunistic infections.

TABLE 4.11: NURSE-MIDWIVES' SELF-RATING ON CERTAIN OBSTETRIC CARE PRACTICES DURING ANTENATAL CARE (N = 45)							
Obstetric Practice	Care	FREQUENCIES AND PERCENTAGES OF SELF-RATING SCORES					
		Excellent	Very good	Good	Average	Below average	Totals
1.Initiation and monitoring of HIV positive women on HAART		30(66.7%)	9(20%)	1(2.2%)	3(6.7%)	2(4.4%)	45(100%)
2.HIV testing and counselling		26(57.8%)	9(20%)	4(8.9%)	2(4.4%)	1(2.2%)	42(93.3%)
3.Treatment of opportunistic infections		17(37.8%)	18(40.0%)	5(11.1%)	4(8.9%)	1(2.2%)	45(100%)

- *Initiation and monitoring of HIV positive women on HAART*

Initiating and monitoring HIV positive pregnant women on HAART is one skill that is practised by nurse-midwives in Lesotho. Participants had varied responses, with 30(66.2%), 9(20%), one(2.2%), three(6.7%) and two(4.4%) rating themselves as

being excellent, very good, good, average and below average respectively in relation to initiating women on Highly Active antiretroviral therapy(HAART).

- *HIV testing and counselling*

In terms of voluntary counselling and testing(VCT) for HIV, 26(57.8%), nine(20%), four(8.9%), two(4.4%) and one (2.2%) of the participants rated themselves as being excellent, very good, good, average and below average respectively. Three(6.7%) of the 45 participants did not respond to the question relating to VCT.

- *Treatment of opportunistic infections*

HIV positive women who are pregnant are at risk of developing opportunistic infections such as tuberculosis, pneumonia, skin conditions, bacterial vaginitis and others. Nurse-midwives in Lesotho's practice includes identifying, treating and appropriately referring pregnant women with opportunistic conditions. With respect to ability to treat opportunistic infections in pregnant women, 17(37.8%), 18 (40%), five (11.1%), four (8.9%) and only one (2.2%) participant/s rated themselves as being excellent, very good, good, average and below average respectively.

#### 4.3.3.1.3 Other obstetric care practices in the antenatal period

<b>TABLE 4.12: NURSE-MIDWIVES' SELF-RATING ON CERTAIN OBSTETRIC CARE PRACTICES DURING ANTENATAL CARE PERIOD (N = 45)</b>						
Obstetric Care Practice	<b>FREQUENCIES AND PERCENTAGES OF SELF-RATING SCORES</b>					
	Excellent	Very good	Good	Average	Below average	Totals
1. Maternal assessment	29(64.4%)	11(24.4%)	2(4.4%)	2(4.4%)	1(2.2%)	45(100%)
2. Maternal nutrition in relation to foetal growth	24(53.3%)	16(35.6%)	3(6.7%)	1(2.2%)	1(2.2%)	45(100%)
3. Treatment of Genital tract infections	19(42.2%)	18(40.0%)	5(11.1%)	3(6.7%)	0(0%)	45(100%)

- *Maternal assessment*

For maternal assessment during antenatal care, 29(64.4%),11(24.2%), two(4.4%), two( 4.4%) and only one(2.2%) of the participants rated themselves as being excellent, very good, good, average and below average respectively.

- *Maternal nutrition in relation to foetal growth*

The Lesotho Obstetric care record book allows for nurse-midwives to assess and plot foetal growth during antenatal care (MOHSW [Sa]:5). Nurse-midwives can compare this with the pregnant woman's nutritional status indicators. For assessment of maternal nutrition in relation to foetal growth, 24(53.3%),16(35.6%), three(6.7%), one(2.2%) and one(2.2%) of the participant/s rated themselves as being excellent, very good, good, average and below average respectively.

- *Treatment of Genital tract infections*

Screening for and treating genital tract infections in pregnant women is an important practice of nurse-midwives in Lesotho.

In relation to treatment of genital tract infection in pregnant women, above three quarters of the participants rated themselves as being excellent and very good being distributed as nine(42.2%) for excellent and 18(40%) for very good. Participants that rated themselves as being good and average for treatment of genital tract infections were five(11.1%) and three(6.7%) respectively.

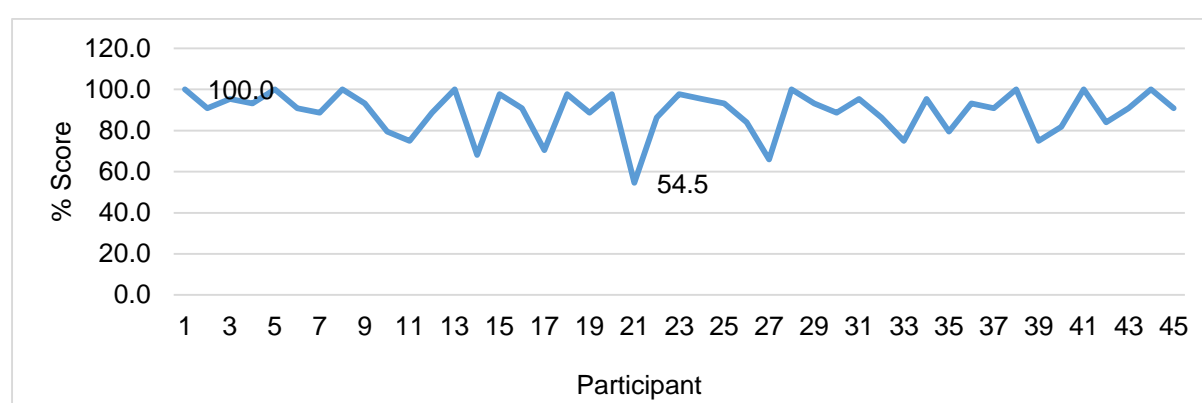
#### *4.3.3.1.4 Discussion on nurse-midwives' reported ability to carry out obstetric care practices related to antenatal care*

The research results showed that a majority of the participants reported themselves as being good, very good and excellent in relation to antenatal care obstetric practices. The mean score on the practice questions related to antenatal care was 34.5 (86.2%) against a possible score of 40 (SD 5.43). For the practices that related to foetal heart rate measurement, fundal height measurement, abdominal palpation and foetal movements, no participants rated themselves as average or below average.

For obstetric practices related to care of HIV positive pregnant women, 13(28.9%) participants rated themselves as being average or below average on one or more of the three practices. These included initiation and monitoring of pregnant women on HAART, HIV testing and counselling and treatment of opportunistic infections. For the other practices related to antenatal care such as maternal assessment, assessment of foetal growth and treatment of genital infections, a majority of participants rated themselves as good, very good and excellent. These results are in contrast with literature that argues that antenatal care that is rendered by nurse-midwives need to be improved, is done in less time than required and certain basic components of antenatal care such as blood pressure checks and specimen collection are omitted (Patil et al 2013:1191; Manithip, Edin, Sihavong, Wahlstrom & Wessel 2013:201). Another study showed that healthcare providers failed to intervene for known risk factors as well as complications of pregnancy. Between 20 to 25 per cent of patients who were diagnosed with sexually transmitted infections, urinary tract infections and gestational diabetes had no record of receiving treatment. Documentation was done on routine tests but problems were not managed adequately or not at all (Bar-Zeeva, Barclay, Kruske & Kildea 2014: 291-293).

#### 4.3.3.2 Nurse-midwife's reported ability to carry out obstetric care practices during labour and delivery

The mean score on the practice questions related to care during labour and delivery was 39.2 (89%) against a possible score of 44 (SD 4.66). The highest score was 44(100.0%) and the lowest score was 24(54.5%). The graph 4.3 shows the distribution of the total score on 11 labour and delivery practice questions amongst the participants.



**GRAPH 4.3: DISTRIBUTION OF SCORES RELATED TO LABOUR AND DELIVERY PRACTICE QUESTIONS**

The following describes participants' reported performance on the individual labour and delivery practices.

##### 4.3.3.2.1 Partogram use and management of eclampsia

A partogram is a pre-printed paper on which labour observations are recorded.

It helps in noticing slow progress of labour, determining when to introduce appropriate interventions in prolonged and obstructed labour. The World Health Organisation recommends the utilisation of the partogram (Lavender, Hart & Smyth 2013:3; Yisma, Dessalegn, Astatkine & Fesseha 2013:2).

In Lesotho, partograph use is recognised and it is part of the Lesotho Obstetric Record booklet that is used by health care personnel for recording details of pregnant women (MOHSW[Sa]:16-17).

Table 4.12 shows the frequencies and percentages of participants who rated their ability in terms of caring out obstetric care practices during care of a woman labour and delivery including using the partograph to monitor maternal vital signs and management of eclampsia.

<b>TABLE 4.13: NURSE-MIDWIVES' SELF-RATING ON CERTAIN OBSTETRIC CARE PRACTICES DURING LABOUR AND DELIVERY (N = 45)</b>						
Obstetric Care Practice	FREQUENCIES AND PERCENTAGES OF SELF-RATING SCORES					
	Excellent	Very good	Good	Average	Below average	Totals
Partogram use- Maternal vital signs	40(88.9%)	5(11.1%)	0(0%)	0(0)	0(0%)	45(100%)
Management of eclampsia	10(22.2%)	21(46.7%)	12(26.7%)	2(4.4%)	0(0%)	45(100%)

- *Partogram use-Maternal vital signs*

Nurse-midwives are expected to record maternal vital signs when they are monitoring the mother during labour using the partogram. A majority of participants (n=40, 88.9%) rated themselves as being excellent and five (11.1%) rated themselves as very good in relation to maternal vital signs.

- *Management of eclampsia*

Eclampsia is one of the important causes of maternal deaths related to pregnancy and childbirth. Nurse-midwives are expected to be able to manage eclampsia in pregnancy and childbirth. Above a fifth of participants (n=10, 22.2%) rated themselves as excellent and 21(46.7%), 12(26.7%) and two (4.4%) rated themselves as very good, good and average respectively.



#### 4.3.3.2.2 Using the partogram to monitor the condition of the foetus

Table 4.13 shows the frequencies and percentages of participants who rated their ability in terms of caring out obstetric care practices during labour and delivery including the use of a partogram to monitor the condition of the foetus.

<b>TABLE 4.14: NURSE MIDWIVES' SELF-RATING ON CERTAIN OBSTETRIC CARE PRACTICES DURING LABOUR AND DELIVERY (N = 45)</b>						
Obstetric Care Practice	FREQUENCIES AND PERCENTAGES OF SELF-RATING SCORES					
	Excellent	Very good	Good	Average	Below average	Totals
<b>Partogram use : Foetal assessment:</b>						
Foetal heart rate	41(91.1%)	4(8.9%)	0(0%)	0(0%)	0(0%)	45(100%)
Amniotic fluid assessment	23(51.1%)	13(28.9%)	7(15.6%)	2(4.4%)	0(0%)	45(100%)
Moulding	22(48.9%)	16(35.6%)	7(15.6%)	0(0%)	0(0%)	45(100%)

- *Foetal heart rate*

Assessment of the foetal heart rate and recording it on the partogram is one of the most crucial interventions in the care of pregnant women and women in labour. Almost all participants (n= 41, 91.1%) rated themselves as excellent in relation to foetal heart rate assessment and only four (8.9%) of the participants rated themselves as very good in relation to foetal heart rate assessment.

- *Amniotic fluid assessment*

Assessment of the amniotic fluid status will enable the nurse-midwife to evaluate the foetal well-being during labour. In relation to amniotic fluid assessment and recording on the partogram, 23(51.1%), 13(28.9%), seven (15.6%) and two (4.4%) participants rated themselves as excellent, very good, good and average.

- *Moulding*

Moulding is an important indication of how well the foetal head will be accommodated in the maternal pelvis. However, excessive foetal skull moulding might indicate cephalo-pelvic disproportion. Hence, nurse-midwives should be able to assess foetal moulding. With respect to checking and recording moulding on a partogram, 22(48.9%), 16(35.6%) and seven (15.6%) participants rated themselves as excellent, very good and good.

#### **4.3.3.2.3 Using the partogram for labour assessment**

The partogram is essential in guiding assessment of a woman during labour. It allows nurse-midwives to assess and record the strength of uterine contractions, foetal descent and cervical dilatation. Table 4.14 shows the frequencies and percentages of participants who rated their ability in terms of caring out obstetric care practices during labour and delivery including using the partogram for labour assessment.

<b>TABLE 4.15: NURSE-MIDWIVES' SELF-RATING ON CERTAIN OBSTETRIC CARE PRACTICES DURING LABOUR AND DELIVERY (N = 45)</b>						
Obstetric Care Practice	FREQUENCIES AND PERCENTAGES OF SELF-RATING SCORES					
	Excellent	Very good	Good	Average	Below average	Totals
<b>Partogram use: Labour assessment</b>						
Cervical assessment	35(77.8%)	8(17.8%)	1(2.2%)	1(2.2%)	0(0%)	45(100%)
Contractions assessment	35(77.8%)	8(17.8%)	2(4.4%)	0(0%)	0(0%)	45(100%)
Descent of the head	31(68.9%)	12(26.7%)	2(4.4%)	0(0%)	0(0%)	45(100%)

- *Cervical assessment*

The partogram allows for recording and tracking of cervical dilatation during labour.

Of the 45 participants the majority (n=35, 77.8%) rated themselves as being excellent, 17(17.8%), one(2.2%) and one(2.2%) rated themselves as being very good, good and average respectively for cervical assessment using a partogram.

- *Contractions assessment*

Assessment of contractions by the nurse-midwife and recording on a partogram assists to evaluate the progress of labour. The majority of participants (n=35, 77.8%) rated themselves as being excellent and eight (17.8%) and two (4.4%) rated themselves as being very good and good in relation to assessment of contractions.

- *Descent of the head*

Assessing and recording the extent of the descent of the foetal head during labour is an important practice for nurse-midwives to determine the progress of labour and expedite the detection of complications such as obstructed labour. In relation to assessment and documentation of the descent of the head, a majority of the participants (n= 35, 77.5%) rated themselves as excellent and the remaining 12(26.7%) and two (4.4%) rated themselves as very good and good.

#### *4.3.3.2.4 Other obstetric care practices during labour and delivery*

Labour and delivery marks an important period for the woman and nurse-midwives as it, to a larger extent, determines the outcome of the pregnancy. Nurses are required to be vigilant and prompt in their interventions during this critical period. Table 4.15 shows the frequencies and percentages of participants who rated their ability in terms of caring out obstetric care practices during labour and delivery which includes delivery of the baby, cutting and repairing of an episiotomy and the use of oxytocin and antibiotics when indicated.

**TABLE 4.16: NURSE-MIDWIVES' SELF-RATING ON CERTAIN OBSTETRIC CARE PRACTICES DURING LABOUR AND DELIVERY (N = 45)**

Obstetric Care Practice	FREQUENCIES AND PERCENTAGES OF SELF-RATING SCORES					
	Excellent	Very good	Good	Average	Below average	Totals
Delivery of the baby	35(77.8%)	8(17.8%)	1(2.2%)	1(2.2%)	0(0%)	45(100%)
Cutting of episiotomy and repair of an episiotomy/tear	32(71.1%)	8(17.8%)	3(6.7%)	2(4.4%)	0(0%)	45(100%)
Use of oxytocin and antibiotics when indicated	30(66.7%)	12(26.7%)	3(6.7%)	0(0%)	0(0%)	45(100%)

- *Delivery of the baby*

Nurse-midwives are recommended to carry out a controlled delivery of the head, shoulders and the rest of the body during the second stage of labour. Of the 45 participants, 35(77.8%), 8(17.8%), one(2.2%) and one(2.2%) rated themselves as excellent, very good, good and average with respect to delivery of the baby respectively.

- *Cutting of episiotomy and repair of an episiotomy/tear*

An episiotomy is a surgical incision made on the perineum in case of a complicated delivery to increase the size of the introitus (Wilhelm 2009:99). Nurse-midwives should be able to cut and repair an episiotomy, including tears, appropriately when required. A majority of the participants (n=32, 71.1%) rated themselves as being excellent with respect to cutting and repairing of an episiotomy/tears. The rest included 8(17.8 %%), 3(6.7%) and 2(4.2%) who rated themselves as very good, good and average.

- *Use of oxytocin and antibiotics when indicated*

In relation to the use of oxytocin and antibiotics when indicated, almost two thirds (66.7%, n=30), of the participants rated themselves as being excellent.

The remaining one third was distributed among 12(26.7%) participants who rated themselves as being very good and three (6.7%) who rated themselves as good.

#### ***4.3.3.2.5 Discussion on nurse-midwives' reported ability to carry out obstetric care practices related to labour and delivery***

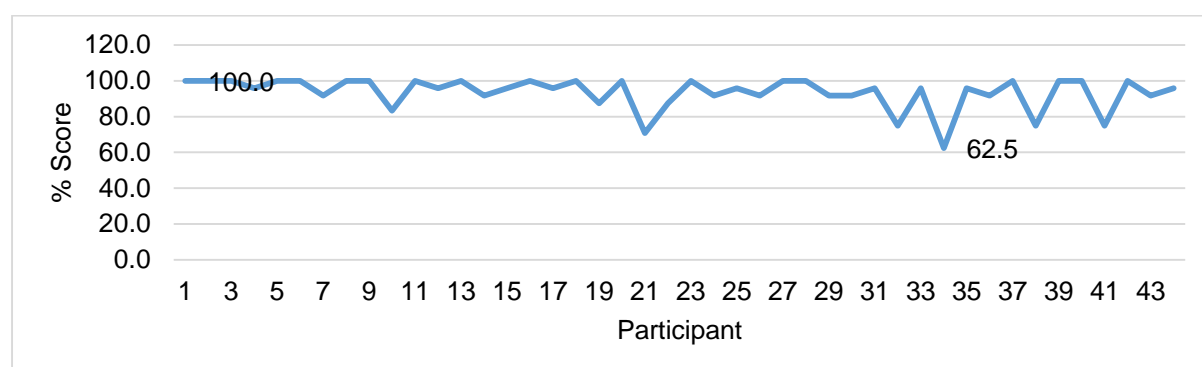
The research results showed that a majority of the participants reported themselves as being good, very good and excellent in relation to labour and delivery obstetric practices. A majority of the participants rated themselves as being good, very good and excellent in relation to use of the partogram to check, record maternal vital signs and to manage eclampsia. Only one participant rated himself/herself as average in relation to the management of eclampsia. The trend was the same for practices related to partogram use to assess the foetus and labour as well as other obstetric practices in labour. These research results contradict other studies that showed evidence of ineffective practices during labour and delivery among healthcare workers (Conde-Agudelo, Rosas-Bermudze & Gulmezoglu 2008:1554).

Another study done to assess nurse-midwives' knowledge and practices related to the second stage showed low mean scores related to practices which is in contrast to the results of this study (Rashied & Ali 2010:10).

#### ***4.3.3.3 Nurse-midwives' reported ability to carry out obstetric care practices during post-natal period***

The mean score on the practice questions related to post-partum care was 22.4 (93.3%) against a possible score of 24 (SD 2.18). The highest score was 24(100.0%) and the lowest score was 15(62.5%). Forty-four participants attended to this section

and one participant skipped this section. Graph 4.4 below shows the distribution of the total score on 6 postnatal care practice questions amongst the participants.



**GRAPH 4.4: DISTRIBUTION OF SCORES RELATED TO POSTNATAL CARE PRACTICE QUESTIONS**

#### 4.3.3.3.1 Obstetric care practice during third stage of labour

Table 4.17 below describes participants' reported performance on the individual postnatal care practice which includes Apgar scoring, active management of the third stage of labour and estimation and recording of blood loss.

TABLE 4.17: NURSE-MIDWIVES' SELF-RATING ON CERTAIN OBSTETRIC CARE PRACTICES DURING POST-NATAL PERIOD (N = 45)							
Obstetric Practice	Care	FREQUENCIES AND PERCENTAGES OF SELF-RATING SCORES					
		Excellent	Very good	Good	Average	Below average	Totals
1. Apgar scoring		37(82.2) %	5(11.1%)	2(4.4%)	0(0%)	0(0%)	45(100%)
2. Active management of third stage of labour		35(77.8%)	9(20.0%)	0(0%)	0(0%)	0(0%)	45(100%)
3. Estimation and recording of blood loss		28(62.2%)	14(31.1%)	2(4.4%)	0(0%)	0(0%)	45(100%)

- *Apgar scoring*

Of the 45 participants, a majority (n=37, 82.2%) of the participants rated themselves as being excellent with respect to Apgar scoring. Participants who rated themselves as being very good and good in Apgar scoring, were five (11.1%) and two (4.4%) respectively.

- *Active management of third stage of labour*

Active management of the third stage of labour is the best practice recommendation for nurse-midwives to avoid excessive haemorrhage for women in the post-partum phase. A majority of the participants (n=35, 77.8%) rated themselves as being excellent and 9 (20%) rated themselves as being very good in relation to the active management of the third stage of labour.

- *Estimation and recording of blood loss*

Estimation of blood loss in the immediate post-partum phase is a very critical practice for nurse-midwives as it enables them to assess the status of a woman who has just delivered. With respect to the ability to estimate blood loss on a woman in the immediate post-partum, 28(62.2%), 14(31.1%) and two(4.4%) participants rated themselves as being excellent, very good and good respectively.

<b>TABLE 4.18: NURSE MIDWIVES' SELF-RATING ON CERTAIN OBSTETRIC CARE PRACTICES DURING POST-NATAL PERIOD (N = 45)</b>							
Obstetric Care Practice	<b>FREQUENCIES AND PERCENTAGES OF SELF-RATING SCORES</b>						
	<b>Excellent</b>	<b>Very good</b>	<b>Good</b>	<b>Average</b>	<b>Below average</b>	<b>Missing</b>	<b>Totals</b>
1. Take vital signs	39(86.7%)	4(8.9%)	1(2.2%)	0(0%)	0(0%)	1(2.2%)	45(100%)
2. Fundal height measurements	33(73.3%)	8(17.8%)	3(6.7%)	0(0%)	0(0%)	1(2.2%)	45(100%)
3. Placental examination	32(71.1%)	11(24.4%)	1(2.2%)	0(0%)	0(0%)	1(2.2%)	45(100%)

#### 4.3.3.3.2 Obstetric care practice in fourth stage of labour

- *Take vital signs*

Frequency counts for participants who rated themselves as being excellent, very good and good with respect to taking note of vital signs in the postpartum phase were distributed as 39(86.7%), four (8.9%) and one (2.2%) respectively.

- *Fundal height measurements*

Fundal height measurement is an important practice for nurse-midwives in the postpartum phase as it facilitates the assessment of uterine involution. Participants who rated themselves as excellent in relation to fundal height measurements were almost three quarters (n=33, 73.3%) of the 45 participants.

Participants who rated themselves as very good and good in relation to fundal height measurements were eight (17.8%) and three (6.7%) respectively.



- *Placental examination*

Placental examination is important in the immediate post-partum to detect any abnormalities. Participants' self-rating in relation to placenta examination was distributed as excellent for 32(71.1%), very good for 11(24.4%) and good for one (2.2%) respectively.

#### *4.3.3.3 Discussion on nurse-midwives' reported ability to carry out obstetric care practices related to post-natal care*

Frequencies and percentages of participants who rated their ability in terms of caring out 6 obstetric care practices during postnatal care were discussed above. All of the participants rated themselves as being between excellent and good for all of the procedures. None indicated being average or below average. There was one missing response to each of the 6 practices. This is explained by one participant who skipped the section/page on postpartum care.

The study findings are not consistent with a study by Warren, Abuya, Ndwiga and Njuki (2012: S257) in Kenya which showed that below a quarter of the 677 women were checked for vaginal bleeding post-delivery. Another study on the use of simulation training for obstetric procedures and emergencies was done. The study shows that there was lack of skills such as estimation of blood loss in women in the postnatal phase amongst health-care providers. It shows that participants including obstetricians and midwives underestimated blood loss by up to 50 to 60 per cent. The lack of competence in this skill was not related to participants' experience (Grundy, Siassakos, Crofts & Draycott 2010:325).

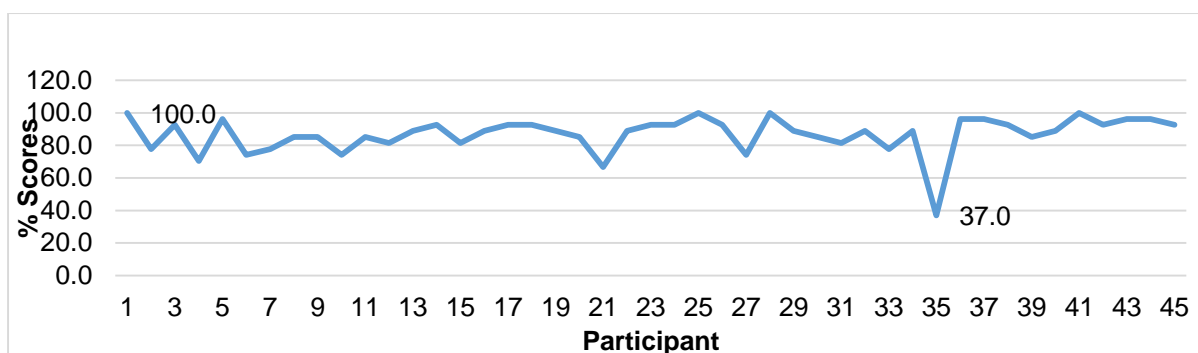
A review by Mpemba, Kampo and Zhang (2013:778) reports that there are disparities between health professionals in terms of abilities linked to visual blood estimation in the postpartum, recognition of risk factors and active management of third stage of labour.

#### 4.3.3.4 Discussion on nurse midwives' self-report on obstetric care practice

Responses for questions relating to practice for the three sections of antenatal care, labour and delivery and post-natal care indicate that the majority of the participants rated themselves as being between excellent and good in terms of the ability to carry out most of the procedures. The Literature supporting or refuting findings on each section was discussed.

#### 4.3.4 Nurse midwives' attitudes towards certain obstetric care aspects

Healthcare professional attitudes are very important determinants of quality of patient care and outcomes. Section D consisted of questions on the nurse-midwives' attitudes towards certain obstetric care aspects. This section had 9 positively worded statements to which participants had to rate themselves on a Likert scale. Participants had to respond on whether they **strongly agreed, agreed, disagreed or strongly disagreed** to the statement. The rating scale was measured as follows: Strongly agree-3; Agree-2; Disagree-1; Strongly disagree-0. The mean score on the attitude questions related to obstetric care was 23.4 (86.7%) against a possible score of 27 (SD 3.02). The highest score was 27(100.0%) and the lowest score was 10(37%). Graph 4.5 shows the distribution of the total score on attitude questions amongst the participants.



**GRAPH 4.5: DISTRIBUTION OF SCORES RELATED TO ATTITUDES TOWARDS OBSTETRIC CARE PRACTICES**

The following describes participants' reported performance on the individual attitude questions.

#### **4.3.4.1 Attitudes towards aspects of antenatal care**

Nurse-midwives' attitudes during antenatal care are imperative if pregnant women uptake of antenatal care services is to increase and be of benefit to women. Table 4.18 illustrates the participants' ratings of their attitudes towards the statements related to antenatal care.

TABLE 4.19: NURSE MIDWIVES ATTITUDE TOWARDS ANTE NATAL CARE (N = 45)						
Statement:  I would		FREQUENCY AND PERCENTAGES OF ATTITUDE SELF-RATING				
		Strongly agree	Agree	Disagree	Strongly disagree	Totals
1.	register a woman who comes late for antenatal care(ANC) registration	31(68.9%)	11(24.4%)	2(4.4%)	1(2.2%)	45(100%)
2.	make efforts to seek/find women in the community who are likely to be pregnant who have not come for ANC registration	24(53.3%)	18(40%)	2(4.4%)	1(2.2%)	45(100%)
3.	encourage women to deliver at a health care institution	44(97.8%)	0(0%)	0(0%)	1(2.2%)	45(100%)

#### *4.3.4.1.1 Register a woman who comes late for antenatal care (ANC) registration*

Ensuring all women who are pregnant are registered at a health centre/clinic is an important practice for nurse-midwives. This will enable women to access evidence-based care and hence good obstetric outcomes. Of the 45 participants, 31(68.0%), strongly agreed, 11(24.4%) agreed, two (4.4%) disagreed and one (2.2%) strongly disagreed with registering women who come late for antenatal care (ANC) registration.

#### *4.3.4.1.2 Make efforts to seek/find women in the community who are likely to be pregnant and have not come for ANC registration*

Lesotho has a network of community/village health workers that link the community with the health centres. The community/village health workers assist nurse-midwives to identify pregnant women who would require ANC registration in their communities. Participants' responses to seeking women who are likely to be pregnant and have not come for ANC registration varied as follows: strongly agreed 24(53.3%), agreed 18(40%), disagreed two (4.4%) and strongly disagreed one (2.2%).

#### *4.3.4.1.3 Encourage women to deliver at a health care institution*

One of the strategies to ensure an increased percentage of skilled birth attendance is to encourage women to deliver at a healthcare institution. Almost all of the participants (n=44, 97.8%) strongly agreed and only one (2.2%) strongly disagreed with encouraging women to deliver at a health care institution.

#### 4.3.4.2 Attitudes towards aspects of labour and delivery

The time of labour and delivery is a period of intense emotional stress for pregnant women. This period impinges on the privacy as well as cultural values, among others, of women, families and communities. Hence, nurse-midwives' attitudes during this period are important to ensure birthing women's comfort. Table 4.19 illustrates the participants' ratings of their attitudes towards the statements related to labour and delivery.

TABLE 4.20: NURSE MIDWIVES ATTITUDE TOWARDS ASPECTS OF LABOUR AND DELIVERY (N = 45)						
Statement:	FREQUENCY AND PERCENTAGES OF ATTITUDE SELF-RATING					
	Strongly agree	Agree	Disagree	Strongly disagree	Missing	Totals
I would						
1. respect the patient's choice of direction of care for example birth position	6(13%)	23(51.1%)	15(33.3%)	1(2.2%)	0(0%)	45(100%)
2. use a partogram when caring for a woman in labour	44(97.8%)	0(0%)	0(0%)	0(0%)	1(2.2%)	45(100%)

##### 4.3.4.2.1 Respect the patient's choice of direction of care for example birth position

Nurse-midwives are encouraged to support women to assume positions of their own choice except the supine position during labour. With regards to respecting a pregnant woman's choice of direction of care related to birthing position, six (13%) strongly agreed, 23(51.1%) agreed, 15(33.3%) disagreed and one (2.2%) of the participants strongly disagreed.

##### 4.3.4.2.2 Use a partogram when caring for a woman in labour

Partogram is recommended by the WHO to monitor women in labour (Fujita, Mukumbuka, Chavuma & Ohashi 2014:191).

This facilitates detection of complications such as obstructed labour and other complications early in order to intervene appropriately. The majority (n=44, 97.8%) of the participants strongly agreed on use of partogram when caring for a woman in labour and only one (2.2%) participant did not respond to this question.

#### **4.3.4.3 Nurse midwives' attitudes towards aspects related to ethical and professional issues.**

The nursing and the nurse-midwives' profession requires them to behave in a compassionate, confident, competent, and moral way (Pera & Van Tonder 2011:4). Table 4.20 illustrates the participants' ratings of their attitudes towards the statements related to ethical and professional issues.

<b>TABLE 4.21: NURSE MIDWIVES ATTITUDE TOWARDS ETHICAL AND PROFESSIONAL ISSUES (N = 45)</b>						
Statement: I would	<b>FREQUENCY AND PERCENTAGES OF ATTITUDE SELF-RATING</b>					
	<b>Strongly agree</b>	<b>Agree</b>	<b>Disagree</b>	<b>Strongly disagree</b>	<b>Missing</b>	<b>Totals</b>
1. ask /consult other health-care provider if I am not sure of what to do	44(97.8%)	0(0%)	0(0%)	0(0%)	1(2.2%)	45(100%)
2. advocate for the patient if I feel she is not being properly managed by another health care provider	38(84.4%)	7(15.6%)	0(0%)	0(0%)	0(0%)	45(100%)
3. help the woman if its late /after hours	28(62.2%)	15(33.3%)	1(2.2%)	0(0%)	1(2.2%)	45(100%)
4. respect the patient's cultural values	25(55.6%)	16(35.6%)	3(6.7%)	0(0%)	1(2.2%)	45(100%)

#### *4.3.4.3.1 Ask /consult other health-care provider if I am not sure of what to do*

The majority of participants strongly agreed (n=44, 97.8%) with consultation of other healthcare providers if not sure of what to do and one (2.2%) did not respond.

#### *4.3.4.3.2. Advocate for the patient if I feel she is not being properly managed by another healthcare provider*

Nurse-midwives are expected to act in a responsible and accountable manner all the time. In terms of patient advocacy when the patient is not being cared for appropriately all participants were in agreement, with 38(84.4%) strongly agreeing and seven (15.6%) agreeing.

#### *4.3.4.3.3 Help the woman if it's late /after hours*

With respect to helping woman in the late or after hours, 28 (62.2%), 15(33.3%), one (2.2%) and one (2.2 %) participants strongly agreed, agreed, disagreed and did not respond respectively.

#### *4.3.4.3.4 Respect the patient's cultural values*

Table 4.21 indicates that of the 45 participants, 25(55.6%), 16(35.6%),3(6.7%) and one(2.2%) of the participants strongly agreed, agreed, disagreed and missing response with regards to respecting a patients' cultural values.

#### **4.3.4.4 Discussion on nurse midwives' attitude towards obstetric care**

Participants' responses to question related to attitudes towards aspects of obstetric care shows most of the participants were in agreement with most of the statements. This shows that the majority of the participants agree with the obstetric care related statements. The majority of participants' attitudes towards statements related to antenatal care were positive. Participants' attitudes towards the use of the partogram were positive. This is in line with a study conducted in Ethiopia that showed healthcare professional had favourable attitudes towards partogram use, though it was poorly used (Abebe et al 2013: 26).

However, for the statement related to respecting the patient's direction of care including birthing position, 15(33.3%) and one (2.2%) disagreed and strongly disagreed. These research results support a study that showed negative healthcare providers' attitudes towards obstetric care in sub-Saharan Africa (Brighton, D'Arcy, Kirtley & Kennedy 2013:225). This is in contradiction to best practice recommendations that patients should be supported to assume positions of their own choice during labour (Hodnett, Gates, Hofmeyer & Sakala 2013:2; FIGO 2012:111). The majority of the participants indicated a positive attitude towards the statements related to ethical and professional values.

However, a study carried out by Warren et al (2012: S257) at a hospital in Kenya revealed disrespect and abuse of patients in a minority of its observations. Aggression during labour such as slapping of patients and calling patients stupid was observed in above a tenth of the observations. Informed consent was not sought. The study revealed that patients were not asked to carry out vaginal examinations in over a half of the observations. Of the women who had had a perineal tear or an episiotomy, only a quarter were given a local anaesthetic even though lignocaine was available in a majority of the observations. The study illustrated negative attitudes and poor practices of health workers when providing obstetric care (Warren et al 2012: S257).



#### **4.4 OVERVIEW OF RESEARCH FINDINGS**

The study findings show that nurse-midwives had a high mean score in terms of knowledge, attitudes and practices related to obstetric care. It is however important to note that the majority of the participants did not answer correctly the questions related to knowledge on management of the third stage of labour. Also, a significant proportion of the participants either disagreed or strongly disagreed with respect to allowing a patient to have their own way when it comes to birthing position during intrapartum care.

#### **4.5 CONCLUSION**

This chapter discussed the data analysis and interpretation in relation to the literature review. The purpose of this research study was to determine the knowledge, attitudes and practices of nurse-midwives with regard to obstetric care at Thaba-Tseka district of Lesotho. The findings of the study were summarised in sections according to the research objectives. Chapter 5 will conclude the study, discuss its limitations and make recommendations for further research.

## **CHAPTER 5**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 INTRODUCTION**

Chapter 4 comprised of the presentation and interpretation of quantitative data. Data was analysed using Microsoft excel 2013 and SPSS software version 16.0. Data was then presented in the form of graphs, 3-D pie chart and tables. This chapter presents a summary and interpretation of findings, conclusions, recommendations, contributions and limitations of this research study. The purpose of this study was to evaluate the knowledge, attitudes and practices of nurse-midwives with regard to obstetric care at Thaba-Tseka district of Lesotho. Data collection was achieved through self-administered questionnaires that were distributed to nurse-midwives working at Thaba-Tseka district of Lesotho.

The conclusions of the study will be discussed based on the research results discussed in chapter 4 and will be used to respond to the following research objectives as formulated in section 1.4.2 of chapter 1:

- To describe knowledge levels of nurse-midwives on obstetric care.
- To describe the practices of nurse midwives on obstetric care.
- To describe the attitudes of nurse-midwives on obstetric care.

## **5.2 RESEARCH DESIGN AND METHOD**

A quantitative, non-experimental, cross-sectional and descriptive study was used to evaluate nurse-midwives' attitudes, knowledge, and practices related to obstetric care. The researcher took into consideration the cost of carrying out the study in determining the study design and feasibility of the study. Data was collected using structured, self-administered questionnaires from health facilities in Thaba-Tseka district of Lesotho. The source of data was nurse-midwives working at the health facilities at the time of data collection. A total of 45 nurse-midwives participated in this research study against an estimated 65, thereby achieving a response rate of 69.7%.

## **5.3 SUMMARY AND INTERPRETATION OF THE RESEARCH FINDINGS**

This study gives insight on the knowledge, attitudes and practices of nurse-midwives related to obstetric care at Thaba-Tseka district in Lesotho. The results are discussed in the following section.

### **5.3.1 Sample characteristics**

The study showed that the nurse-midwives who participated were young females working in hospitals. The following section describes the participants' demographic characteristics

- A majority of the participants were within the 21 to 30 age range (n= 29, 64.4%);
- Almost ninety per cent of the participants (n=39, 86.7%) were females;
- A large number of participants (n=34, 75.4%) had a Diploma in Nursing and Midwifery;

- Most of the participants (n= 26, 57.8%) were working in the hospitals in Thaba-Tseka District; and
- There was variation in terms of years of work experience as a nurse-midwife and schools/universities attended by the participants. It is important to note that 18(40%) of the nurse-midwives had less than 2 years of experience.

### **5.3.2 Knowledge of nurse midwives on obstetric care**

This study revealed that nurse-midwives had knowledge on aspects related to antenatal care. The mean score of knowledge on obstetric care was 10.5(80.7% against a possible of 13 (SD 1.31). Specific questions on which a significant number of nurse-midwives did not have knowledge were distributed as follows:

- Almost a quarter(n=11, 24.4%) of the 45 participants were not able to identify when comprehensive assessment is to be done during antenatal care;
- In the question on the correct management of eclampsia 11(24.4%) of the participants answered incorrectly;
- In the question on common foetal positions was answered incorrectly by 15(33.3%) of the participants;
- Determination of foetal position was not known by 12(26.7%) of the participants; and
- It is important to highlight that 28(62.2%)) participants could not correctly identify the three procedures that are done during the active management of the third stage of labour. These are critical steps that are aimed at preventing post-partum haemorrhage.

### **5.3.3 Nurse midwives' obstetric care practices**

The study showed that nurse-midwives had good practice related to antenatal, labour and delivery and post-natal care practices. The mean score on the practice questions related to antenatal care was 34.5 (86.2%) against a possible score of 40 (SD 5.43); for labour and delivery it was 39.2 (89%) against a possible score of 44 (SD 4.66) and for postnatal care it was 22.4 (93.3%) against a possible score of 24 (SD 2.18). This might be because of limitations associated with self-administered questionnaire and the possibility that participants were biased towards choosing socially desirable answers. Obstetric care practices that a fewer number of nurse-midwives rated themselves as excellent or very good and might need to improve include those on:

- Management of eclampsia as above a fifth of participants (n=10, 22.2%) rated themselves as excellent and 21(46.7%), 12(26.7%) and two (4.4%) rated themselves as very good, good and average respectively.
- Treatment of genital tract infections in pregnant woman were five (11.1%) and three (6.7%) respectively; and
- Obstetric practices related to care of HIV positive pregnant women including initiation and monitoring of pregnant women on HAART, HIV testing and counselling and treatment of opportunistic infections as 13(28.9%) participants rated themselves as being average or below average on one or more of the three practices.

### **5.3.4 Nurse midwives' attitudes towards certain obstetric care aspects**

The research study showed that nurse-midwives had positive attitudes towards obstetric care practices. The nurse-midwives mean attitude scores was 23.4 (86.7%) against a possible score of 27 (SD 3.02). However, positive attitude does not mean participants adhere to such practice. Nurse-midwives responded negatively to the statement related to respecting the patient's direction of care including birthing

position. Of the 45 participants, 15(33.3%) and one (2.2%) disagreed and strongly disagreed to that statement. This might be a reflection of the nurse-midwives' work environment which does not allow attending to all the preferences of the birthing woman.

## **5.4 CONCLUSIONS**

The objectives of this study which are stated in chapter 1, section 1.4.2 were evaluated to see if they were achieved. Each objective will be listed and conclusion in relation to that specific objective discussed.

### **5.4.1 Description of knowledge levels of nurse-midwives on obstetric care**

In this study, nurse-midwives had knowledge on obstetric care issues. However there are still gaps in certain areas. These include comprehensive assessment during antenatal care, management of eclampsia, determination of foetal positions and common foetal positions and active management of the third stage of labour

### **5.4.2 Description of the practices of nurse midwives on obstetric care.**

This study concludes that most nurse-midwives were performing highly in carrying out most of the obstetric care practices. Obstetric care practices that nurse-midwives might need to improve include those on management of eclampsia, treatment of sexually transmitted diseases in pregnant woman, and management of HIV/AIDS in pregnant women. This might be because some of these obstetric care practices are also carried out by other health professionals such as doctors. Hence, nurse-midwives

might think it is not part of their job description.

#### **5.2.4 Description of the attitudes of nurse-midwives towards obstetric care.**

This study concludes that most nurse-midwives had a positive attitude towards obstetric care practices that ensure good patient care. However, a significant portion of the nurse-midwives had a negative attitude towards allowing birthing women to determine direction of care especially birthing position.

### **5.5 RECOMMENDATIONS**

#### **5.5.1 Recommendations for improving nurse midwives knowledge, attitudes and practices related to obstetric care at Thaba-Tseka, Lesotho.**

Improvements in nurse-midwives' knowledge, attitudes and practices based on the research results could be improved if the following recommendations are implemented by health administrators:

- Continuous professional development activities for nurse-midwives including periodic educational workshops on evidence-based obstetric care, on-site mentoring on obstetric care and simulation practice activities;
- Strengthening of supportive supervision of nurse-midwives in the various healthcare facilities;
- Supporting nurse-midwives in terms of ensuring adequate facilities and resources for proper implementation of evidence based obstetric care practices;
- Ensuring a mix of nurse-midwives with more years of experience and those with

fewer years at the healthcare facilities;

- Enhancement of community-based obstetric care practice by nurse-midwives; and
- Ensuring of access to evidence-based guidelines on obstetric care issues for nurse-midwives in the various healthcare facilities.

### **5.5.2 Recommendations for further studies**

The findings of this study indicate that the following further studies can be carried out by future researchers:

- Repeat this study in other districts of Lesotho. This will enable generalisation of the study findings to nurse-midwives in Lesotho.
- Carry out qualitative studies to determine attitudes of nurse-midwives on obstetric care. The qualitative studies can also make use of patients' views to investigate nurse-midwives attitudes.
- Studies can be done to investigate nurse-midwives practices through retrospective analysis of patients' records like the Lesotho Obstetric record.
- Observation studies can be carried out at the places of work of nurse-midwives' to investigate their practices and attitudes.
- Studies can be done to investigate quality of obstetric care at health-care facilities in Thaba-Tseka, Lesotho.
- A study can be done to investigate other factors besides nurse-midwives knowledge, practices and attitudes that can affect obstetric care.
- Objective Structured Clinical Examination based studies to determine ability to carry out obstetric procedures can be carried out to determine nurse-midwives abilities objectively.



## **5.6 CONTRIBUTIONS OF THE STUDY**

The study has contributed in giving a summary of the demographic profile of nurse-midwives working in Thaba-Tseka Lesotho. It gives a picture of the knowledge level in terms of obstetric care of nurse-midwives in Thaba-Tseka. The nurse-midwives reported abilities to carry out obstetric care practices are revealed by this study. This study shows the attitudes of nurse-midwives towards certain obstetric care practices. This study indicates the need for further studies related to obstetric care in Thaba-Tseka district and Lesotho as a country.

## **5.7 LIMITATIONS OF THE STUDY**

The following limitations were identified during the course of the study:

- The sample size was small due to the small population of nurse-midwives in the district;
- This was a dissertation of limited scope study as part of partial fulfilment of Masters in Public Health;
- Participant dishonesty could have happened in response to the self-administered structured questionnaire. They might have provided less stigmatising answers;
- Research results related to Thaba-Tseka district nurse-midwives where the study was conducted. Therefore the results obtained might not be generalised to all nurse-midwives in Lesotho; and

- Only self-administered structured questionnaires were used to collect data. Other methods of data collection could have been used to obtain more in-depth and different data. These include structured interviews, observation checklists, individual qualitative interviews on patients or nurse-midwives and document analysis.

## **5.8 CONCLUDING REMARKS**

In this study, the researcher found out that nurse-midwives at Thaba-Tseka district of Lesotho had knowledge on most of the obstetric care issues. The study however revealed that nurse-midwives did not have knowledge on the steps of the active management of third stage of labour according to the WHO. Hence, appropriate interventions have to be commenced to correct this knowledge gap. The study also showed that nurse-midwives rated themselves highly in terms of ability to carry out obstetric care practices. Obstetric care practices that nurse-midwives might need to improve on are management of eclampsia, treatment of sexually transmitted diseases in pregnant woman, and management of HIV/AIDS in pregnant women. The study also revealed that nurse-midwives had positive attitudes towards obstetric care practices. However, a significant portion of the nurse-midwives had a negative attitude towards allowing birthing woman to determine direction of care especially birthing position.

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Annexe A: Approval from the university



**UNIVERSITY OF SOUTH AFRICA  
Health Studies Higher Degrees Committee  
College of Human Sciences  
ETHICAL CLEARANCE CERTIFICATE**

**HS HDC/283/2013**

Date: 10 December 2013 Student No: 4549-13604  
Project Title: Knowledge, attitudes and practices of nurse-midwives related to  
obstetric care at Thaba-Tseka district in Lesotho.  
Researcher: Mr Fungai Muzeya  
Degree: Masters in Public Health Code: DLMPH95  
Supervisor: Mrs TG Lumadi  
Qualification: MPH  
Joint Supervisor: -

**DECISION OF COMMITTEE**

Approved ☒

Conditionally Approved ☐

**Prof L Roets  
CHAIRPERSON: HEALTH STUDIES HIGHER DEGREES COMMITTEE**

**Prof MM Moleki  
ACADEMIC CHAIRPERSON: DEPARTMENT OF HEALTH STUDIES**

PLEASE QUOTE THE PROJECT NUMBER IN ALL ENQUIRES



## Annexe B Letter seeking consent from the Ministry of Health: Lesotho

Mr. Fungai Muzeya  
Paray School of Nursing  
P.O Box 2  
Thaba-Tseka 550  
Lesotho

Ministry of Health  
Research Ethics Review Board  
P.O Box 514  
Maseru 100  
Lesotho

3 February 2014

Dear Sir/Madam

**RE: REQUEST TO CARRY OUT RESEARCH.**

I write to request the above. My name is Mr Fungai Muzeya. I am a final year student studying for the Masters degree in Public Health at the College of Human Sciences, Health studies department, University of South Africa. As partial fulfilment of the requirement of the degree I am carrying out a research with the title below.

**Knowledge, attitudes and practices of nurse-midwives related to obstetric care at Thaba-Tseka district in Lesotho.**

This study will help gather evidence based information for interventions aimed at improving quality of obstetric care offered by nurses in Lesotho. It will guide planning of intervention by various healthcare sector actors in Lesotho. The intended participants are nurse-midwives working in Thaba-Tseka. I have attached the proposal for the study and other relevant documents.

Therefore I would like to request your permission in this endeavour.

Your assistance will be highly appreciated.

Yours Faithfully

Mr Fungai Muzeya 

Email: [funmuzea@yahoo.com](mailto:funmuzea@yahoo.com)

Phone: 0026663494102



Annexe C Letter of Approval: Ministry of Health: Lesotho



Ministry of Health  
PO Box 514  
Maseru 100

02 April 2014

**Mr Fungai Muzeya**  
UNISA

Dear **Mr Fungai Muzeya**

**Re: Knowledge, attitudes and practices of nurses belated to prenatal and  
obstetric care at Thaba-Tseka district in Lesotho (ID28-2014)**

Thank you for submitting the above mentioned proposal. The Ministry of Health, Research and Ethics Committee having reviewed your protocol hereby authorizes you to conduct this study among the specified population. The study is authorized with the understanding that the protocol will be followed as stated. Departure from the stipulated protocol will constitute a breach of the permission.

We are looking forward to have a progress report and final report at the end of your study.

Sincerely,

A handwritten signature in black ink, appearing to be 'P. McPherson'.

**Dr. Piet McPherson**  
Director General Health Services (acting)

A handwritten signature in black ink, appearing to be 'A. Ranotsi'.

**Dr. Amelia Ranotsi**  
Chairperson  
National Health Research Ethics  
Committee



Mr. Fungai Muzeya  
Paray School of Nursing  
P.O Box 2  
Thaba-Tseka 550  
Lesotho

Ministry of Health  
Research Ethics Review Board  
P.O Box 514  
Maseru 100  
Lesotho

Dear Sir

08 October 2014

**RE: REQUEST FOR CORRECTION OF MY ETHICAL CLEARANCE LETTER.**

I write to request the above. The topic that is indicated on the ethical clearance that I got in June 2014 has an error on the research title. I therefore am requesting a corrected letter with the following topic:

**Knowledge, attitudes and practices of nurse-midwives related to obstetric care at Thaba-Tseka district in Lesotho (ID28-2014).**

As is in the copy of the Ethical clearance certificate from the College of Human Sciences, University of South Africa that I attached with my application.

Your help will be highly appreciated.

Thank you.

Faithfully yours

Mr. Fungai Muzeya   
Phone: 0026657645920



Ministry of Health  
PO Box 514  
Maseru 100

10 October 2014

**Mr Fungai Muzeya**  
UNISA  
Pretoria  
South Africa

Dear **Mr Fungai Muzeya**

**Re: Knowledge, attitudes and practices of nurses-midwives related to obstetric care at Thaba-Tseka district in Lesotho (ID28-2014)**

Thank you for submitting the above mentioned proposal. The Ministry of Health, Research and Ethics Committee having reviewed your protocol hereby authorizes you to conduct this study among the specified population. The study is authorized with the understanding that the protocol will be followed as stated. Departure from the stipulated protocol will constitute a breach of the permission.

We are looking forward to have a progress report and final report at the end of your study.

Sincerely,

**Dr. L. Maile**  
Director General Health Services (acting)

**Dr. Jill Sanders**  
Co-Chairperson  
National Health Research and  
Ethics Committee

## Annexe D: Questionnaire

1 | Page

**CODE NUMBER:**

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**A QUESTIONNAIRE ON KNOWLEDGE, ATTITUDES AND PRACTICES OF NURSE-MIDWIVES RELATED TO OBSTETRIC CARE AT THABA-TSEKA DISTRICT IN LESOTHO.**

Please fill the following questionnaire. The questionnaire consists of four sections with questions on: demographic, knowledge, practice and attitude aspects that are related to obstetric care. It will take approximately 30 to 45 minutes to complete the questionnaire. Please attend to every question.

**SECTION A-DEMOGRAPHIC QUESTIONS**

Please tick the appropriate response on the relevant row. For example tick with a ✓ on the question about Age if your Age is between 21 and 30 years as shown.

Age	21-30 years	0 ✓
	31-40 years	1
	41-50 years	2
	Above 50 years	3
1. Age	21-30 years	0
	31-40 years	1
	41-50 years	2
	Above 50 years	3
2. Sex	Male	0

1

2 | Page

	Female	1
3. Education	Diploma in Nursing and Diploma In Midwifery	0
	Degree in Nursing and Midwifery	1
4. Years of Experience as a nurse-midwife	Less than 2 years	0
	2-5 years	1
	5-10 years	2
	Above 10 years	3
5. Nursing School/University Attended	Maluti School of Nursing	0
	National Health Training College	1
	National University of Lesotho	2
	Paray School of Nursing	3
	Roma School of Nursing	4
	Scott School of Nursing	5
	Other (Name of the school.....)	6
6. Work Setting	Hospital	0
	Clinic (CHAL)	1
	Clinic (Government)	2

2

**SECTION B- KNOWLEDGE**

**Please tick either A, B or C for your response. For example: ☒ A. Anaemia**

1. Which of the following pregnant women will require the MOST comprehensive assessment during antenatal care?
  - A. First visit
  - B. Subsequent visit
  - C. Women with a blood pressure of 140/90 mmHg
  
2. The World Health Organisation (WHO) recommends the minimum ANC visits for a nulliparous pregnant woman to be
  - A. 3
  - B. 4
  - C. 5
  
3. Which of the following haemoglobin level figures is the cut-off point for assigning a pregnant woman as having anaemia?
  - A. 11g/dl
  - B. 12g/dl
  - C. 13g/dl



4. Which of the following actions are part of the management of eclampsia?
  - I. Administration of magnesium sulphate
  - II. Oxygen therapy
  - III. Administration of diazepam
  - IV. Establishing airway
  - V. Blood pressure checks
  - A. I, II and III
  - B. I, II, III and IV
  - C. I,II,IV and V
5. The three common foetal presentations include
  - A. Breech, shoulder and vertex
  - B. Breech, face and vertex
  - C. Brow, vertex and breech
6. Foetal presentation and position can be determined by
  - A. Abdominal inspection
  - B. Cervical speculum examination
  - C. Leopold manoeuvres
7. The normal range of foetal heart rate is
  - A. 110-160 beats per minute
  - B. 90-120 beats per minute

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- C. 140-180 beats per minute
8. Which of the following stages of labour is divided into latent and active phases?
  - A. First stage
  - B. Second stage
  - C. Third stage
9. Which of the following characteristics are MOST relevant to the second stage of labour
  - I. Urge to push with uterine contractions
  - II. Watery vaginal discharge
  - III. Expulsion of the baby
  - IV. Complete cervical dilatation
  - A. I and II
  - B. I,II,III,IV
  - C. I, III and IV
10. Choose the most appropriate three actions to be done during the Active Management of Third Stage of Labour.
  - I. Administration of oxytocin
  - II. Clamping and cutting of the umbilical cord
  - III. Examination of the placenta
  - IV. Controlled traction on the cord to deliver the placenta

5

- A. I, II, and III
- B. I, II and IV
- C. I, III and IV

11. Choose the MOST appropriate indicators for delivery of the placenta.

- I. Delivery of the baby
- II. Gush of blood
- III. Cord lengthening
- IV. Uterine fundal rebound
- A. I and II
- B. I, II and III
- C. II, III and IV

12. According to the current national PMTCT guidelines for the eligible criteria for HAART is

- A. HIV positive women with CD4 count of 350 cells/mm<sup>3</sup> or less only
- B. HIV positive women with CD4 count of 500 cells/mm<sup>3</sup> and stage three HIV only
- C. All HIV positive women regardless of CD4 count

13. Which one of the following statements is TRUE in relation to infant feeding?

- A. Use of AFSS criteria is encouraged when considering exclusive formula feeding
- B. WHO recommends six months exclusive breastfeeding for all infants
- C. All HIV positive women should not breastfeed

#### SECTION C-PRACTICE QUESTIONS

Please indicate the frequency with which you as a nurse-midwife carry out the following obstetric care practices on a scale as indicated below. Please only tick on the appropriate column

##### ANTENATAL CARE

Please indicate your ability as a nurse midwife in carrying out the following obstetric care practices during antenatal care on a scale as indicated below. Please only <u>tick</u> on the appropriate column For example: Under <b>Excellent</b> column place a ✓ if <b>Excellent</b> is your response.					
	Excellent	Very good	Good	Average	Below average
<u>Abdominal examination including</u>					
1. Fundal height					
2. Abdominal palpation					
<u>Foetal assessment</u>					
3. Foetal movements					
4. Foetal heart rate					
5. HIV testing and counselling					
6. Initiation and monitoring of HIV positive women on HAART					
7. Maternal assessment					
8. Maternal nutrition in relation to foetal growth					

Treatment of :					
9. Genital tract infections					
10. Opportunistic infections					
<b>LABOUR AND DELIVERY</b>					
Please indicate your ability as a nurse midwife in carrying out the following obstetric care practices during labour and delivery on a scale as indicated below. Please only <u>tick</u> on the appropriate column					
For example: Under <b>Excellent</b> column place a ✓ if <b>Excellent</b> is your response.					
	Excellent	Very good	Good	Average	Below average
Partogram Use -: Maternal assessment					
1. Vital signs					
Partogram Use -: Foetal assessment					
2. Foetal heart rate					
3. Amniotic fluid assessment					
4. Moulding					
Partogram Use -: Labour Assessment					
5. Cervical assessment					
6. Contractions assessment					
7. Descent of the head					
8. Delivery of the baby					

9. Cutting of episiotomy and repair of an episiotomy/tear					
10. Management of Eclampsia					
11. Use of oxytocin and antibiotics when indicated					
<b>POSTNATAL CARE</b>					
Please indicate your ability as a nurse midwife in carrying out the following obstetric care practices during <u>post natal care</u> on a scale as indicated below. Please only <u>tick</u> on the appropriate column					
For example: Under <b>Excellent</b> column place a ✓ if <b>Excellent</b> is your response.					
	Excellent	Very Good	Good	Average	Below average
1. Estimation and recording of blood loss					
2. Active management of third stage of labour					
3. Apgar scoring					
Management of fourth stage of labour					
4. Take vital signs					
5. Fundal height measurements					
6. Placental examination					

## SECTION D-ATTITUDE QUESTIONS

Please indicate your opinion on the following statements related to obstetric care by ticking the appropriate response.

For example: Under **Agree** column place a ✓ if **Agree** is your response as shown.

	Strongly agree	Agree	Disagree	Strongly disagree
I care about pregnant women I would		✓		

	Strongly agree(3)	Agree(2)	Disagree(1)	Strongly disagree(0)
1. register a woman who comes late for antenatal care(ANC) registration				
2. make efforts to seek/find women in the community who are likely to be pregnant who have not come for ANC registration				
3. encourage women to deliver at a health care institution				
4. respect the patient's choice of direction of care for example birth position				

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5. respect the patient's cultural values				
6. advocate for the patient if I feel she is not being properly managed by another health care provider				
	Strongly agree(3)	Agree(2)	Disagree(1)	Strongly disagree(0)
7. ask /consult other health-care provider if I am not sure of what to do				
8. help the woman if its late /after hours				
9. use a partogram when caring for a woman in labour				

Thank you for completing the questionnaire

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Annexe E: Letter from the statistician

## NATIONAL UNIVERSITY OF LESOTHO

### DEPARTMENT OF STATISTICS AND DEMOGRAPHY

Phone: +266 22340601  
Fax: +266 22340000 P. O. Roma  
Cell: +266 58863074 Lesotho  
E-mail: mbkhoeli@gmail.com



180

Southern Africa

5 June 2015

University of South Africa  
Department of Health Studies  
Preller Street, Unisa, Pretoria, 0003  
South Africa

Dear Sir/Madam,

**Re: Confirmation of Statistical Services Offered to Mr. Fungai Muzeya (Student 45491364)**

I write to certify that I offered statistical services to the above named gentleman for his dissertation entitled: **Knowledge, attitudes and practises of nurse-midwives related to obstetric care at Thaba-Tseka district in Lesotho.**

The services included helping him to revise the data collection instrument, orientation to utilisation of the statistical software called SPSS, creation of data entry form as well as data analysis.

Yours faithfully,

A handwritten signature in blue ink, appearing to read 'M. Khoeli'.

Makhala B. Khoeli

Annexe F: Letter from the editor



THE NATIONAL UNIVERSITY OF LESOTHO  
FACULTY OF HUMANITIES  
DEPARTMENT OF ENGLISH  
P.O. ROMA 180, LESOTHO.

Telephone: +26622340601 Ext 3662/ +26652213662 (Direct)  
Telex: 4303 LO  
Fax: +26622340000 (Attn: Dr. P. Letsoela)  
Website: <http://www.nul.ls>

22<sup>nd</sup> June 2015

To whom it may concern

Dear Sir/Madam,

**LANGUAGE EDITING ATTESTATION**

This is to confirm that the dissertation entitled **Knowledge, Attitudes and Practices of Nurse-midwives Related to Obstetric Care at Thaba-Tseka District of Lesotho** by Mr Fungai Muzeya was submitted for language editing in the English Department of the National University of Lesotho, and has been edited by Dr Puleng Letsoela who is the Head of the English Department and has experience in editing.

Should you need more information, please feel free to contact me.

Yours faithfully,

Puleng Letsoela (Dr)  
Head, English Department

Annexe G: Letter seeking permission from the Thaba-Tseka District Health Management Team

Mr Fungai Muzeya

Paray School of  
Nursing

P.O Box 2

Thaba Tseka

15 June 2014

The Public Health Nurse  
District Health Management Team  
P.O Box 2  
Thaba-Tseka  
Lesotho  
Dear Madam

**RE: Request to carry out research at your institutions/clinics**

**TITLE: Knowledge, attitudes and practises of nurse-midwives related to obstetric care at Thaba-Tseka district in Lesotho.**

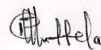
My name is Mr Fungai Muzeya. I am a final year student studying for a Master's degree in Public Health at the University of South Africa. As partial fulfilment of the requirement of the degree I am carrying out a research and the title is as above. This research study will help gather evidence for interventions aimed at improving quality of obstetric care offered by nurses in Lesotho. The research study will further guide planning of intervention by various healthcare sector stake-holders in Lesotho. The intended participants are nurse-midwives. Therefore I would like to request your permission in this endeavour.

Your assistance will be highly appreciated.

Yours Faithfully

Email: [funmuzea@yahoo.com](mailto:funmuzea@yahoo.com)

Phone: 0026663494102



Mr Fungai Muzeya

Annexe H: Letter stamped by the Public Health Nurse indicating DHMT Thaba-Tseka approval



Ministry of Health  
PO Box 514  
Maseru 100

02 April 2014

Mr Fungai Muzeya  
UNISA

Dear Mr Fungai Muzeya

**Re: Knowledge, attitudes and practices of nurses belated to prenatal and  
obstetric care at Thaba-Tseka district in Lesotho (ID28-2014)**

Thank you for submitting the above mentioned proposal. The Ministry of Health, Research and Ethics Committee having reviewed your protocol hereby authorizes you to conduct this study among the specified population. The study is authorized with the understanding that the protocol will be followed as stated. Departure from the stipulated protocol will constitute a breach of the permission.

We are looking forward to have a progress report and final report at the end of your study.

Sincerely,

A handwritten signature in black ink, appearing to be 'P. McPherson'.

**Dr. Piet McPherson**  
Director General Health Services (acting)

A handwritten signature in black ink, appearing to be 'A. Ranotsi'.

**Dr. Amelia Ranotsi**  
Chairperson  
National Health Research Ethics  
Committee





## Annexe I : Information and consent form

### INFORMATION SHEET AND INFORMED CONSENT FORM

My name is Mr Fungai Muzeya. I am a final year student studying for a Master's degree in Public Health at the University of South Africa. As partial fulfilment of the requirement of the degree I am carrying out a research and the title is as follows:

#### **Knowledge, attitudes and practices of nurse-midwives related to obstetric care at Thaba-Tseka district in Lesotho.**

The research study is designed to determine the knowledge, attitudes and practices of nurse-midwives related to obstetric care at Thaba-Tseka district in Lesotho. Although this study will not benefit you directly, it will help gather evidence for interventions aimed at improving quality of obstetric care offered by nurses in Lesotho.

I would like you to fill out a questionnaire consisting of four parts that will take between 30 to 45 minutes of your time. The questionnaire requires you to give information on your knowledge, attitudes and practices pertaining to obstetric care including demographic information. Your response will not affect the way you work or incur penalties.

You may withdraw before and during filling of the questionnaire and this does not incur any penalties. Your participation will be entirely voluntary and responses provided will not be shared with any other party (other than for research purposes)

Please do not write your names and addresses on the questionnaires. All study data will be collected by the researcher Fungai Muzeya. The results of this research will be availed to you on your request and you can contact the researcher if you have any questions.

My Physical address is Paray School of Nursing Thabong 2 Thaba Tseka Lesotho. Email address [funmuzea@yahoo.com](mailto:funmuzea@yahoo.com) or call me at 0026663494102 or 0026657645920. The proposal of this study has been approved by the Health Studies Higher Degrees Committee of the University of South Africa and Research Review Board of the Ministry of Health, Lesotho.

If you understood and agree to the terms and conditions associated with participation in this study please sign below

Participant's signature: \_\_\_\_\_

Date : \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_

Researcher's signature \_\_\_\_\_

Date : \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_



