EFFECTS OF THE SHORTAGE OF MIDWIVES ON PERFORMANCE AND QUALITY OF CARE, IN MATERNITY WARD, RUNDU INTERMEDIATE HOSPITAL AND NYANGANA DISTRICT HOSPITAL, KAVANGO EAST REGION

A THESIS SUBMITTED IN PARTIAL FULFILMENT

OF THE REQUIREMENT FOR THE DEGREE OF

MASTER OF NURSING SCIENCE

OF

THE UNIVERSTY OF NAMIBIA

BY

EMILIE KANDJIMI

200115480

APRIL 2021

MAIN SUPERVISOR: PROF. LISCHEN HAOSES-GORASES

ABSTRACT

Midwives play a vital role in improving maternal and neonatal health. An adequate number of professional midwives is associated with improved quality of care and decreased maternal and newborn mortality. An increased workload due to the shortage of staff exposes midwives to unnecessary pressure, which might affect the quality of care they provide to patients. Addressing barriers that hinder midwives from providing quality care is a step towards improving the health care deliverance and hence, a step towards achieving the Millennium Developmental Goal (MDG) 5 and the Standard Developments Goal (SDG) 3. The aim of this study was to assess the effects of the shortage of midwives on their performance and quality of care, in the maternity ward of Rundu Intermediate Hospital and Nyangana District Hospital, Kavango East Region, Namibia.

A quantitative analytic descriptive cross-sectional study was conducted using a purposive, non-random sampling method on fourty (40) midwives, in which thirty-one (31) were from Rundu Intermediate Hospital and nine (9) from Nyangana District Hospital. A self-administered questionnaire was used. The results revealed that the major effects of the shortage of midwives on their performance were as follow: increases workload (100%), feelings of fatigue and emotional exhaustion (97.5%), increases stress levels (95%), causes burnout and moral distress (87.5%), increases job dissatisfaction (87.5%), decreases willingness to work (70%), causes high staff turnover (65%), decreases the ability to work (65%) and increases medical errors committed among midwives (60%). Moreover, late attendance to patients (95%), poor monitoring of patients' conditions (92.5%), inadequate or poor patient care (90%), delay in treatment of patients (87.5%),

delay in initiating emergency interventions (82.5%) and lack of performance in the implementation of the EmOC (Emergency Obstetric Care) guideline (82.5%), were among the effects of the shortage of midwives on the quality of care. Other effects on the quality of care included increase in mortality rate (i.e. still birth, neonatal and maternal death) (77.5%), unnecessary complications that delay recovery (75%), negative attitude of health workers towards patients (67.5%) and medical errors committed by midwives (67.5%). The study concluded that the shortage of midwives has negative effects on both midwives' performances and quality of care. The study recommended the followings: the MoHSS and the professional councils to come up with proper midwife-to-patient ratio to reduce workload pressure; the human resource of the MoHSS to make provision of recruiting adequate staff in maternity sections; and provide adequate equipment to enhance performance of few staff. In addition, the obstetric care trainings need to be provided to all midwife staff prior to allocation to maternity sections. The MoHSS should make provision of a service that provides the midwives with emotional and psychological support, to assist them on coping with stress from work-related pressures and help them deal with their emotions. The MoHSS should also create a conducive working environment to attract more staff, therefore, overcome staff shortage, and eventually, minimise effects of the shortage of midwives.

DECLARATION

I, Emilie Kandjimi, hereby declare that this study is my own work and is a true reflection of my research, and that this work, or any part thereof has not been submitted for a degree at any other institution.

31 /03/2021

Emilie Kandjimi Date

DEDICATION

I dedicate this thesis to my husband, who has been my pillar throughout my educational journey.

I also dedicate it to my children, who had endured the loneliness when I was away for study.

ACKNOWLEDGEMENTS

First of all, I thank the almighty God for guiding me through this study and for paving my way of success. Without him, I could not have managed to finalise this piece of work.

Secondly, I wish to give my sincere gratitude to the following people:

- Prof. L. Haoses-Gorases, who besides being my supervisor, was also my mentor. Without your guidance and encouragement, I could not come to the end of this thesis.
- Mrs. L. Van Der Westhuizen, my co-supervisor, for impacting me with knowledge and guidance on how to properly structure a thesis.
- I cannot forget to thank the Ministry of Health and Social Services research division's personnel and the Executive Director (ED), for granting me the permission to conduct my study at Rundu Intermediate Hospital and Nyangana District Hospital.
- I also thank my husband, Mr. Joseph Kandjimi Kandjimi, for supporting me through the challenges that I had encountered throughout my study period.
- My Sister, Benigna Nangura Kamukwanyama, thank you for your support during my study.
- Sr. Justina Shoopala and Sr. Louly Sebastian, thank you for your assistance and your patience in the distribution of the questionnaires.
- The midwives in Rundu Intermediate Hospital and Nyangana District Hospital, thank you for completing the questionnaires.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

DRC	Democratic Republic of Congo
EmOC	Emergency Obstetric Care
HIS	Health Information System
ICM	International Confederation of Midwives
IOM	Institute of Medicine
MDG	Millennium Development Goal
MoHSS	Ministry of Health and Social Services
WHO	World Health Organisation
WISN	Workload Indicators of Staffing Need
WRA	White Ribbon Alliance
WRAM	White Ribbon Alliance Malawi

CHAPTER 1

INTRODUCTION AND BACKGROUND OF THE STUDY

1.1 INTRODUCTION

Despite the challenging working environment, midwives in Rundu Intermediate Hospital and Nyangana District Hospital try their best to provide the optimum care that is required of them. However, many a time these midwives are challenged by the persistent shortage of personnel that hinders them from providing optimum care to their clients (pregnant women who come to the maternity units and the new-born babies). Moreover, the constant shortage of midwife personnel has a negative effect on the midwives' ability to provide optimal care to the best of their ability. A better understanding on how this shortage of midwife personnel affects the midwives' performance as well as the quality of care is needed in order for the MoHSS to better address the situation and be able to promote staff retention. This particular study was aimed to assess the effects of the shortage of midwives on their performances and quality of care, in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital, Kavango East Region, Namibia.

A midwife shortage is a situation when the number of midwives is not enough to provide high quality of care, or when the quantity of midwives needed to provide the high quality of care is inadequate (Hellerawa & Adambarage, 2015). The World Health Organization [WHO] (2016) defines quality of care as "the extent to which health care services provided to individuals and

patient populations improves desired health outcomes" (p. 14). Nurse-to-patient ratio refers to the number of patients allocated to a nurse (or midwife) during a shift (Branch, n.d.).

The Workload Indicators of Staffing Need (WISN) is a human resource management tool which was developed by the World Health Organisation (WHO) in 1990, to estimate the number of staff a health facility requires based on the actual workload for that facility (World Health Organization [WHO], 2010). The WISN method measures "the ratio of the actual to the required number of staff" (WHO, 2010, p. 2). This indicates the workload pressure (WHO, 2010), and had been implemented by many countries such as Zambia, Democratic Republic of Congo (DRC), Egypt, Rwanda, etc. (WHO, 2016). It was also piloted mid-2012 in Namibia in the Kavango region as part of the pilot study. The Kavango region was selected because it is one of the most populated regions in Namibia. The results indicated that there were more nurses and midwives required in Rundu Intermediate Hospital compared to the existing staff (Ministry of Health and Social services) [MoHSS], 2016). This was a hint that Rundu Intermediate Hospital's maternity ward was experiencing a shortage of staff and workload pressures. The application of the WISN method on 2017/2018 staff establishment showed that the ratio of the actual to the required number of registered midwives in Rundu Intermediate Hospital maternity ward was 12:35, while the ratio of the actual to the required number of enrolled midwives was 28:47 (Ministry of Health and Social Services [MoHSS], 2018).

In addition, Nyangana District Hospital's maternity ward had only four midwives (two registered midwives and two enrolled midwives) who catered for a maximum of 18 patients per day. Each section of the maternity ward (such as antenatal, postnatal, and delivery) had only one midwife

(Catholic Health Services [CHS], 2018). This indicated that the midwives in Rundu Intermediate Hospital and Nyangana District Hospital's maternity wards were inadequate to provide the expected standard of care to its patients. This could result into high level of stress, burnouts, high absenteeism due to exhaustion, and job dissatisfaction of midwives (Copper, 2014).

1.2 BACKGROUND OF THE STUDY

Maternal and neonatal care are the most crucial areas of the WHO. The main aim of the WHO is to achieve the Millennium Development Goals (MDGs), and the Sustainable Development Goals (SDGs), specifically on improving maternal health and prevent or reduce maternal and neonatal mortality rate (Bremnes, Wiig, Abeid & Darj, 2018). Global research on midwives, has demonstrated that midwives experience challenges in providing maternal care. These challenges include the feeling of burnouts and moral distress, generated by inadequate staffing levels and increase workload, which in return has a negative effect on the quality of care provided to patients (Filby, McConville & Portela, 2016). Moral distress was being associated with frustration, anger, and guilt. The research also illustrated that inadequate staffing levels and increase workload were among the problems across both urban and rural health facilities. According to Branch (n.d.) there is an observed evidence that the number of patients allocated to a midwife on a shift has a direct relation to the patient's safety, mortality, and quality of care.

According to optimal midwife-to-patient ratio in California, which became a law in California in 1999 with the passage of California Assembly Bill 394 (Tevington, 2011), the optimal midwife-

to-patient ratio is as follows: for antepartum unit during the day is 1: 4, and during the night is 1:6; for post-partum units, it is 1: 4 during the day, and 1:6 during the night; and for the delivery room it is two midwives for every three deliveries (Fitzpatrick, 2015). A study done in Australia by Aiken et al. (2002) as cited in Hannigan (2013), indicated that "the addition of one extra patient to a nurse's load would increase the risk of death within thirty days by 7%. The risk further increased to 14% for an extra four to six patients, or 31% for an extra seven to eight patients" (Aiken et al., 2002, as cited in Hannigan, 2013, p. 11). In another research conducted in Australia by Bloxsome, Ireson, Doleman and Bayes (2019, p. 387), it is stated that "the successful delivery and maintenance of maternity care depend on a robust, well-distributed, highly skilled and professional midwifery workforce". Adegoke et al. (2015) as cited in Bloxsome et al. (2019) stated that the maternity sector was experiencing workforce shortages that were expected to increase due to the midwifery workforce ages, and that lack of job satisfaction had been identified as the number one cause of midwifery workforce attrition. However, this is not the case for all midwives, according to Kirkham's (2006) as cited in Bloxsome et al. (2019) one midwife respondent stated that though midwifery is stressful, the good days somehow justify one to stay in practice, while another midwife responded that job satisfaction overweighs the frustrations.

A report concerning African countries indicated that insufficient staffing and working excessive overtime compromises the safety for women. It also indicated that midwives in Malawi were facing an ethical dilemma on which they had to choose whether to care for the newborn or the mother, or for another mother, or another baby (Filby et al., 2016). The Malawi Nursing and Midwifery Council states that the recommended ratio in Malawi is 1 midwife for every 5 women (1:5), however, during the time of the study, there was 1 midwife for every 10 women (1:10)

(White Ribbon Alliance Malawi [WRAM], 2014). The same study by (Filby et al., 2016) illustrated that one midwife in Uganda had to care for about 50-60 women per day, leading her to exhaustion and frustration, compromising the safety of the patients. According to Mutebi (2017), midwives in Malawi were overloaded to an extent that it affected the quality of services they provided. In addition, a study of Malawian midwives suggested that midwives were at higher risk of burnout than other clinicians (Filby et al., 2016). Moreover, the Malawi Midwifery Policy Brief mentioned that the shortage of midwives in Malawi has affected the provision of high-quality maternity care for women, forcing many women to give birth at home without skilled attendants. This places both women and their babies at a much higher risk of death (WRAM, 2014).

Another research done in Senegal, by Rouleau, Fournier, Philibert, Mbengue and Dumont (2012), on the effects of midwives' job satisfaction on burnout, intention to quit and turnover, indicated that burnout was identified in more than half of the sample (55%). The symptoms of burnouts were said to manifest through feelings of emotional exhaustion, and that high levels of job stress and heavy workloads contributes massively to the onset of burnout symptoms, which had been linked to negative attitudes towards patients and detachment from one's job, in forms of absenteeism and staff turnover. It was also mentioned that job dissatisfaction causes workplace withdrawal behaviours, such as absenteeism, and that being dissatisfied with one's job puts an individual at greater risk of burnout and anxiety (Rouleau, Fournier, Philibert, Mbengue & Dumont, 2012). According to a study done in primary health care maternity centres in Nigeria, it is mentioned that branding health policies is pointless without paying great attention to the important aspects of the health system, such as work force capacity and quality of care, as well as staff-patient ratio (Aluko, Anthea & Modeste, 2019).

In addition, according to a study done in Tanzania by Mselle, Moland, Mvungi, Evjen-Olsen and Kohi (2013) on the weakness in the provision of adequate quality care, women in labour did not receive adequate support from the midwives because of the shortage of staff. Again some women were not attended to but were left to give birth on their own, and those who were attended to were not checked properly. In addition, the findings also revealed that most women in labour experienced neglect and physical or verbal abuse from the nurse-midwives. Women also reported to have had experienced delays in receiving treatment on arrival to the health facility, as they reported that sometimes they arrive at the health facility and no one is there to attend to them. Some reported to have received unfriendly reception by the nurse-midwives working in maternity wards. In the same study, it was also mentioned by the women who participated in the study that their progress of labour was not constantly monitored, as women were left on their own many a times while they were in active labour (Mselle, et al., 2013).

According to the Ministry of Health and Social Services [MoHSS] (2014, p. 4) the WHO (2010) indicated that Sub-Saharan Africa continues to have the highest burden of about "58 % of global maternal deaths", which "remains far short of the Millennium Development Goal (MDG) #5's targeted of reducing maternal deaths by 75% by 2015". In addition, Namibia is one of the 14 Sub-Saharan African regions that made little progress towards the MDG 5, because it had only 2% towards reduction of the national Maternal Mortality Rate (MMR) (MoHSS, 2014). The research done in five regions of Namibia (Erongo, Hardap, //Karas, Khomas, Omaheke) during 2010–2012, on the "Contributing Factors of Facility-Based Maternal and Neonatal Deaths", has shown that negligence by the healthcare providers was the second most commonly mentioned contributing factors to maternal deaths (MoHSS, 2014). This was associated to the following factors: patients

not attended to on time upon arrival to the health facility; waited too long at the hospital for admission; patients not treated on time or delayed treatment; patients sent back home without any assistance; negative attitude of health workers, etc. (MoHSS, 2014). All the factors under negligence by the provider can be linked to the shortage of midwives and work overload. According to Muntenda, Nuuyoma and Stern (2017), the Kavango Region was among the top seven regions which had a high maternal and neonatal mortality rate in the country. This prompted the researcher to conduct a research on the effects of the shortage of midwives on their performance and quality of care in the maternity wards of, Rundu Intermediate Hospital and Nyangana District Hospital, Kavango East Region.

1.3 STATEMENT OF THE PROBLEM

Rundu Intermediate Hospital is a referral hospital catering for both Kavango East and West regions. In the Rundu Intermediate Hospital's maternity ward, the maximum number of patients that one midwife takes care of is nine, which is a ratio of one midwife to nine patients (1:9). This is similar to the situation experienced in Malawi, which according to the Malawi Nursing and Midwifery Council, the recommended ratio is 1 midwife for every 5 women (1:5). Also, a higher midwife-to-patient ratio causes burnouts and increases workload, which in return has a negative effect on the quality of care (WRAM, 2014).

Moreover, the maternity ward of Rundu Intermediate Hospital consisted of all the three units, namely: antepartum unit, post-partum unit and the delivery unit. In Rundu Intermediate Hospital's maternity ward, there were two nurses (one enrolled nurse and one registered nurse) delegated in

the antepartum unit daily with about seventeen patients, which illustrated a ratio of one midwife to nine patients (1:9). Whereas, in the delivery unit (room) there was an average of one midwife delegated to about fifteen patients delivering per day, bringing out a ratio of one midwife to fifteen patients (1:15) per day. Furthermore, in the post-partum unit there were three midwives delegated to an average of nineteen patients, which is a ratio of one midwife to seven patients (1:7) per day. However, during the night, there were only three midwives for all three units, with an average of thirty patients in the ward, which meant that each midwife took care of ten patients (1:10) (MoHSS, 2018). For Nyangana District Hospital, the delegation consisted of one midwife per unit. This means there was a ratio of one midwife per five patients (1:5) in each unit of the maternity ward, including the delivery room, as the ward catered for eighteen (18) patients per day (CHS, 2018).

According to the WHO's WISN method, the ratio of the actual to the required number of staff is a measure of the workload pressure with which the staff was coping with (WHO, 2010). The duty roster of Rundu Intermediate Hospital's maternity ward displayed that every day there were about four (4) midwives, from the existing workforce, who were asked to work overtime. This left them with less adequate time to rest, which could increase exhaustion and stress (MoHSS, 2018). At the Nyangana District Hospital, there were no midwives available for overtime, as the midwives were already utilized in the normal shifts to avoid staff burn-outs (CHS, 2018). According to Matlala (2017) the shortage of midwives has a negative influence on maternal health care outcomes. Similarly, the shortage of midwives in the Rundu Intermediate Hospital contributed to the high number of fresh still births, of about five (5) per month (MoHSS, 2018).

1.4 PURPOSE OF THE STUDY

The purpose of the study was to assess the effects of the shortage of midwives on their performance and quality of care, in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital, Kavango East Region, Namibia.

1.5 OBJECTIVES OF THE STUDY

The objectives of the study were:

- To determine the effects of the shortage of midwives on their performance, in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospitals;
- To analyse the effects of the shortage of midwives on the quality of care, in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospitals.

1.6 SIGNIFICANCE OF THE STUDY

The findings from this study might inform the Ministry of Health and Social Services on proper strategies to enhance midwife staffing, as well as impact on the national human resource planning. It might also benefit public hospitals with the provision of adequate personnel in all the maternity sections, hence, improve the maternal and neonatal care. Furthermore, the study might identify strategies to overcome professional and personal effects of shortage of midwives, as well as effects on the quality of care to patients in the midwifery units. It might also benefit the educational system to increase their uptake, as well as put more emphasis on instilling knowledge and skills regarding maternal and neonatal care.

1.7 LIMITATIONS OF THE STUDY

The limitations of the study are more on the weaknesses of the study (Cresswell, 2012). During the conduct of the research, the researcher encountered some problems with reaching the number of the study sample, as the study sample was equal to the population. Hence, only fourty (40) midwives were interviewed from the planned fourty-eight (48). Though the shortage of midwives is pandemic in the region, the study only covered the effects of the shortage of midwives in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospitals, Kavango East region. As a result, the findings could only benefit the Kavango and Zambezi regions since they are the ones catered for by the Rundu Intermediate Hospital.

1.8 DELIMITATIONS OF THE STUDY

Delimitations are those characteristics that narrow down the scope of the study (Creswell, 2012). The study was limited to the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital. The study focused on Rundu Intermediate Hospital and Nyangana District Hospital, so that the findings would be specific and effective for the implementation of the recommendations from the study by concerned individuals or organizations. These include managers of Rundu Intermediate Hospital and Nyangana District Hospital, as well as the Ministry of Health and Social Services as a whole. The study could not be conducted for the whole country because of limited time-frame, financial constraints and lack of resources.

1.9 DEFINITIONS OF KEY CONCEPTS

- **Effect**

'Effect' refers to the consequence, outcome or result of something, due to the influence of something else (Cambridge Dictionary, 2020). For example, the shortage of staff has effects of increasing staff workload.

- **Shortage**

This is a situation in which there is not enough of something, or where there is less of something than the people want or need (Cambridge Dictionary, 2020). For example, Namibia's public health sector experiences a shortage of health care workers as a result of the COVID-19 pandemic.

- **Midwife**

A midwife is any person registered under the Nursing Act (No. 8 of 2004) as a midwife (MoHSS, 2017). This is a trained health professional who assists and cares for women during labour, delivery and after the birth of their babies, and takes care of the newborn babies as well (What is a midwife?, 2020).

- **Performance**

Refers to the execution of an action or an accomplishment of something. For example, the performance of the midwives is likely to impact the quality of the midwifery services, or the midwife's performance is likely to be affected by the shortage of midwife staff (Merriam Webster Dictionary, 2020).

- **Quality**

'Quality' refers to the totality of features and characteristics of a product or service that bears its ability to satisfy stated or implied needs (Business Dictionary, 2019)

- **Care**

This is the process of protecting someone or something and providing what that person or thing needs (Cambridge Dictionary, 2019). For example, the care of a woman in labour refers to all the service that is provided to the woman from the onset of labour to the delivery of her baby with the aim of keeping the mother and her unborn baby safe and avoiding complications or harm to both the mother and her unborn baby.

- **Maternity ward**

A room or an area in a hospital which provides care for pregnant women, women who have recently given birth, and newborn infants (Collins Dictionary, 2019)

1.10 Summary

This chapter serves as an introduction to the thesis “The effects of shortage of midwives on performance and quality of care in maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital, Kavango East region”. It covers the introduction, the background of the study, statement of the problem, purpose of the study, objectives of the study, significance, limitations and delimitations of the study, as well as the definitions of key concepts. The next chapter reviews the literature related to the effects of the shortage of midwives on midwives’ performance and on the quality of care in maternity wards.

CHAPTER 2

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

1.1 Introduction

This chapter covers a review of related literature to the proposed study as well as a theoretical framework. According to Kumar (2014, p. 374), literature review is defined as "the process of searching the existing literature relating to your research problem to develop theoretical and conceptual frameworks for your study and to integrate your findings with what the literature says about them". The aim of literature review is to provide a foundation of knowledge on the topic under study from the findings of the previous researchers on similar topics. This is done for a better understanding on the research topic, as well as for identification of gaps not covered by previous researchers.

The literature review that the researcher conducted for this study assisted the researcher to align her own research within the context of the existing literature, for better comparison of findings and for identification of gaps. The comparisons and gaps might be required for future recommendations on what will the next research be based on. This chapter presents reviewed literature related to the effects of the shortage of midwives on midwives' performance and on the quality of care in maternity wards or units. The chapter is arranged into two subtopics, namely: the effects of shortage of midwives on their performance in maternity wards or units; and the effects of the shortage of midwives on the quality of patient care in maternity wards or units.

The chapter also encloses Joanne Duffy's Quality Caring Model as a theoretical framework of this particular study. The essence of the research was to determine the effects of the shortage of midwives on their performance and analyse the effects of the shortage of midwives on the quality of patient care, in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital, Kavango East Region, Namibia.

2.2 Literature review

The purpose of the literature review in this study was to assess the existing literature on the effects of the shortage of midwives on the performance of the midwives, as well as on the quality of care in maternity units, in order to have a foundation of knowledge on the topic (Kumar, 2014). In this study, literature review was approached under the following headings that were based on the objectives of the study:

2.2.1 The effects of the shortage of midwives on their performance in the maternity wards or units

The shortage of midwife staffing affects the midwives negatively in various ways. According to a global research guided by the World Health Organization (WHO), the shortage of midwives causes burnouts and moral distress (Filby et al., 2016). *Burn out* was defined as "the expenditure of energy, effort and time on work without adequate time or environment to recover physically and emotionally", while *moral distress* was defined as "the experience of being seriously compromised as a moral agent by being unable to practice in accordance with accepted professional values and standards" (Filby et al., 2016).

It is further indicated that the shortage of midwives has become a persistent world-wide problem. It causes stress and insecurity, as well as enormous work burdens and risks of injury, illness and threats to the security of the health workers and their willingness or ability to work (International Confederation of Midwives [ICM], 2007). It is further stated that the staff shortage predisposes nurses and midwives into making mistakes and medical errors (Nursing Shortage Effect on the Health Care Industry: Current Trends, Future Growth, 2016). Another study conducted on the same topic indicated that "close to half of all nurses and midwives employed have admitted to committing a medication error in the past year". Furthermore, the errors committed ranged from infusing medicines at the wrong rate, giving the wrong medicine or mixing up medicines between patients, which may result into fatal consequences (The Nursing Shortage and How It Will Impact Patient Care, 2017).

According to Bradey et al. (2009) as cited in Joolaee, Hajibabaee, Peyrovi, Haghani and Bahrani (2011, p. 38) "medication error is any preventable event that may cause or lead to inappropriate medication use or patient harm, while the medication is in the control of the health care professional, patient or consumer". It is also stated that though drug administration is a routine, it is an essential part of nursing practice. It requires special skills, technique and knowledge in order to execute it to patients accordingly. Medication errors can cause serious problems and expose patients to preventable risks. It is further mentioned that medication errors can cause the nurses' performance to be undermined more than that of any other healthcare professional (such as physicians). This could be the same for midwives. Because nurses usually carry out medication

orders, they have a greater responsibility, as they are in charge of both the medications and the patients' safety (Verajankorva et al., 2006, as cited in Joolaee et al., 2011).

According to a study done in Iran, in Qazvin Medical University teaching hospitals by Shahrokhi, Ebrahimpour and Ghodousi (2013), medication errors have drawn the attention of the health managers, because of its contribution to higher mortality rate and cost of health-care. It is indicated that "in the USA, the medication error-related deaths have been more than the deaths related to car accidents, breast cancer and human immunodeficiency virus or acquired immune deficiency syndrome" (Shahrokhi et al., 2013). In addition, it was also found that nurse-related factors were the most contributing factors to medication errors compared to management-related factors and work-environment related factors, and these factors included factors such as inadequate attention, tiredness due to excessive overtime work, and shortage of staff. According to the findings, the most effective factor on medication error were as follow: The nurse's inadequate attention (98.7%), the errors occurring in the transfer of medication orders from the patient's file to kardex (96.6%) and the ward's heavy workload (86.7%).

Another study by Joolaee et al., (2011) conducted on Iranian nurses, regarding the number of incidences that nurses committed errors in the last three months, the results showed that the nurses acknowledged that they made an average of 19.5 medication errors within the 3-month period. These errors included not administering a prescribed drug to the patient, infusing drug faster than should be infused, administering biting sublingual drug to be swallowed, administering several oral drugs simultaneously, administering the wrong drug, administering drug more/less than

prescribed dose, administering drug without a defined route. Patient safety is one of the important component of the quality of health services, which includes avoiding any injury and injury to the patient during the course of treatment and care (Dehbanizadeh & Hosseini, 2018)

One study done in Sub-Sahara Africa regarding the implications of the shortage of health professionals on maternal health, shows that working in an environment of under staffing causes many negative effects on the midwives. These include working long hours without rest, reduced job satisfaction, lowered morale, increased workload and stress level that lead them to fatigue and emotional exhaustion. All these compromise both the quality of care and safety of the patients (Copper, 2014). In health care settings, quality of care goes hand in hand with patients' safety.

According to the Institute of Medicine (IOM) quality is defined as "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge" (Mitchell, 2008). Mortality, morbidity, and adverse effects were considered negative outcomes and are related to poor quality of care. IOM defined patient safety as "the prevention of harm to patients", whether accidentals or injuries produced by medical care, which includes the prevention of medical errors (Mitchell, 2008). According to IOM, quality indicators can be measured by the five Ds, namely: death, disease, disability, discomfort, and dissatisfaction, which indicate poor quality of care (Mitchell, 2008). A similar research conducted in Sub-Sahara Africa, indicated that health professionals greatly value the satisfaction they gain from providing good quality care, which is also regarded as an intrinsic motivator to perform well. However, working in an understaffed environment can reduce job satisfaction; hence increases stress level, which compromises both the quality and safety of care

(Gerein, Green & Pearson, 2006). Moreover, a cross-sectional survey result of nurses from Tanzania, Kenya, and Uganda displayed lower levels of job satisfaction when compared to a European reference group. The satisfaction rate was lower among public hospital nurses than those working in the private sector (Blaauw et al., 2013).

The study by Kaye (2000) on Quality of midwifery care in Soroti District, in Uganda, also indicated that overwork reduces staff morale, and lowers the ability to screen and refer women with high risk pregnancies and childbirth complications.

In a study done on the challenges faced by midwives in Tanzania's referral hospital in Dar es Salaam, on a day to day basis, by Bremnes, Wiig, Abeid and Darj (2018), the findings indicated that there were few personnel with so many patients. The consequences were the feelings of exhaustion and moral distress, which in turn affected the quality of care they provided. These left the midwife personnel to feel demoralized, as they were always blamed by the patients when something such as maternal deaths or still births happened. The study also indicated that the midwives lacked support from their superior and experienced lack of motivation at work (Bremnes et al., 2018). The hospital was reported to have a high nurse-patient ratio. Some participants admitted to be rude to patients due to tiredness, which in return affected patient care. Most participants reported that the long shifts and heavy workload affect them, both psychologically and physically, which manifest through stress and backaches. They reported to have less time to rest at home due to long working hours per day and experience exhaustion. The staff also felt that they lack opportunities and personal development since trainings were limited to them due to the

shortage of personnel (Bremnes et al., 2018). According to Mollart, Skinner, Newing, & Foureur (2013), midwives deal with stress and burnout in their daily working lives.

Another study was done on Senegal's public sector's midwives by Rouleau et al. (2012), on how midwives experience their work in the persistent personnel shortages and how it is affects them. The study indicated very high levels of emotional exhaustion (80.0%) and depersonalization (57.8%), with burnout identified in more than half of the sample (55%).

A research conducted in Tanzania, Dar es Salaam, illustrates that the shortage of personnel was one of the highlighted causes of an excessive workload, which lead to difficulties in providing adequate care to the patients by the inadequate number of staff or personnel (Bremnes et al., 2018). However, Tanzania has been working hard towards achieving the Millennium Development Goals (MDGs) and the Sustainable Development Goals (SDGs). Moreover, the same study has indicated that midwives and the barriers they face have been studied before and are regarded as key for improving child and maternal health. The consequences of these barriers were highlighted as feelings of exhaustion and moral distress, which in turn affects the quality of the care provided (Bremnes et al., 2018). According to Pugh, Twigg, Martin and Rai (2013), one way to retain the midwifery workforce is paying attention to workforce practices (such as flexible work arrangements and workloads) and models of care.

According to the researcher, being a midwife is not an easy task, one always feels guilty if something goes wrong. For example, if the woman in labour dies and was not properly monitored

due to the shortage of midwife's personnel, or if the baby is born as a fresh still birth, but had a fetal heart rate on admission. This creates self-blame on the part of the midwife, which may develop into stress and mental exhaustion. In the end this affects the performance of this particular midwife as she/he may think that she/he is not good enough or experienced enough. This in turn may lead to job dissatisfaction. In this case, the researcher concurs with Pugh et al., (2013) that one way to retain the midwifery workforce is paying more attention to the workforce practices (such as flexible work arrangements and workloads) and models of care.

In conclusion, the above literature review focused more on the effects of the shortage of midwives on their performance. However, the next review will be on the effects of shortage of midwives on quality of care.

2.2.2 The effects of shortage of midwives on quality of care in the maternity wards or units

The term quality of care is defined differently by various scholars. According to Donabedian (1980) as cited in Raven, Tolhurst and Van Den Broek (2012, p. e679), quality of care refers to "the application of medical science and technology in a manner that maximises its benefit to health without correspondingly increasing the risk". Roemer and Montoya-Aguilar (1988) as cited in Raven, et al. (2012, p. e679) defined quality of care as "the performance of interventions according to standards that are known to be safe, which are affordable to the society and that have the ability to produce an impact on mortality, morbidity and disability". This simply makes a "distinction between the quality of the actual care and the expected quality of care based on standards". According to Brizuela, Leslie, Sharma, Langer and Tunçalp (2019, p.e624) "Ensuring quality of

care during pregnancy and childbirth is crucial to improving health outcomes and reducing preventable mortality and morbidity among women and their newborns". The WHO developed quality statements and quality measures to assess and improve the quality of the maternal and neonatal care in the health care facilities (WHO, 2016). Below, are the WHO eight standards of care and some of their quality statements:

- Standard 1: Every woman and newborn receives routine, evidence-based care and management of complications during labour, childbirth and the early postnatal period, according to the WHO (2016) guidelines; e.g.

- Women are assessed routinely on admission and during labour and childbirth and are given timely, appropriate care; whereas, newborns receive routine care immediately after birth; and mothers and newborns receive routine postnatal care;
- Women with pre-eclampsia or eclampsia promptly receive appropriate interventions, according to the WHO guidelines;
- Women with postpartum haemorrhage promptly receive appropriate interventions, according to the WHO guidelines;
- Women with delay in labour or whose labour is obstructed receive appropriate interventions, according to the WHO guidelines;
- Newborns who are not breathing spontaneously receive appropriate stimulation and resuscitation with a bag-and-mask within 1 min of birth, according to the WHO guidelines;
- Women in preterm labour receive appropriate interventions for both themselves and their babies, according to the WHO guidelines; whereas the preterm and small babies receive appropriate care, according to the WHO guidelines;

- Women with or at risk for infection during labour, childbirth or the early postnatal period promptly receive appropriate interventions, according to the WHO guidelines; whereas, newborns with suspected infection or risk factors for infection are promptly given antibiotic treatment, according to the WHO (2016) guideline;

- Standard 2: The health information system enables the use of data to ensure early, appropriate action to improve the care of every woman and newborn. E.g. every woman and newborn have a complete, accurate, standardized medical record during labour, childbirth and the early postnatal period.

- Standard 3: Every woman and newborn with condition(s) that cannot be dealt with effectively with the available resources is appropriately referred. E.g. every woman and newborn is appropriately assessed on admission, during labour and in the early postnatal period to determine whether referral is required, and the decision to refer is made without delay.

- Standard 4: Communication with women and their families is effective and responds to their needs and preferences. E.g. all women and their families receive information about the care and have effective interactions with staff.
- Standard 5: Women and newborns receive care with respect and preservation of their dignity. For example, all women and newborns have privacy around the time of labour and childbirth, and their confidentiality is respected.

- Standard 6: Every woman and her family are provided with emotional support that is sensitive to their needs and strengthens the woman's capability. For example, every woman is offered the option to experience labour and childbirth with the companion of her choice.

- Standard 7: For every woman and newborn, competent, motivated staff are consistently available to provide routine care and manage complications. This means that every woman and child have access at all times to at least one skilled birth attendant and support staff for routine care and management of complications. Every health facility has managerial and clinical leadership that is collectively responsible for developing and implementing appropriate policies and fosters an environment that supports facility staff in continuous quality improvement.

- Standard 8: The health facility has an appropriate physical environment, with adequate water, sanitation and energy supplies, medicines, supplies and equipment for routine maternal and newborn care and management of complications. For example, an adequate stock of medicines, supplies and equipment is available for routine care and management of complications (WHO, 2016)

The maternity ward being the hospital's childbirth place, becomes the target to assess the existence of these quality statements. The shortage of the midwife staffing affects the quality of care negatively. A global research guided by the World Health Organization (WHO), in collaboration with the International Confederation of Midwives (ICM) and the White Ribbon Alliance (WRA), on midwives, indicates that the burnouts and moral distress caused by the shortage of midwife staffing affects the quality of care and patient safety (Filby et al., 2016).

According to WHO (2013) there is a high maternal and neonatal mortality in developing countries, because there are few birth attendants. More midwives are needed to improve maternal and neonatal survival. It was further mentioned that maternal and newborn health is vital, as it is part of the Millennium Development Goals (MDGs), especially this time when the world is facing an acute shortage of health-care workers. It is further stated that midwifery does not only focus on the pregnancy outcomes, but include newborn care and breastfeeding (WHO, 2013).

According to a global study on 'what prevents quality midwifery care', there are various barriers, namely: social, economic, professional and burnouts that prevent quality midwifery care, in which the social barriers included inadequate numbers of staff (Filby et al., 2016**).** Moreover, under economic barrier, it was stated that in Senegal, the midwifery personnel associated their inadequate remuneration with low motivation, low self-esteem and low job satisfaction.

Research conducted in Malawi, in 25 of Malawi's 28 districts, on the shortage of midwives on the quality of care, revealed that shortages of midwives have a significant and negative impact on maternal outcomes in low-income countries (Bradely et al., 2015). The study also indicated that too many patients with too few staff causes less time spent by the midwives of Malawi with each patient. This caused them to provide inadequate care to patients. It was further stated that this causes a negative attitude of midwives towards patients, which in return causes women to be discouraged from giving birth in a health facility. According to Bradely et al. (2015) the study in Malawi indicated that the effects of the shortage of midwives on the emergency obstetric care (EmOC) were obvious. The maternal death reviews in Malawi had shown that health worker

factors were one of the major contributors to maternal death, and that staff were believed to have caused the followings: delays in initiating emergency interventions and lack of performance of the EmOC signal functions. It was stated that inadequate number of skilled staff available at the health facilities resulted in delays of women receiving timely and appropriate care upon reaching the health facility, as well as delays in initiating emergency interventions. The shortage of nurses and midwives causes patient care to suffer, bringing about a variety of preventable complications, such as medication errors, emergency room overcrowding, and high mortality rates (Nursing Shortage Effect on the Health Care Industry: Current Trends, Future Growth, 2016).

According to the study on the challenges faced by midwives on a daily basis, in a referral hospital in Dar es Salaam, Tanzania; lack of personnel in the maternity unit increased workload, which resulted in inadequate care rendered to patients, which increased the incidences of maternal death and stillbirths (Bremnes et al., 2018). The study further indicated that the shortage of personnel causes poor monitoring, delays in treatment and unnecessary complications for the patients (Bremnes et al., 2018). As such, the shortage of personnel (midwives) was reported as a barrier to providing adequate midwifery care (Bremnes et al., 2018). According to Kaye (2000), high maternal deaths in developing countries are recognised as a public health issue, and that midwifery workforce crisis is one of the causes of maternal deaths in Ghana. It is also mentioned that factors such as poor remuneration, lack of incentives, inadequate resources and lack of social amenities hinders the recruitment and retention of midwifery.

A study done at Prince Mshiyeni Memorial Hospital (PMMH) in Umlazi, the largest township outside the South African port city of Durban, revealed that there was 625 maternal deaths per 100 000 live births. This was due to childbirth complications, which resulted from the lack of adequate care that could be linked to the shortage of obstetric care (Kaminju, 2011). Another study done in South Africa on perceptions of midwives on the shortage and retention of staff at a public hospital in Tshwane District, demonstrated that the shortage of midwives increases workload and causes poor provision of quality of care (Matlala & Lumadi, 2019).

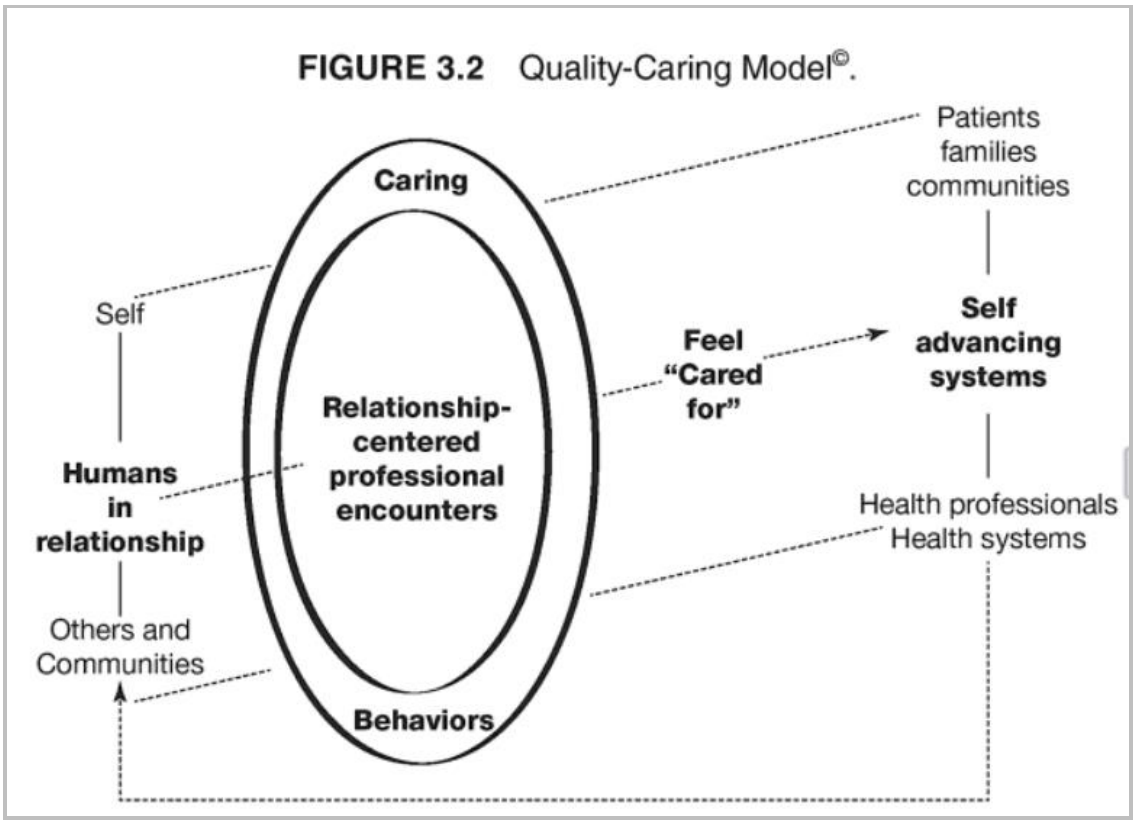
Furthermore, a study conducted in Namibia on maternal deaths during the period of January 2010-June 2012, in five regions, namely: Erongo, Hardap, //Karas, Khomas and Omaheke, indicated that negligence by providers was one of the second most commonly mentioned contributors to maternal deaths. Negligence was described to include the following: late attendance to patients; long waiting hours of patients at the hospital for admission; patient not treated on time or delayed treatment; patient sent back without assistance, and not given due respect (MoHSS, 2014). All the above mentioned factors could be linked to the shortage of midwives. In addition, delay in receiving care was found to be one of the common contributing factors to neonatal deaths, with 47.8% of the total neonatal death cases noted in the five regions (MoHSS, 2014).

2.3 Theoretical framework

A theoretical framework is a guide for the research, through the use of an existing theory in the field of an inquiry or study that supports the ideas of the research which is being conducted (Vinz, 2015). A theoretical framework discusses theories and models that are related to the research. This

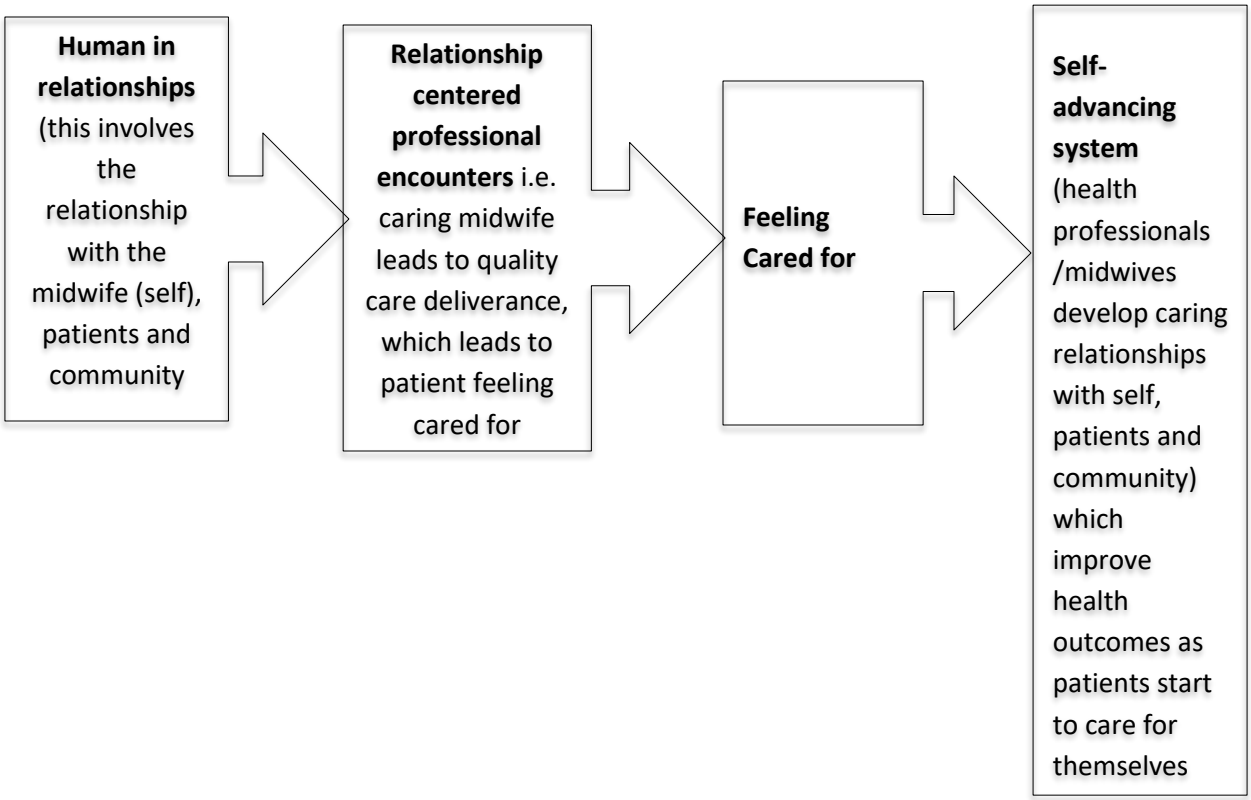
research employed the Joanne Duffy's 'Quality Caring Model', which was used as a support in the analyses of its findings. Joanne Duffy, is a nursing theorist, who developed an interest in patient satisfaction outcome when she was working as a nursing supervisor in a tertiary institution. Prior to the establishment of the theory, Duffy conducted interviews with patients and their families, in which the findings were implying that nurses seemed not to care about patients. She then started to investigate more about human caring and quality of care. Hence, she developed the 'Quality Caring Model' (Reynolds, 2011).

Figure 2.1 Duffy's Quality Caring Model



According to Duffy (2010) the Quality Caring Model was developed in 2003 to guide nursing practice. Caring relationships were the core concepts in this model. The model has four caring relationships that could assist with quality care deliverance. These include the followings: relationship with the self; relationship with the patients and families; collaborative relationships with members of the health-care team; and caring for the communities (Duffy, 2014). The model was first tested on heart failure patients. Hospitalized patients who were dissatisfied stated that "nurses just don't seem to care" (Duffy, 2010, p. 403). Hence, the model was meant to make patients feel cared for. Moreover, the major purposes for the Quality Caring Model were: to guide professional practice; describe the conceptual-theoretical linkages between quality of care and human caring; and propose a research agenda that would provide evidence of the value of nursing (Duffy, 2010). The figure below shows how Duffy's Quality caring Model is applied in this study.

Figure 2.2 The application of the theoretical framework of Duffy's Quality Caring Model



The human relationships of Duffy's Quality Care Model consist of four caring relationships, such as caring for the self, caring for the patients and families, caring for the communities, and collaborative relationships with members of the health care team (Duffy, 2014). These caring relationships are vital to quality caring when well developed and practiced. According to Duffy (2013), the ultimate role of a nurse in this model is to engage in caring relationships with the self and others, in order to produce a feeling of 'cared for'. Duffy believed that delivering quality care depends on caring relationships. Based on this model, each midwife is expected to care for the self, before attempting to care for others and be able to provide quality of care. According to Duffy (2013), for the relationship with self, a nurse or midwife, as a human being, must be aware of their internal bodily processes, feelings and connections with others. This is considered an orientation of the self. However, this is not always possible, as the nurses and midwives often concentrate on their daily works by moving from one task to another, causing them exhaustion, paying less attention to their internal bodily processes, feelings or connection with others (Duffy, 2014). According to Duffy (2014) nurses or midwives need an orientation of the self, which is often lost in the business of life. It was further explained that nurses (or midwives) need to renew their energy and refocus on their work, they need to have a few minutes alone to practice deep breathing, in order to rebuild the energy. However, with long working hours, midwives lack the self-care that is needed for them to practice effectively.

A study done in the UK, which aimed at the experience of the midwives under the workplace pressures and the emotional demands of the job, showed that midwives used resilience process through a range of coping strategies. Such strategies include developing self-awareness and protection of the self, in order to deal with the work pressures and avoid experiencing stress

(Hunter & Warren, 2014). Because of the fact that nurses are always busy caring for others and their families, they forget to connect with themselves (Duffy, 2010). A study done in Tanzania by Bremnes, et al. (2018) illustrated that all midwives interviewed reported being exhausted, that they barely had time to sit or rest. Even when they got home all they could think about was the patients. They barely had time to spend with themselves, their spouse and children. They stated that they spent most of their time making other people's families happy, but making their own sad, as their spouses and children always complain that they do not see them enough (Bremnes, et al, 2018).

Duffy (2010) in her Quality Caring Model, stated that caring offers "rich supply of energy and renewal". She further stated that self-care of the professional nurse in the work environment include short pauses and short time out, which might not be possible at a workplace with inadequate staff. In addition, Duffy also stated that professional nurses need a boost in their self-confidence through active feedback about one's performance. However, due to lack of supervision, such as in the case of the Tanzania study, this demotivates nurses or midwives (Duffy, 2010). The self-care concept also involves personal and professional development, such as acquainting themselves with knowledge through studying or attending workshops, which might also be hindered by the shortage of staff.

According to Duffy (2010) in her 'Caring Model', patients and families are the primary focus of nursing, as they depend on nurses for care. "Initiating, cultivating, and sustaining caring relationships with patients and families is an independent function of professional nursing that involves intention, choice, specific knowledge, skills and time" (Duffy, 2010, p. 407). With the shortage of personnel, midwives will not have sufficient time to spend with each patient and their

families. In this case midwives will fail to care for the patients adequately, hence, the quality of care rendered is rendered to patients will be affected.

In addition, collaborative relationship is vital to quality health care. This means midwives need to have ongoing relationships with other health personnel. This include discussing specific clinical issues concerning patients, participating in joint rounds, holding family conferences, etc., which does not only benefit the patients and families, but the health care team as well (Duffy, 2010). This is known to improve the working environment and stimulate work satisfaction. According to Duffy (2010), in her Quality Caring Model, engaging communities in health care obtains professional midwives to improve health and reduce diseases. This involves the relationship of the health professionals (nurses and midwives) in involving the community in disease preventable measures. Such measures include health education on immunization against childhood illnesses, prevention of mother to child HIV transmission, importance of follow-ups, environmental hygiene, and community practices.

According to Duffy's Quality Caring Model, when a person seeks health care, his or her relationship is extended to the health care system and the health professionals (such as patient-midwife relationship). The health professionals or midwife then uses their own self-knowledge and interact in a caring manner as she interact with the patient on health-care related issues. Effective caring relationship is essential for quality health outcomes. A good balance of "doing" with "being" create a high quality nursing deliverance (Duffy, 2014). It is mentioned that patients who experience a caring relationship with health care providers do better as they concentrate on their health and participate in health care decisions (Duffy, 2014). However, with the shortage of

personnel, there is limited time that the midwife spends with the patients, thus the time might not be adequate enough to provide the optimal care to all the patients.

Duffy's Quality Caring Model is a model that describes how relationships assist with the provision of quality care. The application of the quality caring model can assist the midwives to deliver quality care to their patients or clients. This model demonstrates the link between the midwives, caring behaviours and patients' health outcome (Duffy, 2014). This model was chosen for the study because the researcher wanted to demonstrate how the effects of the shortage of midwives affects the caring relationships, which may hamper quality care deliverance. The Caring model by Duffy is proven to influence nursing sensitive outcomes, such as self-knowledge, safety, comfort, adherence, human dignity and satisfaction. However, the practice of long working shifts "contributes to high levels of worker's fatigue and reduced productivity, impacting patient safety" (Duffy, 2013, p. 10). According to Kooken, Wolverton, & Weaver (2012a) as cited in Duffy (2013, p. 10), it is stated that "the quality of patient-nurse relationships is linked to patient safety and quality outcomes".

In conclusion, it is stated that the four caring relationships such as caring for the self, patients and families, communities and health care team, are vital to quality caring when well-developed and practiced.

2.4 Summary

This chapter reviewed the literature related to the topic under study. Different scholars identified and analysed the effects of the shortage of midwives in maternity units or wards on the midwives'

performance and on the quality of patient care. The chapter also covered the discussion on Duffy's Quality Caring Model in relation to quality of care and patient outcome. The next chapter will present the research methodology.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides an overview of the research methodology used in this study. Research methodology is a way to systematically solve a research problem in a scientific manner. It starts from the researcher's description, evaluation and prediction of the research phenomenon, to the selection of research methods, scientific tools and techniques necessary to solve the research problem (Research Methodology Introduction, 2015). A research method on the other hand, is "a systematic plan for conducting research", and it includes all the methods and techniques that are used in the conduction of the research (Moffitt, 2013, para. 1). The chapter is outlined as follows: the research design, population, sample, sampling method, research instrument, procedure, data analysis, and research ethics. The purpose of the study was to assess the effects of the shortage of midwives on their performance and quality of care, in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital, Kavango East Region. The objectives that served as the foundation for the study were, to:

- determine the effects of the shortage of midwives on their performance in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital;
- analyse the effects of the shortage of midwives on the quality of care, in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital.

3.2 Research design

A research design is an overall plan or a framework for addressing a research question or problem (Polit & Beck, 2012). The study employed a quantitative, analytic, descriptive, cross-sectional design, which was appropriate to collect measurable data on the effects of the shortage of midwives on their performance and quality of care (DeFranzo, 2011). The quantitative research design is a research design that "collects facts and study the relationship of one set of facts to another", using numerical data, structured and predetermined research questions, conceptual frameworks and designs (Punch, 2002, as cited in Bell & Walters, 2014, p. 9). The quantitative research design was chosen for this research because it studies the relationship of one set of facts to another. In this case, it studied the relationship between the shortage of midwives and performance, and quality of care. The quantitative research design was suitable for this study as it was used to determine how the shortage of midwives affects the midwives' performance and the quality of care, using the collected facts and theoretical framework. The study used a self-administered questionnaire, with predetermined questions regarding the effects of the shortage of midwives on their performance and quality of care.

In addition, a descriptive research is a research that "aims to accurately and systematically describe a population, situation or phenomenon" and answer the what, when, where and how questions, but not why questions (McCombes, 2019, para. 1). The why question can be used in surveys to allow a large volume of data to be gathered and analysed using numerical statistics, such as frequencies (McCombes, 2019). This research study is descriptive in nature, because it used a questionnaire which consisted of the description of the study population, such as name of health facility, gender, age, rank, educational level and years of experience of participants. It contains predetermined

questions on the effects of the shortage of midwives on their performance and the quality of care, which were needed for analysis using numerical statistics such as frequencies. In the descriptive study, the researcher does not control or manipulate any of the variables, but only observes and measures the variables (McCombes, 2019). In this study, because the researcher used a self-administered questionnaire, there was no influence of the researcher on the participants' responses. In addition, quantitative research data are analysed using descriptive statistics, such as frequency, count and percentage, in which the results are presented in figures such as bar charts, scatter plots, line graphs or charts. The data in this study were analysed using count, frequency and percentage, and the findings are presented in simple bar charts, stacked bar charts, pie charts, line charts and area charts (Cresswell & Clark, 2011).

Analytic studies tests hypotheses and answers why and how questions (Mangum, 2016). In this study, a descriptive analytic study was used to gather the demographic information of the participants, such as what was the characteristics of the participants (i.e. age, sex and occupation), who were the participants (i.e. Registered nurse/midwives and enrolled nurse/midwives), and where were they from (i.e. Rundu Intermediate Hospital or Nyangana District Hospital). It tested the hypothesis by finding out how the shortage of midwives affects the midwives' performances and the quality of care, using a questionnaire with pre-determined assumptions. In other words, an analytic approach was used to determine and analyse the effects of the shortage of midwives on their performance and quality of care in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital, as a questionnaire was used with pre-determined assumptions.

A cross sectional approach is used for the collection of data on a specific topic, at a specific time with the same participants (Brink, van der Walt & van Rensburg, 2012), which was appropriate

for this study. The study was designed to collect data regarding the effects of the shortage of midwives on their performance and quality of care, in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital. The collection of data was done within a specified period of time, which was approximately four weeks, from 12 December 2019 to 09 January 2020.

3.3 Population

Brink et al. (2012) define population as "a complete set of persons or objects that possess some common characteristic that is of interest to the researcher" (p. 216). The study population for this research was all the midwives who were working in Rundu Intermediate Hospital and Nyangana District Hospital's maternity wards during the study period. The population comprised of fourty (40) midwives, of which thirty-one (31) were from Rundu Intermediate Hospital and nine (9) were from Nyangana District Hospital's maternity wards. The midwives selected were registered nurses/midwives and enrolled nurses/midwives.

3.4 Sampling method

Sampling is "the process of selecting a portion of the population to represent the entire population" (Profetto-McGrath, Polit & Beck, 2010, p. 208). This study used a non-probability, purposive sampling method, in which a total population sampling was employed. A non-probability sampling was used, because the population size was too small to accommodate a probability sampling method. Purposive sampling method is a non-probability sampling method in which the researcher uses his/her own judgement to choose members of the population study who will be participants in the study (Dudovskiy, 2015). The main goal for a purposive sampling is to focus on particular characteristics of a population that are of interest, which will best enable the researchers to answer

their research questions (Laerd, 2020). Total sampling is a type of purposive sampling technique where the researcher chooses to examine the entire population that has a particular set of characteristics, because the size of the population of interest is very small to draw a sample from and might not produce adequate information needed to answer the research question(s) (Laerd, 2020). In this study, the researcher used her own judgement to decide that all midwives working in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital must be included because of the small population.

3.5 Sample size

A sample is defined by Polit & Beck (2012) as "a subset of the population comprising those selected to participate in a study" (p. 740). According to Polit & Beck (2012) sample size refers to "the number of people who participate in a study" (p. 740). The sample size for this study was 40 midwives, which was equivalent to the total population. This was done because of the small population size, which did not allow a sample to be drawn from it, as it would not have provided the adequate information needed to achieve the purpose of the study. The sample size of the study was equal to the total population of the study (40 midwives), in which thirty-one (31) of these midwives were from Rundu Intermediate Hospital's maternity ward and nine (9) midwives were from Nyangana District Hospital's maternity ward.

3.6 Research Instrument

A structured, self-administered questionnaire was used to collect data. A research questionnaire is needed to obtain, measure and analyse the data gathered for the purpose of answering a research question. The self-administered questionnaire for this research was formulated in the English language and comprised of three sections, namely: Section A, B and C. Section A consisted of the

demographic information of the participants. Section B consisted of the information on the effects of the shortage of midwives on midwives' performance, while section C consisted of the data on the effects of the shortage of midwives on the quality of care. The demographic information was collected using multiple-choice questions, whereas the questions on the effects of shortage of midwives on their performance and on quality of care were collected using the 5-point Likert scale questions. The questionnaire consisted of only one open-ended question, in which the participants were asked about the measures they thought should be taken in order to address the effects of the shortage of midwives on midwives' performance and quality of care in the two respective hospitals. Prior to the distribution of questionnaires for the main study, the research instrument (questionnaire) was pretested through a pilot study.

3.7 Pilot study

A pilot study is defined as a small scale research study, which is conducted prior to the full study or main study (Payne, 2020). The reason for the pilot study is to test the quality, effectiveness and reliability of the research instrument and to identify any deficiencies in the instrument, in order to be able to make all the necessary changes required for the feasibility of the main study (In, 2017). In this study, a pilot study was conducted at Andara District Hospital, in the Kavango East region, two weeks prior to the main study. The pilot study was conducted at Andara District Hospital, because the study population was too small to include the sample for the pilot study. Though Andara District Hospital was not a target population for the main study, it is similar to Nyangana District Hospital in terms of characteristics of the participants. The data collection for the pilot study occurred between 25th of November 2019 to 08th of January 2020. Five (5) midwives were selected from maternity ward of Andara District Hospital, using the convenience-sampling

method. This was done in order to test the questionnaire to see if it was effective to produce similar results to that of the main study (reliability). It was also intended to make all the necessary changes required for the feasibility of the main study (Joubert & Ehrlich, 2014). The participants in the pilot study were not part of the main study. This was done to avoid possible biases, as Andara District Hospital was not part of the main study. The results of the pilot study were used to make some adjustments on the research instrument prior to the main study, which included the addition of the variable "Registered nurse and midwife" to the ranks as tipulated in the Government Notice No. 206 of 2014 under the Government Gazette of the Republic of Namibia (MOHSS, 2014). In addition to this, the variable "Doctoral Degree" under educational level was removed, as it became less meaningful to the study. Overall, the Cronbach test results of the research instrument used in the pilot study showed a Cronbach's Alpha score of .825, which indicated that the internal items of the research instrument were consistent and reliable (Profetto-McGrath et al., 2010). The pilot study is also done to assess the inclusion and exclusion criteria of the participants in the determination of the feasibility of the study (In, 2017). In this study, there were no inclusion and exclusion criteria, due to the limited size of the study population. However, the results of the pilot study was not included in the findings of the main study.

3.8 Validity and Reliability

Validity refers to "the degree to which an instrument measures what it is supposed to be measuring" (Profetto-McGrath et al., 2010, p. 66). Two types of validity were considered in this study: content validity and external validity. Content validity is concerned with how well an instrument adequately covers the content area being measured (Profetto-McGrath et al., 2010).

The study was aimed to measure the effects of the shortage of midwives on their performance and quality of care. The questionnaire consisted of three sections, section A to C. Section A covered the demographic information of the participants, and section B covered the effects of the shortage of midwives on their performance, while section C covered the effects of shortage of midwives on the quality of care. The content coverage of the instrument was reviewed by the supervisors of the researcher. Individual items were evaluated to establish whether they covered the full content domain and are in line with the reviewed literature. The instrument was approved as valid and appropriate to the particular study (Polit & Beck, 2012). Therefore, content validity on the instrument was established, as the instrument covered all the components intended by the study. External validity of the instrument was checked through a pilot study, to determine whether the result could be generalised beyond the immediate study ("Reliability and Validity", 2018). External validity refers to "the generalizability of research findings to other settings or samples" (Profetto-McGrath et al., 2010). The results of the pilot study indicated that the shortage of midwives affects the midwives' performance and quality of care negatively. These results correlated to that found in the main study. This indicate that the instrument was valid. The external validity of the instrument was achieved because the characteristics of the testing sample was similar to those of the population of the main study, as they were all midwives working in the maternity wards in the hospitals of the Kavango East region (Profetto-McGrath et al., 2010).

Reliability refers to "the degree of consistency of a measure" (Kumar, 2014). Cronbach's alpha (also known as *coefficient alpha)* is mostly used when one wants to assess the internal consistency of a questionnaire that is made up of multiple Likert-type scales and items (Cronbach's Alpha, 2018). A Cronbach Alpha test was used to measure the internal consistency or reliability of the research instrument (questionnaire) by checking how closely related the items were as a group on

the Likert scale, in which the results indicated a Cronbach's alpha test score of .835 (What does Cronbach's alpha mean?, 2018). Profetto-McGrath et al. (2010) explained that a reliability coefficient ranges from .00 to 1.00, and "reliability coefficients higher than .70 are satisfactory, but coefficients in the .85 to .95 range are far preferable" (p. 261). A high level of alpha indicates that the items in the test are highly correlated or measure the same concept, which means that the instrument is reliable (Glen, 2014). The instrument used in this study is considered reliable because it has a high value of Cronbach's alpha, which indicated that all the items were measuring the effects of shortage of midwives on their performance and quality of care.

Table 3.1 Distribution of questionnaire

	Rundu Intermediate Hospital	**Nyangana District Hospital**
Number of questionnaires distributed	38	10
Number of questionnaires received	31	9

3.9 Data collection procedures

Data collection is defined as "a process of gathering information to address a research problem", whereas, data collection tool is the instrument that is used to gather such data (Polit & Beck, 2012, p. 725). The study used a prepared questionnaire (as a data collection tool) with structured and predetermined research questions where hypotheses or assumptions were stipulated. The questionnaire was then distributed to the midwives or study sample. Data from the main study was collected two weeks after the pilot study. The data collection period was extended from two weeks as per initial plan to four weeks. This is because the midwives were overwhelmed with the work

in the wards and could not get time to sit and fill in the questionnaires. Some midwives could not take the questionnaire at their houses, because they regarded their houses as a relief from work and they could not compromise their time at home to fill in the questionnaire, and preferred it to be done at the work place. The midwife in-charge of the distribution of the questionnaires could not also find time to distribute the questionnaires to her sub-ordinates on time.

Copies of the questionnaire were given to the unit managers in maternity ward of Rundu Intermediate Hospital and Nyangana District Hospital, for distribution among the midwives. The midwives were then given four weeks to complete the questionnaire on their own time. The data collection period was extended from the initial time of two weeks, due to the fact that the participants were complaining of the lack of time to complete the questionnaire within the specified period of time. The completed questionnaires were then collected from the unit managers after four weeks of distribution. The data from the main study were collected between December 2019 and January 2020.

3.10 Data Analysis

Data analysis refers to the process in which data is collected, organised and interpreted for the purpose of drawing useful conclusions (Data Analysis: What, How and Why to do Data Analysis for your organization, 2019). In this study, the data collection was done between December 2019 and January 2020, through the use of a self-administered questionnaires. The data organisation and interpretation occurred immediately after data collection period. The collected data was analysed using a computer program known as IBM SPSS Statistics version 26. The term SPSS stands for 'Statistical Package for the Social Sciences'. SPSS is a software that is known to perform

adequately any type of statistical analysis in scientific disciplines such as social sciences, business world, etc. It is used to analyse descriptive statistics such as frequencies, percentages, mean, average, etc. and display findings in tables, charts or graphs (George & Mallery, 2016).

Descriptive statistical analysis was used, where data were presented using statistical summaries such as frequency tables and percentages (Boone & Boone, 2012). Data was analysed using the computer program , known as SPSS version 26, and are presented in numerical or statistical form, by the use of tables, graphs and figures or charts (Bell & Walters, 2014).

The reliability of the results from the questionnaire was confirmed by the Cronbach Alpha's test with the test score of 0.835, which is considered acceptable (Tavakol & Dennick, 2011). According to Tavakol and Dennick (2011, p. 53), it is stated that "If the items in a test are correlated to each other, the value of alpha is increased", and that the acceptable values of alpha ranges from 0.70 to 0.95.

3.11 Research Ethics

According to Kumar (2014, p. 370), the term *ethics* refers to "the moral values of professional conduct that are considered desirable for good professional practice". Research ethics outlines the acceptable and non-acceptable behaviours when conducting a research project (Resnik, 2015). Research ethics is vital to a research work as it explains the ethical principles that were followed during the conduct of the research, which allows an evaluation on whether the standard norms for conducting a research were followed (Resnik, 2015).

3.11.1 Permission of the study

Prior to conducting this study, an approval of the research proposal was obtained from the post-graduate study committee of the University of Namibia. The ethical clearance for the study was obtained from the UNAM Research and Ethical Committee (UREC). Permission to conduct the study was granted by the Permanent Secretary of the Ministry of Health and Social Services (MoHSS).

3.11.2 Ethical principles

Certain ethical practices were considered by the researcher prior, during and after the study, and they are as follow:

The principle of respect for persons: Before the commencement of the study, all participants were informed that participation in the study was voluntary, and they were all offered to sign a consent form prior to the data collection process. No participant was coerced to participate in the study as a respect for human dignity. Furthermore, all the questionnaires were coded, instead of using participants' names, to ensure anonymity (Polit & Beck, 2012).

The principle of beneficence: Prior to the study, participants were given adequate information related to the study, such as: the goal of the study, the duration, the procedures, the advantages and disadvantages of the study, as well as the danger to which respondents may be exposed. A written informed consent was, thereafter, obtained from the willing participants as a legal permission granted by the participant to partake in the study (De Vos, Strydom, Fouché &

Delport, 2011). In addition, participants were allowed to withdraw from the study at any time if they felt uncomfortable.

The principle of confidentiality: Confidentiality was maintained as follows: questionnaires were kept in a locked cupboard, and data were aggregated and stored on a computer with the personal password of the researcher.

The principle of justice: All participants were treated equally and fairly, regardless of their gender, race, qualification, and professional positions in the maternity units where the study took place. The principle of fairness was upheld since all participants were eligible to participate and made up both population and sample.

3.12 Summary

In this chapter, the researcher provided information on the research methodology used in this study, by explaining the research design, study population, sampling methods, research instrument, pilot study, validity and reliability, data collection procedures, data analysis and research ethics. The chapter also highlighted the objectives of the study in order to remind the reader what the study was all about. The population of the study was defined and comprised of all the midwives in Rundu Intermediate Hospital and Nyangana District hospital maternity wards. Sample, sampling method, and a comprehensive of data collection instrument and procedure, as well as analysis procedures were discussed. Moreover, the ethical principles that were adhered to in this study were also highlighted.

CHAPTER 4: DATA ANALYSIS AND PRESENTATION OF THE RESULTS

4.1 Introduction

The previous chapter (Chapter 3) described the research methodology that was employed in the study to meet the objectives of the study. This chapter (chapter 4) provides the findings from the study. Both descriptive statistics as well as statistical analyses are used to present the findings. Descriptive statistics such as frequency tables displayed in percentages, simple bar charts, stacked bar charts, pie charts, line charts and area charts are used to summarise findings on the demographic characteristics of participants and the effects of the shortage of midwives on their performance and quality of care.

4.2 Demographic characteristics of the participants

Demographics are characteristics of a population, such as race, ethnicity, gender, age, education, profession, occupation, income level and marital status, etc. (Defranzo, 2012). The demographic information is needed to determine whether the individuals in the study are a representative sample of the target population for generalization purposes (Salkind, 2010). Section A of the research instrument used by the researcher to conduct this particular research comprised of the demographic information of the participants such as health facility of work, gender, age, professional rank, and educational level. The findings are illustrated below:

4.2.1 Name of the health facility where the participants work

The findings on the health facility where participants work is shown in the graph below.

Figure 4.1 Name of the health facility where the participants work

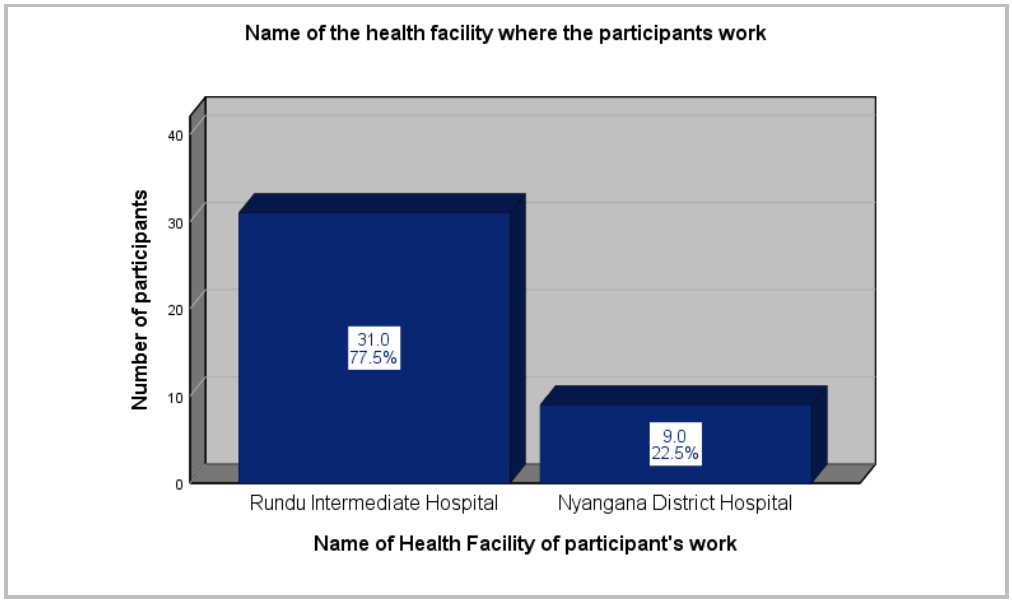


Figure 4.1 above shows that the study covered a total number of fourty (40) respondents from the two health facilities or hospitals, Rundu Intermediate Hospital and Nyangana District Hospital. The majority of the respondents, 31 out of 40 (77.5%) were from Rundu Intermediate Hospital, and the remaining 9 out of 40 (22.5%) were from Nyangana District Hospital.

4.2.2 Gender

The gender distribution of the participants is illustrated in the table below.

Table: 4.1 Gender distribution

Sex/gender of participants			
Male		Female	
Count	Table Total N %	Count	Table Total N %
0	0.0%	40	100.0%

Table 4.1 above demonstrates that all the respondents (100%) were females. According to the researcher's observation, male staff are not allocated in the maternity wards of both Nyangana District hospital and Rundu Intermediate Hospital. This is due to cultural reasons, as a form of the institution's internal arrangement.

4.2.3 Age

The age groups of the participants are presented in the graph below.

Figure 4.2 Age distribution

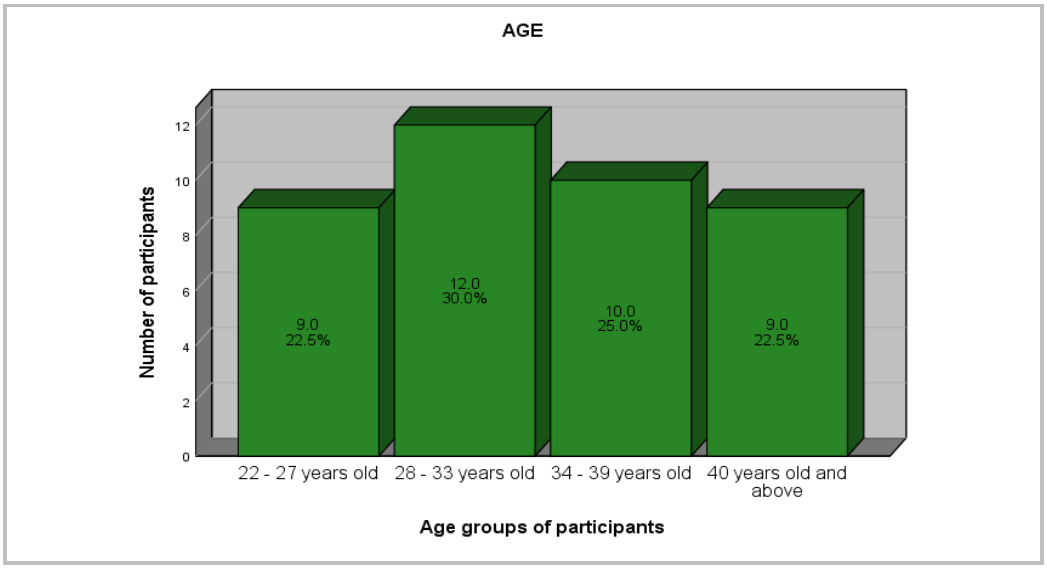


Figure 4.2 above indicates that out of the 40 participants, the majority of the participants, 12 (30.0%), were in the age group of 28-33 years old. This was followed by the age group of 34-39 years with 10 (25.0%) participants, while the age group of 20-27 years old were 9 (22.5%). The 40 years and above, were also 9 (22.5%). This demonstrates that the younger participants were equal in number with the older participants.

4.2.4 Professional rank

The professional ranks of the participants are displayed in the chart below.

Figure 4.3 Professional rank

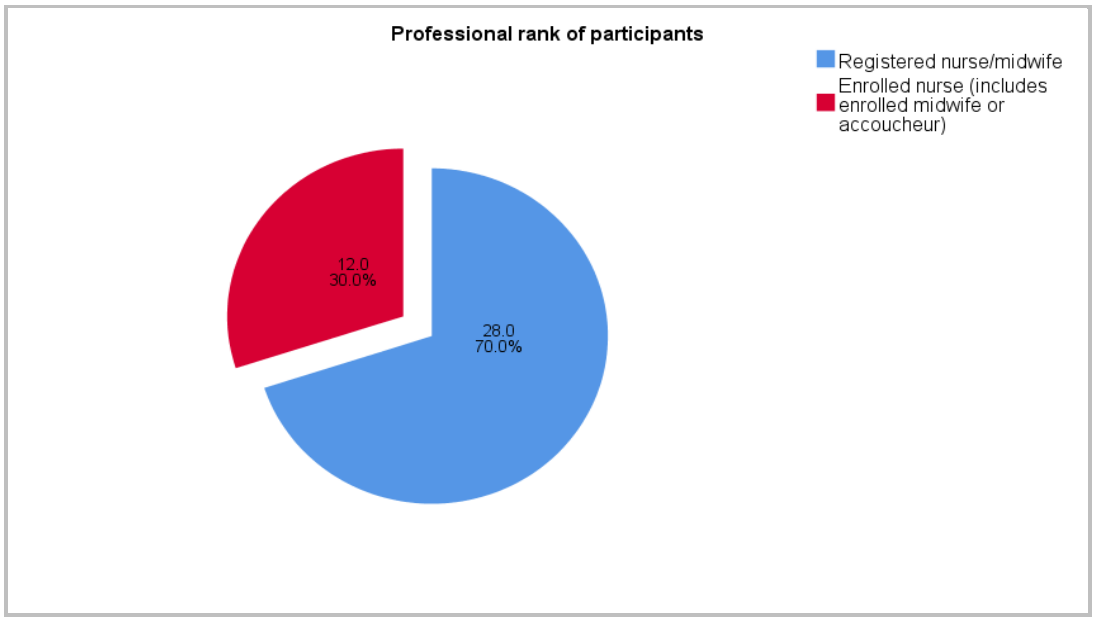


Figure 4.3 above illustrates the professional rank of the respondents. The majority of 28 (70%) were the Registered nurse/midwives, compared to the 12 (30%) enrolled nurse/midwives.

4.2.5 Educational levels

The findings on the educational levels of the participants are summarised in the graph below.

Figure 4.4 Educational levels

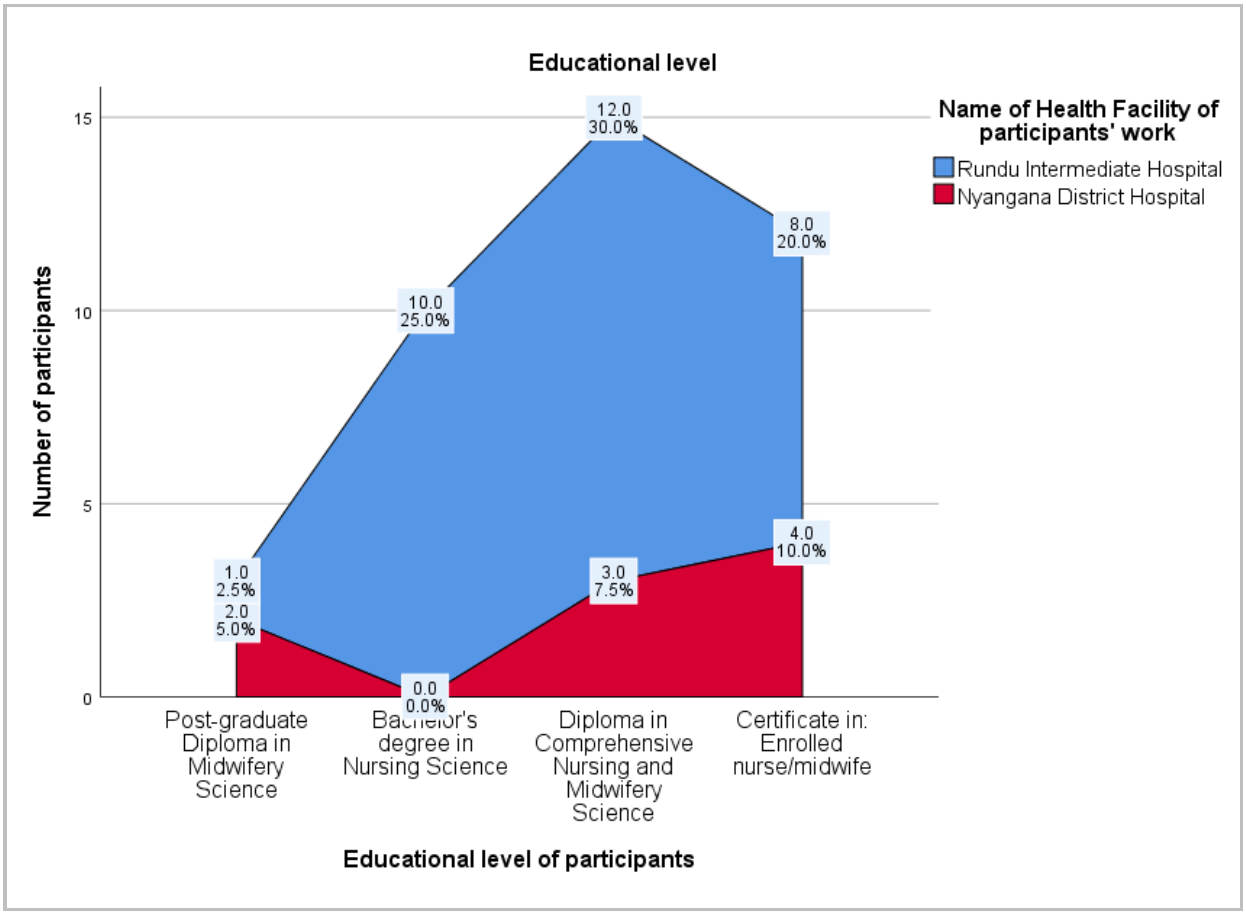


Figure 4.4 above shows the educational levels of the respondents, in which the majority, 37.5% (15/40) were holders of the Diploma in Comprehensive Nursing and Midwifery Science, while 30% (12/40) were holders of a certificate in enrolled nurse/midwife. Furthermore, 25% (10/40) of the respondents were holders of a Bachelor's degree in Nursing Science, whereas, the remaining 7.5% (3/40) held a Post-graduate Diploma in Midwifery practice.

4.2.6 Years of experience of participants

The findings on the years of experience of the participants are presented below.

Figure 4.5 Participants' years of experience by age distribution (n=40)

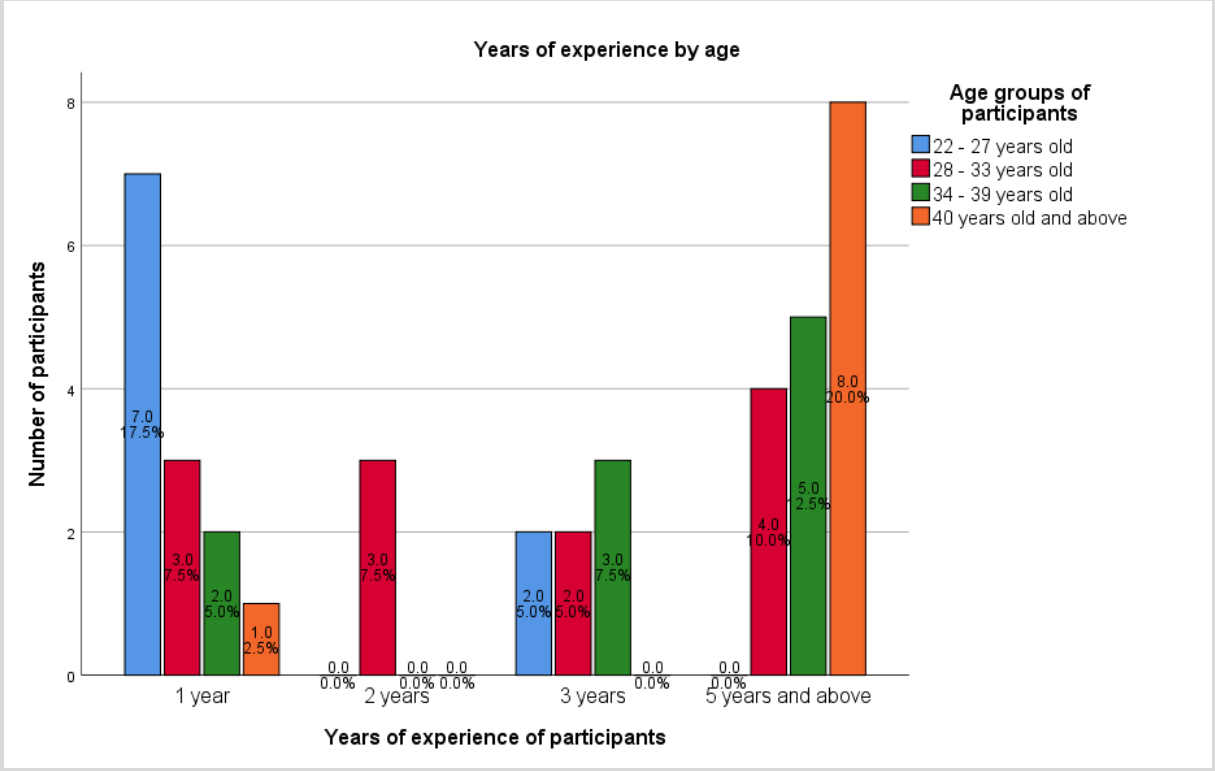


Figure 4.5 above displays the years of experience of the respondents against age. The graph shows that the age group of 40 years and above have more years of experience, as the majority of them have worked in the maternity ward for five (5) years and more. The age group of 22-27 years, have less years of experience, as the majority of them worked in the maternity ward for only 1 year. The graph also demonstrates that the majority of the participants, 42.5% (17/40), worked in maternity ward for five years and above, while 17.5% (7/40) worked for three years and 7.5 % (3/40) worked for two years in the maternity ward. The remaining 32.5 % (13/40) worked only for 1 year. In other words, the graph illustrates that the lesser the age, the less years of experience the participants had, and the older the age, the more years of experience the participant had of working in the maternity ward.

4.3 The effects of the shortage of midwives on their performance in maternity ward of Rundu Intermediate Hospital and Nyangana District Hospital

4.3.1 The effects of shortage of midwives on their performance

There are various effects of the shortage of midwives on their performance which were identified during the study, and the results are summarised in the figure below.

Figure 4.6 Participants' opinions on the effects of the shortage of midwives on their performance

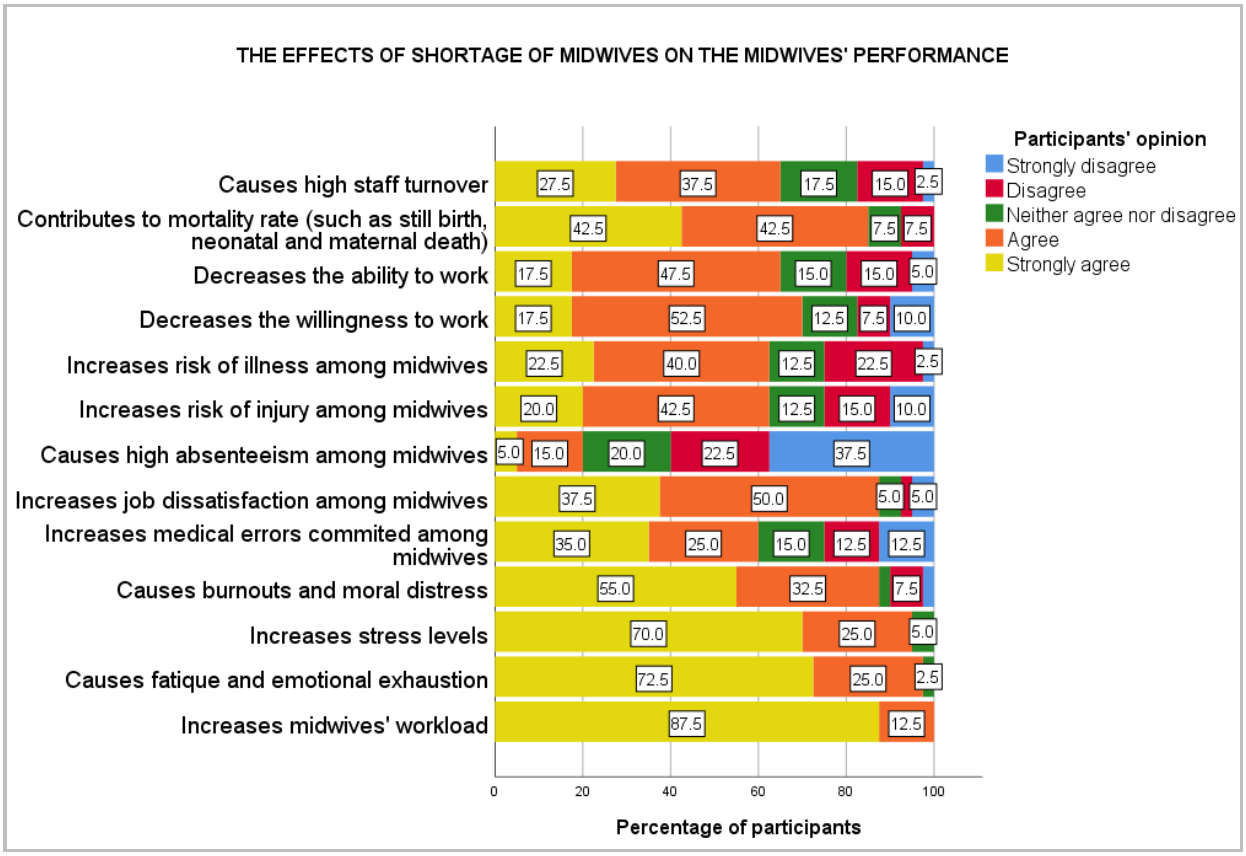


Figure 4.6 above illustrated the participants' opinions regarding the effects of the shortage of midwives on their performance in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital. The findings display that all the respondents (100%) reported that the

shortage of midwives increases midwives' workload. In addition, 97.5% of the respondents agreed that the shortage of midwives causes fatigue and emotional exhaustion, but 2.5% were indecisive about the statement. Furthermore, 95% of the respondents agreed that shortage of midwives increases stress levels. However, 5% could neither agreed nor disagreed with the statement. Moreover, 87.5% of the respondents agreed that the shortage of midwives causes burnouts and moral distress, while 10% disagreed, but 2.5% could neither agreed nor disagreed with the statement.

Furthermore, many of the respondents (87.5%) also agreed that the shortage of midwives increases job dissatisfaction among midwives, however, 7.5% were in disagreement, but 5% were indecisive about the statement. In addition, 85% of the respondents agreed that the shortage of midwives contributes to mortality rate (i.e. still birth, neonatal and maternal death), but 7.5% disagreed, while another 7.5% neither agreed nor disagreed. Moreover, 70% of the respondents agreed that shortage of midwives decreases the willingness to work, but 17.5% totally disagreed with that, while 12.5% could neither agreed nor disagreed with the statement. Besides that, 65% of the respondents agreed that the shortage of midwives causes high staff turnover, but 17.5% totally disagreed, while another 17.5% were indecisive on that. Another 65% of the respondents agreed that shortage of midwives decreases the midwives' ability to work, while 20 % disagreed with that, but 15% were indecisive.

Moreover, 62.5% of the respondents agreed that shortage of midwives increases risk of injury among midwives, but 25% disagreed, while 12.5% neither agreed nor disagreed with that. Equally,

62.5% of the respondents agreed that the shortage of midwives increases the risk of illness among midwives, while 25% disagreed with that, but 12.5% were indecisive about that. About 60% of the respondents stated that the shortage of midwives increases medical errors committed among midwives, but 25% were in disagreement, while 15% could neither agreed nor disagreed with the statement. However, only 20% of the respondents agreed that the shortage of midwives causes high absenteeism among midwives, while the majority of the respondents (60%) disagreed with the statement. Meanwhile, 20 % of the respondents were indecisive.

4.3.2 The frequency at which midwives commit the different types of medical errors as an effect of shortage of midwives on their performance

The participants were asked how often they thought the midwives commit the different types of medical errors and their response are shown in the figure below.

Figure 4.7 Frequency at which the midwives commit the different types of medical errors

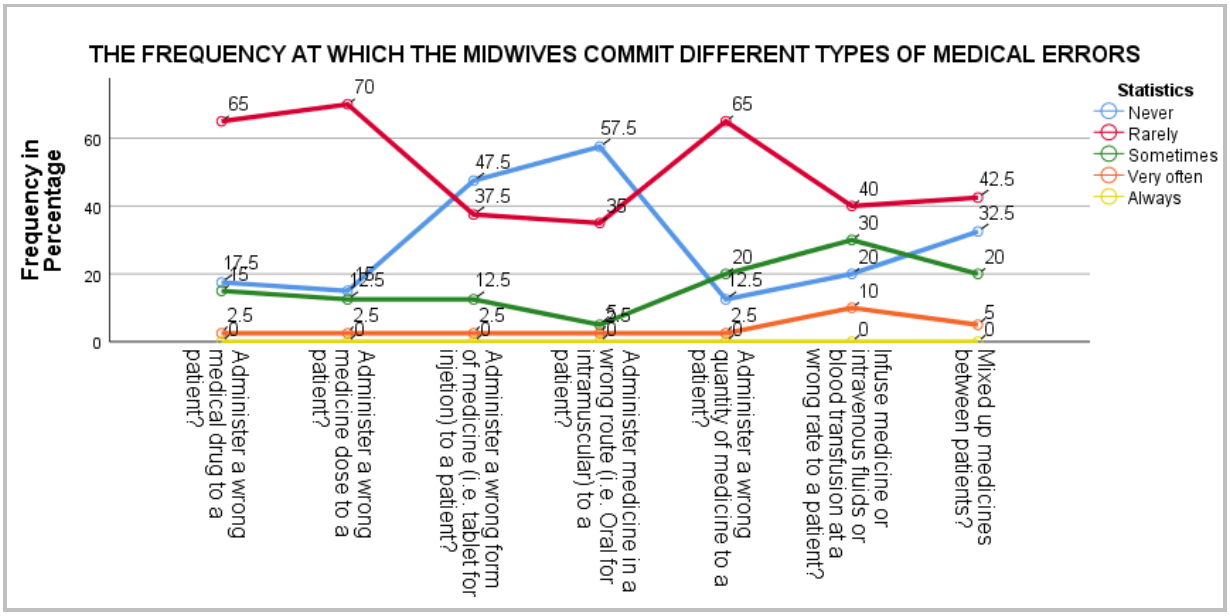


Figure 4.7 above, displays participants' views on the frequency at which the midwives commit various types of medical errors as an effect of the shortage of midwives. The findings indicate that 10% of the participants believed that the medical error that midwives very often commit, is infusing medicine or intravenous fluids or blood transfusion at a wrong rate, and 30% states that only sometimes that midwives infuse medicine or intravenous fluids or blood transfusion at a wrong rate. However, 20% of the participants stated that the midwives sometimes mix up medicines between patients and administer a wrong quantity of medicine, due to the shortage of midwives. Up to 15% of the participants reported that the shortage of midwives can cause midwives to sometimes administer a wrong medical drug to a patient. Furthermore, 12.5 % of the participants stated that shortage of midwives causes midwives to sometimes administer a wrong form of medicine (i.e. tablet for injection) and a wrong medicine dose to a patient, and only 5% of the participants believe that midwives can sometimes administer medicine in a wrong route (i.e. Oral for intramuscular).

4.3.3 Lack of rest as an effect of the shortage of midwives on their performance

The participants, who are midwives, were asked three questions regarding lack of rest as an effect of shortage of midwives on their performance and their responses are illustrated in the table below:

Table 4.2 Lack of rest as an effect of the shortage of midwives on performance

	Never	Rarely	Sometimes	Very often	Always
How often do you work long hours without rest in a week?	2.5%	17.5%	32.5%	45.0%	2.5%
How often do you get two days off every week to rest?	0.0%	2.5%	45.0%	15.0%	37.5%
How often does the unit manager request for extra staff for overtime?	10.0%	20.0%	52.5%	15.0%	2.5%

The table 4.2 above illustrated the participants' responses on the question of "how often do you work long hours without rest in a week". The majority of about 45% stated that they "very often" work long hours without rest in a week, and 32.5% indicated that sometimes they work long hours without rest in a week. Up to 17.5% indicated that they rarely work long hours without rest in a week, while 2.5% stated that they never worked long hours without rest in a week. However, 2.5% stated that they always work long hours without rest in a week. The table also indicated the participants' responses on the question of "how often do you get two days off every week to rest?" of which the majority (45.0%) stated that they sometimes get two days off every week to rest, while 37.5% of the respondents stated that they always get two days off every week to rest and 15% stated that they often get two days off every week to rest. Only 2.5% of the respondents stated that they rarely get two days off every week to rest.

Furthermore, figure 4.2 also illustrated the participants' responses on the question of "How often does the unit manager requests for extra staff for overtime". The majority (52.5%) of the respondents indicated that sometimes the unit manager requests for extra staff for overtime, while 20.0% indicated that the unit manager rarely requests for extra staff for overtime. However, 15% of the participants indicated that very often the unit manager requests for extra staff for overtime, 10% indicated that the unit manager never requests for extra staff for overtime. Only 2.5% stated that the unit manager always requests for extra staff for overtime.

4.3.4 The extent to which the MOHSS EmOC (Emergency Obstetric Care) guideline is implemented in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospitals

Participants were questioned on the extent to which they think the MoHSS EmOC (Emergency Obstetric Care) guideline is implemented in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital, and their responses are indicated in the graph below.

Figure 4.8. Participants' opinions on the extent to which the MOHSS EmOC guideline is implemented in maternity wards

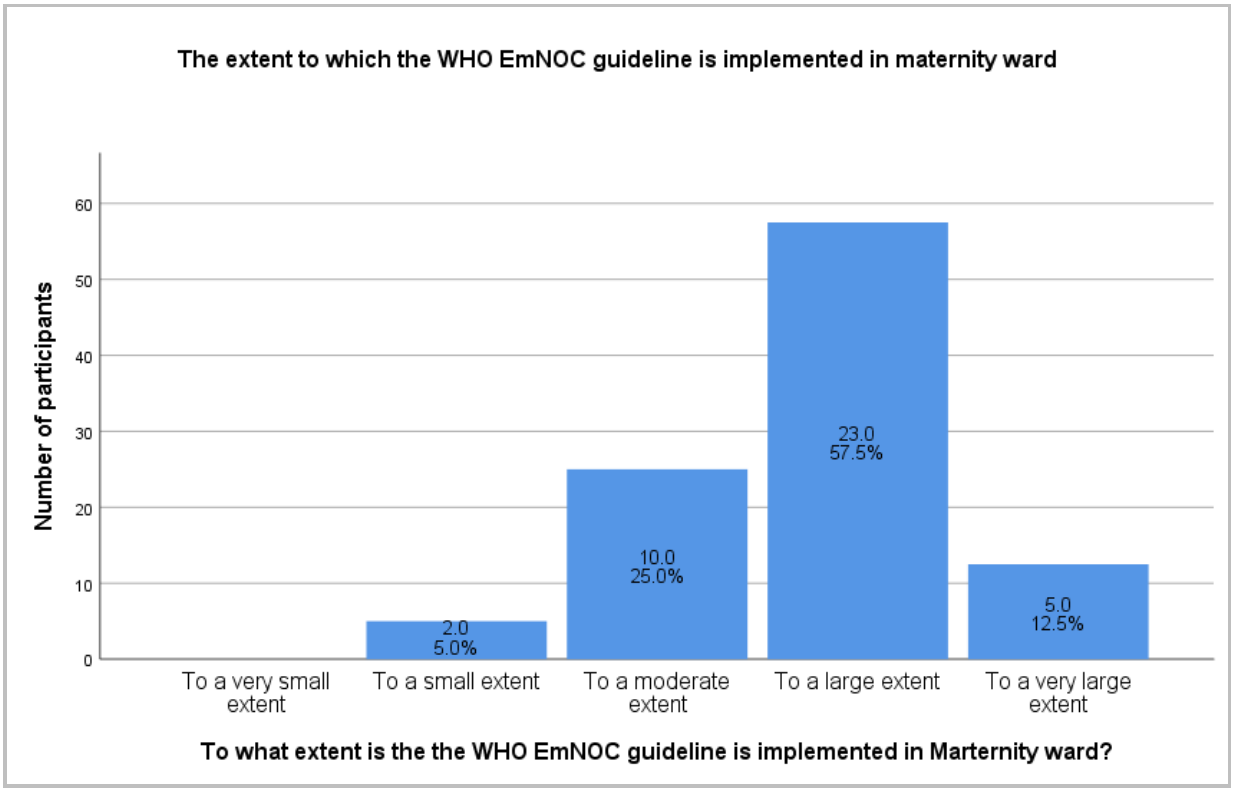


Figure 4.8 above demonstrates the participants' opinions on the extent to which the MoHSS EmOC guideline was implemented in the maternity wards of the two hospitals, namely Rundu Intermediate Hospital and Nyangana District Hospital. According to the graph, 12.5% of the participants indicated that EmOC guideline was implemented to a very large extent in the maternity wards of the two hospitals, while the majority of the participants (57.5%) agreed that the EmOC guideline was indeed implemented to a large extent in the maternity wards of the two hospitals. However, 25% indicated that it was implemented to a moderate extent, while 5% stated that the implementation was to a small extent.

4.3.5 The seriousness of the effects of the shortage of midwives

The participants were asked how serious they thought the effects of the shortage of midwives was on the midwives' performances, and their responses are shown in the figure below.

Figure. 4.9. Participants' views on the seriousness of the effects of the shortage of midwives on their performance

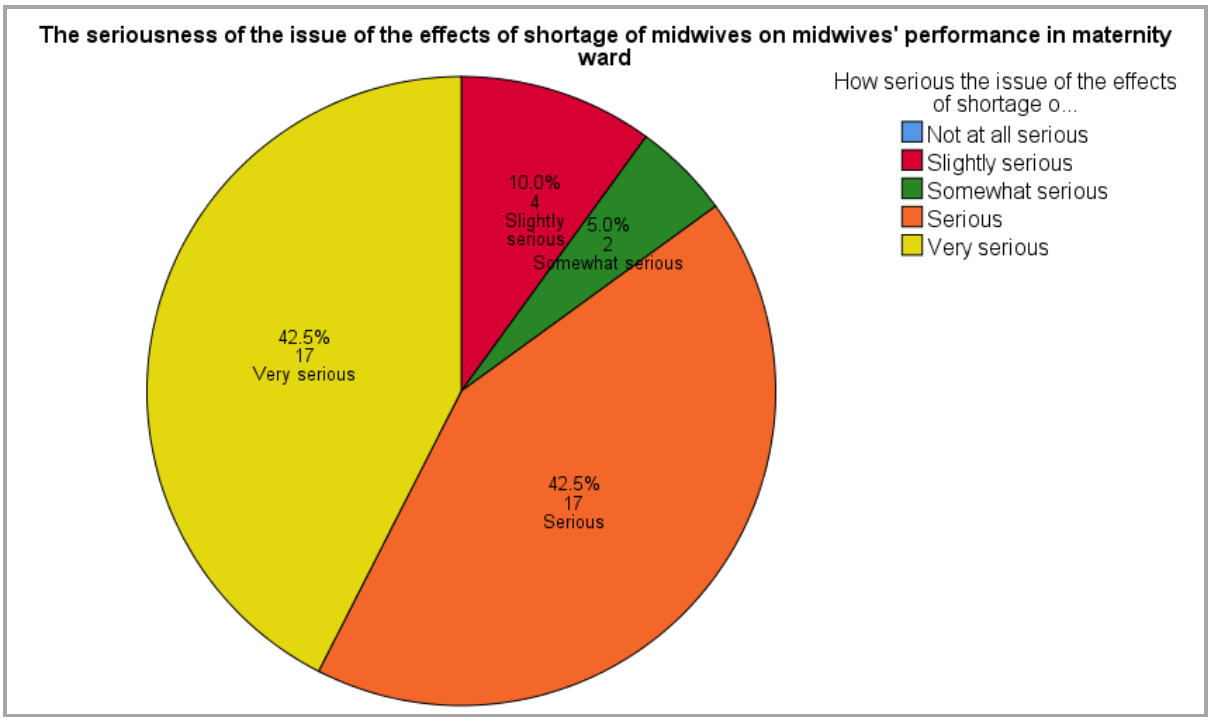


Figure 4.9 above shows the respondents' views on the seriousness of the effects of the shortage of midwives in the maternity ward of Rundu Intermediate Hospital and Nyangana District Hospital. The question was "state how serious the issue of the effects of the shortage of midwives is, on midwives' performances, in this maternity ward", of which the majority of the respondents, about 85% stated that the effects were indeed serious, while 5% stated that the effects were somewhat

serious and 10% stated that the effects were slightly serious. However, none of the respondents stated that the effects were not serious at all.

4.3.6 The degree of concern of the participants regarding the effects of the shortage of midwives on their performance

The participants were asked if they were concerned about the effects of the shortage of midwives on their performances, and their responses are illustrated below.

Figure 4.10. Participants' views on how concerned they are regarding the effects of the shortage of midwives on their performance

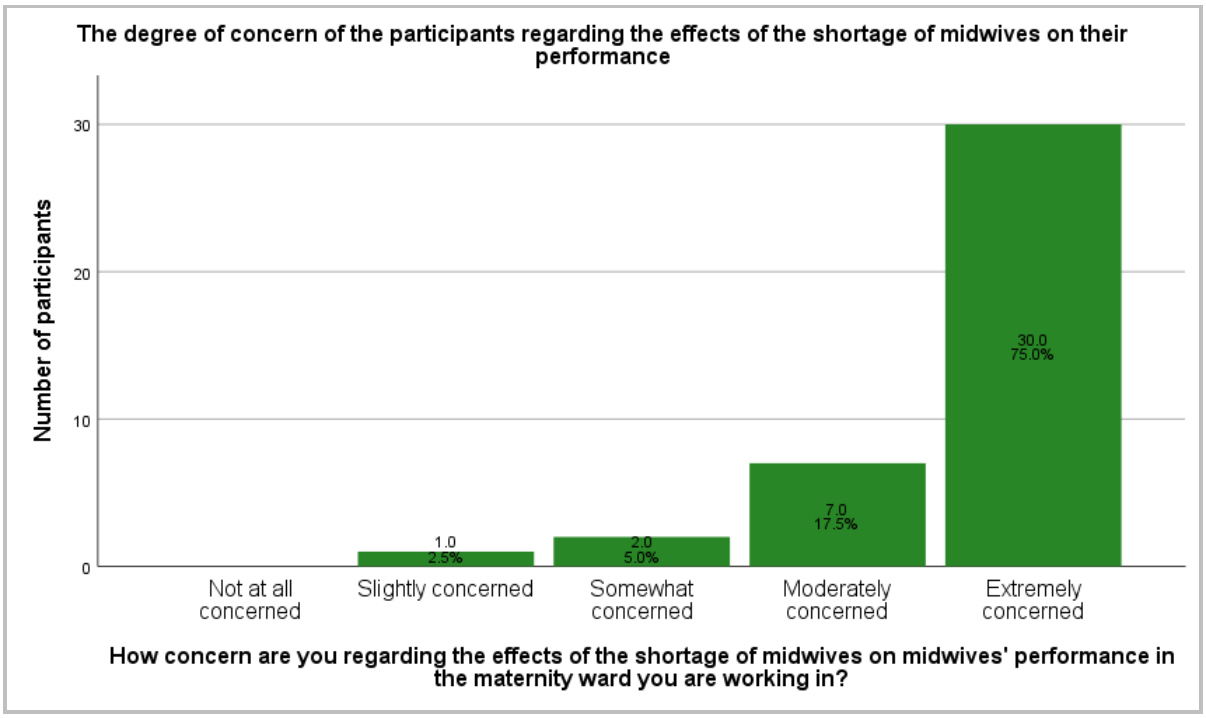


Figure 4.10 above shows that 75% of the respondents indicated that they were extremely concerned about the effects of the shortage of midwives on midwives' performances in the maternity units of

the two respective hospitals. Up to 17.5% indicated that they were moderately concerned, 5% stated that they were somewhat concerned and the remaining 2.5% stated that they were slightly concerned. However, there were no respondents who stated that they were not concerned at all.

4.3.7 The satisfaction of the participants with staffing, wages, working environment, leadership and support

Firstly, the participants were asked about how satisfied they were with the number of midwife staff allocated in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital. Their responses are illustrated in figure 4.11 below.

Figure 4.11 The degree of participants' satisfaction with the number of staff allocated in maternity ward

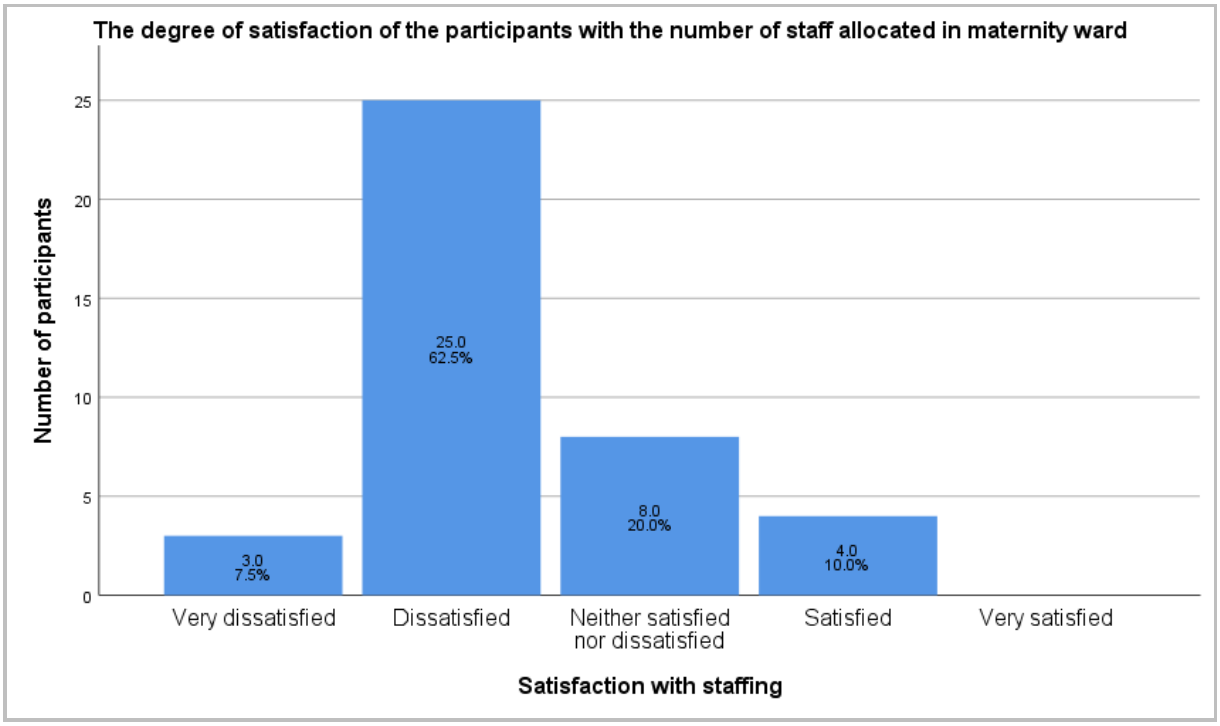


Figure 4.11 above shows that the majority (about 60.0%) of the respondents indicated that they were dissatisfied with the number of midwife staff allocated in the maternity wards of the two hospitals, and 5.0% indicated that they were indeed very dissatisfied. About 25% of the respondents were indecisive, in which they were neither dissatisfied nor satisfied. Only 10.0% indicated that they were satisfied with the number of staff allocated in the maternity wards of the two hospitals and none were very satisfied with the number of staff allocated in the maternity wards of the two hospitals.

Furthermore, the participants were asked to rate their degree of satisfaction with the following aspects of their practice in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital, and the results are shown in table 4.3 below.

Table 4.3 The degree of the participants' satisfaction with staffing, wages, working environment, leadership and support

	The degree of your satisfaction with the staffing of the maternity ward	The degree of your satisfaction on the wages	The degree of your satisfaction on the working environment	The degree of your satisfaction on leadership and support
Very dissatisfied	7.5%	10.0%	12.5%	10.0%
Dissatisfied	62.5%	37.5%	35.0%	30.0%
Neither satisfied nor dissatisfied	20.0%	25.0%	15.0%	22.5%
Satisfied	10.0%	27.5%	37.5%	27.5%
Very satisfied	0.0%	0.0%	0.0%	10.0%

Table 4.3 above displays the results on which the respondents rated their degree of satisfaction with the four aspects, namely: staffing, wages, working environment, leadership and support. The majority of the respondents were totally dissatisfied with almost all the four aspects, with 70% on staffing, 47.5% on wages, 47.5% on working environment and 40% on leadership and support. However, some respondents were completely satisfied with staffing 10%, wages 27.5%, working environment 37.5% and with leadership and support was 37.5%. Nevertheless, some were

indecisive, in which they were neither satisfied nor dissatisfied (20% on staffing, 25% on wages, 15% on working environment and 22.5% on leadership and support).

4.3.8 The degree of happiness of the participants to work in maternity ward of Rundu Intermediate Hospital or Nyangana District Hospital

The participants were asked to state the degree of their happiness to work in maternity wards of Rundu Intermediate hospital or Nyangana district Hospital, and the results are displayed in the table below.

Table 4.4 The degree of happiness of the participants to work in the maternity wards

	Not at all happy	Slightly happy	Fairly happy	Happy	Very happy
State the degree of your happiness to work in maternity ward of Rundu Intermediate Hospital/Nyangana State Hospital	12.5%	12.5%	35.0%	30.0%	10.0%

Table 4. 4 above shows the degree of happiness of the participants to work in the maternity wards of Rundu intermediate Hospital and Nyangana District Hospital, of which the majority of the participants (35%) indicated that they were fairly happy to work in maternity ward, while 30% indicated that they were in fact happy to work in maternity ward, and 10% were actually very happy to work in maternity ward. In addition, 12.5% of the participants were slightly happy to

work in the maternity wards of Rundu Intermediate hospital or Nyangana District Hospital. However, 12.5% were not happy at all to work in maternity ward.

4.4 The effects of the shortage of midwives on the quality of care

According to the WHO, for the care to be considered as quality, it has to be safe with no exposure of patients to any harm such as injuries or medical errors. It has to be timely, in which women and their babies (born or unborn) receive assistance without delays, and it has to produce the desired health outcomes, not death, such as maternal or perinatal death (WHO, 2020).

4.4.1 Participants' opinions on the WHO quality statements regarding the standard of care that should be rendered to patients in maternity units

Participants were asked to indicate the degree to which they agreed or disagreed with the WHO statements regarding the care rendered to patients in the maternity wards of Rundu Intermediate Hospital or Nyangana District Hospital. The results are shown in the graph below.

Figure 4.12 Participants' opinions on the WHO quality statements regarding the standard of care that should be rendered to patients in maternity units

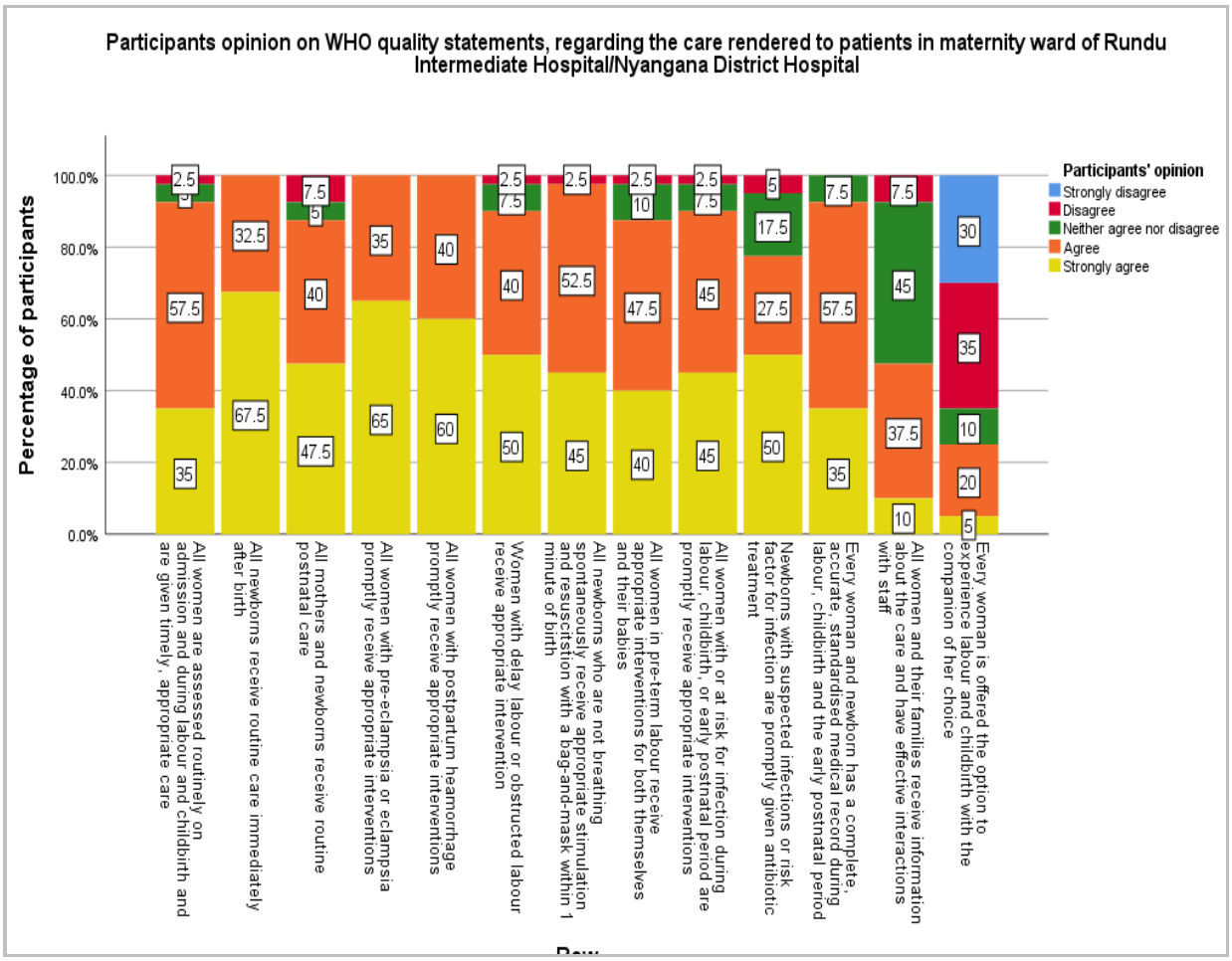


Figure 4.12 above displays the participants' opinions on the WHO's quality statements regarding the care rendered to patients in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital. On the WHO's quality statement that states *'all newborns receive routine care immediately after birth'*, the results indicated that all the respondents (100%) where in agreement with the statement. Equally, on the WHO's quality statement that states *'all women with pre-eclampsia or eclampsia promptly receive appropriate interventions'*, the results indicated that all (100%) respondents agreed that it was true, and none disagreed with the statement. Moreover, all

the respondents (100%) agreed that '*all women with postpartum haemorrhage promptly receive appropriate interventions'.*

Furthermore, about 90% of the respondents concurred with the WHO's quality statement that states that *'women with delay in labour or whose labour is obstructed receive appropriate interventions',* and only 10% were not in agreement with the statement. About 77.5% agreed that *'newborns with suspected infection or risk factors for infection are promptly given antibiotic treatment'*, while 22.5% were not in agreement with the statement. In addition, on the WHO's quality statement that states *'all women with or at risk for infection during labour, childbirth or the early postnatal period promptly receive appropriate interventions',* 90% of the respondents agreed that it was true, while 7.5% neither agreed nor disagreed with the statement, but 2.5% were in disagreement with the statement. Similarly, 92.5% of the respondents concurred with the following WHO's quality statements: *'Every woman and newborn has a complete, accurate, standardized medical record during labour, childbirth and the early postnatal period' and 'All women are assessed routinely on admission and during labour and childbirth and are given timely, appropriate care'.* However, 7.5% of the respondents neither agreed nor disagreed with the statement. Again, 92.5% of the respondents agreed with the WHO's quality statement that states that "*All women are assessed routinely on admission and during labour and childbirth and are given timely, appropriate care",* and up to 5% of the respondents neither agreed nor disagreed with the statement, but 2.5% disagreed with it.

In addition, on the WHO's quality statement that states *'All women and their families receive information about the care and have effective interactions with staff'*, less than fifty percent (47.5%) of the respondents believed that that was the case in the maternity units of Rundu

Intermediate Hospital and Nyangana District Hospital. Meanwhile, 45% of the respondents were indecisive to either agree or disagree with the statement, and the rest 7.5% disagreed with the statement. Lastly, on the WHOs quality statement that states *'Every woman is offered the option to experience labour and childbirth with the companion of her choice'*, only 25% of the participants believed that, that was true, while 65% disagreed with the statement from being true, and 10% of the respondents neither agreed nor disagreed with the statement.

4.4.2 Participants' opinions on how important the issue of staffing in maternity ward is in relation to patients' care

The participants were asked to rate how important the issue of staffing in maternity ward was, in relation to patient care, and the results are revealed in the graph below.

Figure 4.13 Participants' opinions on the importance of the issue of staffing in the maternity wards in relation to patient care

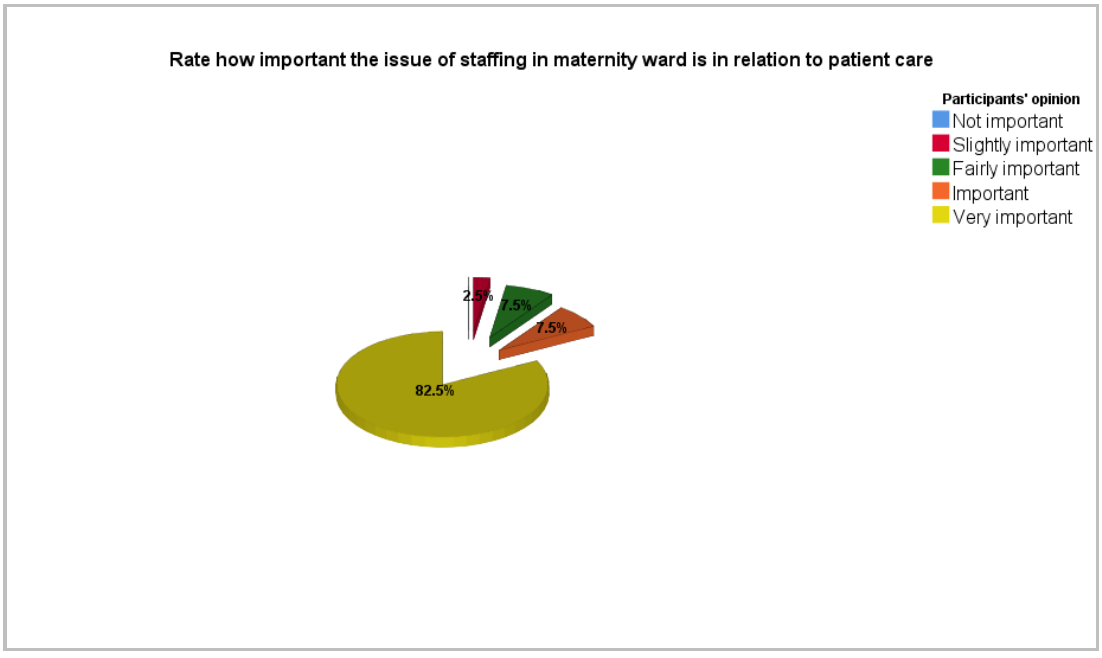


Figure 4.13 above portrays participants' opinions on the importance of the issue of staffing in the maternity wards in relation to patient care. The majority (82.5%) of the participants stated that the issue of staffing in the maternity ward was very important. Up to 7.5% stated that it was important and another 7.5% stated that it was fairly important, 2.5% viewed that it was slightly important, while none thought that it was not important at all.

4.4.3 Participants' beliefs on statements regarding the effects of the shortage of midwives on quality of care delivered to patients in maternity units

The participants were asked to state their beliefs on the statements regarding the effects of the shortage of midwives on patients' outcome at Rundu Intermediate Hospital or Nyangana District Hospital. The results are presented in the graph below.

Figure 4.14. Participants' beliefs on statements regarding the effects of the shortage of midwives on quality of care delivered to patients in the maternity units

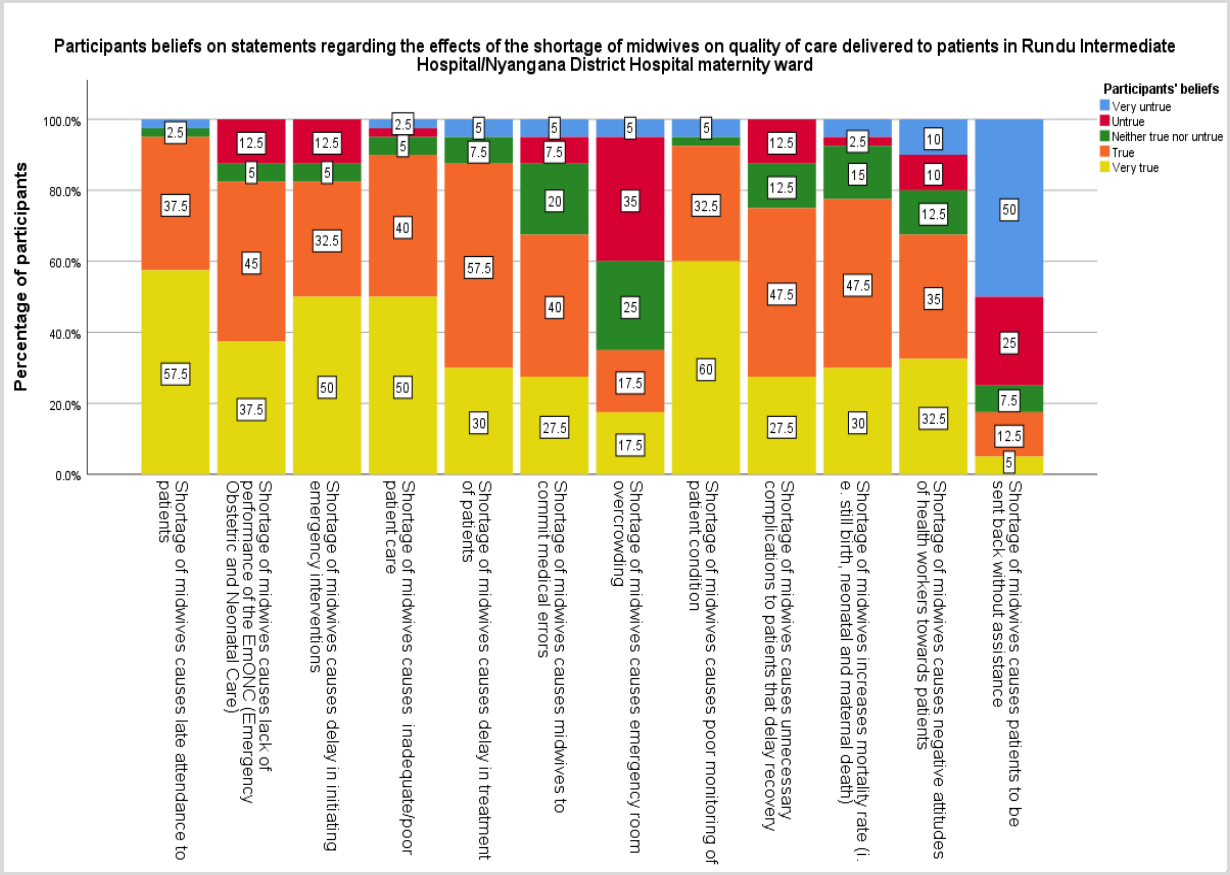


Figure 4.14 above illustrated the respondents' beliefs on the statements regarding the effects of the shortage of midwives on quality of care delivered to patients in the maternity units of Rundu Intermediate Hospital and Nyangana District Hospital. The majority of the respondents (about 95%) supported that the shortage of midwives causes late attendance to patients, but 5% of the respondents thought the statement was not true. In addition, 92.5% of the respondents supported the statement that stated that the shortage of midwives causes poor monitoring of patients' condition, but 7.5% of the participants did not think it was true though. Similarly, 90% of the

respondents stated that shortage of midwives causes inadequate or poor patient care, while 5% could say neither that was true nor say untrue. However, 5% of the respondents indicated that the statement was not true.

Furthermore, 87.5% of the participants believed that the shortage of midwives causes delay in treatment of patients, while 7.5% could neither say that was true nor say it was untrue. Instead 5% of the respondents stated that the statement was totally not true. Moreover, 82.5% of the respondents believed that the shortage of midwives causes delay in initiating emergency interventions. On the other hand, 12.5% stated that that was not true, while 5% could not say whether that was true or not. Equally, 82.5% of the participants believed that the shortage of midwives causes lack of performance in the implementation of the Namibian guidelines on Essential and Emergency Obstetric Care (EmOC) (MoHSS, 2009). However, 12.5% of the respondents totally disagreed with that, while, 5% of the respondents could not decide on whether the statement was true or not.

In addition, 77.5% of the respondents indicated that the shortage of midwives causes an increase in mortality rate (i.e. still birth, neonatal and maternal death), while 15% could not say it that was true or not. About 7.5% indicated that the statement was not true. Besides that, 75% of the participants indicated that shortage of midwives causes unnecessary complications to patients that delay recovery. Other participants, about 12.5% indicated that that was not true, while another 12.5% of the respondents could not indicate whether that was true or not. Furthermore, 67.5% of the participants believed that the shortage of midwives causes negative attitude of health workers towards patients, while 20% of the participants indicated that that was not true, but 12.5% of the respondents could not say if it was true or not. Another 67.5% indicated that the shortage causes

midwives to commit medical errors, while 20% could not state if that was true or not. However, 12.5% totally believed that it was untrue. Moreover, the minority of the respondents (35%) believed that the shortage of midwives causes emergency rooms' overcrowding, but the majority of the respondents (40%) stated that that cannot be true. However, 25% of the respondents could not say if that was true or not. Furthermore, only about 17.5% of the participants supported the statement that stated that shortage of midwives causes patients to be sent back home without assistance. Besides that, the majority (75%) of the respondents stated that that cannot be true, and 7.5% were indecisive.

4.5 Summary

Chapter 4 presented the findings of the study conducted on the effects of the shortage of midwives on their performance and quality of care, through the use of a self-administered questionnaire. The researcher used an IBM SPSS Statistics 26 to analyse the collected data. The analysed data were then presented through the use of tables and graphs. The results from the study revealed that the major effects of the shortage of midwives on midwives' performances were believed to be as follows: increase in workload, feeling of fatigue and emotional exhaustion, increase in stress level, burnout and moral distress, increase in job dissatisfaction, contribute to mortality rate (i.e. still birth, neonatal and maternal death), decreases the willingness to work, decreases the ability to work, causes high staff turnover, increases risk of injury among midwives, increases risk of illness among midwives, and increases medical errors committed by midwives. Almost all the participants also indicated that shortage of midwives causes midwives to work long hours without rest in a week. Furthermore, the majority of the respondents stated that the effects of the shortage of

midwives on their performance were indeed serious and all the participants reported to be concerned about the effects of the shortage of midwives on their performances in the maternity units of the two respective hospitals (Rundu Intermediate Hospital and Nyangana District Hospital).

Additionally, the major effects of the shortage of midwives on the quality of care were reported to be late attendance to patients and poor monitoring of patients' conditions. Others include, inadequate or poor patient care, delay in the treatment of patients, delay in initiating emergency interventions, lack of performance in the implementation of the EmOC (Emergency Obstetric Care) guideline, delay in the treatment of patients, and increase in mortality rate (i.e. still birth, neonatal and maternal death). This also causes unnecessary complications in patients that delay recovery, negative attitude of health workers towards patients and midwives to commit medical errors. The next chapter will discuss the findings of the study.

CHAPTER 5: DISCUSSIONS

5.1 INTRODUCTION

Chapter 4 presented the results of the study. However, this chapter presents the discussions of the data presented and analysed in chapter 4. The purpose of the discussion is to interpret and describe the significance of one's research findings in light of the previous studies' findings about the research problem under investigation. The discussion chapter also intends to explain how the outcomes concur or differ, as well as if there is any new understanding or fresh insights about the research problem that may emerge as a result of the recent findings (Thomas, 2010). The purpose of the study was to determine the effects of the shortage of midwives on their performance and analyse the effects of the shortage of midwives on the quality of care, in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital, Kavango East Region, Namibia. The objectives of the study were:

- To determine the effects of the shortage of midwives on their performances, in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital;
- To analyse the effects of the shortage of midwives on the quality of care, in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital.

The discussion of the findings will be done under the following sub-headings: demographic characteristics of the participants, the effects of the shortage of midwives on their performances, and the effects of the shortage of midwives on the quality of care.

5.2 DEMOGRAPHIC CHARACTERISTICS OF THE PARTICIPANTS

Participants' demographic characteristics demonstrated that the two hospitals in which the study was conducted had only midwives who were placed to work in the maternity wards and no accoucheur. The study comprised a total of 40 participants, of which 31 (77.5%) were from Rundu Intermediate Hospital and 9 (22.5%) were from Nyangana District Hospital. The study sample consisted of 28 Registered nurses/midwives and 12 Enrolled nurses/midwives. The young midwives (age 22-27 years) and the old midwives (age 40 years and above) who participated in the study were equal in number. The findings also stipulated that the younger the age of the participants, the lesser the years of experience, and the older the age of the participants, the more the years of experience. Furthermore, the results demonstrated that the majority of the participants were registered nurses/midwives with a Comprehensive Diploma in Nursing and Midwifery Science, compared to the enrolled nurses/midwives with a certificate in Enrolled nurse/midwives. The findings also demonstrated that the midwives only work for one year then they leave the ward to either go to other departments or other hospitals or health facility, as the number of midwifery staff who worked for two years and three years in these maternity units of the two hospitals reduced by years.

5.3 THE EFFECTS OF THE SHORTAGE OF MIDWIVES ON THEIR PERFORMANCE

5.3.1 The effects of the shortage of midwives on their performance

All the midwives (100%) who participated in the study reported that the shortage of midwives increases midwives' workload. In addition, almost all the midwives who participated in the study indicated that the shortage of midwives causes fatigue and emotional exhaustion (97.5%), and

increases stress level (95%). A study done on Senegal's public sector's midwives by Rouleau et al. (2012), on how the midwives were experiencing their work in the persistent personnel shortages and how it was affecting them, indicated very high levels of emotional exhaustion and depersonalization, with burnout identified in more than half of the sample. According to a cross-sectional survey done in Australia by Creedy, Sidebotham, Gamble, Pallant and Fenwick (2017), the shortage of midwives causes midwives to suffer from burnouts, which manifests through symptoms such as depression, anxiety and stress.

In addition, above eighty percent of the midwives who participated in this study also indicated that the shortage of midwives causes burnouts and moral distress (87.5%), increases job dissatisfaction among midwives (87.5%) and contributes to mortality rate (i.e. still birth, neonatal and maternal death) (85%). These findings correspond with the findings from a global study guided by the World Health Organization (WHO), in which it was found that the shortage of midwives causes burnouts and moral distress (Filby et al., 2016). According to Jarosova et al. (2016) job satisfaction among midwives has been investigated in relation to burnout syndrome and work-related stress. According to Blaauw et al. (2013), low levels of job satisfaction among public sector nurses (midwives) in South Africa have been confirmed in various studies due to staff shortage. In addition, a cross-sectional survey results of nurses from Tanzania, Kenya, and Uganda indicated lower levels of job satisfaction when compared to a European reference group. The satisfaction was lower among public hospital nurses than those who were working in the private sector (Blaauw et al., 2013). Moreover, according to the WHO (2013) there is a high maternal and neonatal mortality in developing countries. The reason for this is because there are few birth attendants, and that more midwives are needed to improve maternal and neonatal survival.

The midwives who participated in this study also supported that shortage of midwives decreases the willingness to work (70%). According to the researcher, when one's body feels exhausted, they might not be willing to go to work due to body aches and fatigue. According to a study by Kaye (2000) on 'Quality of midwifery care in Soroti District, in Uganda, overwork reduces staff morale, as well as lowers the ability to screen and refer women with high risk pregnancies and childbirth complications. According to Sarafis et al. (2016), work related stress causes damage to a person's physical and mental health and in return lowers one's productivity.

Moreover, the midwives who participated in the study also reported that shortage of midwives causes high staff turnover and increases risk of injury, as well as increases risk of illness among midwives. According to the researcher, when employees works under staff shortage crises, there is an increase in workload that adds to stress, making it harder for them to complete work and meet performance expectations. A study by Bremnes et al. (2018) stated that long shifts and heavy workload affect midwives both psychologically and physically, which manifest through stress and backaches. It is further indicated that the shortage of midwives has become a persistent world-wide problem, in which it causes stress and insecurity. It also causes enormous work burdens and risks of injury, illness and threats to security of the health workers and their willingness or ability to work (ICM, 2007). According to a national study in Ireland of turnover in nursing and midwifery, the turnover rate was higher in younger workers, and that the peak time for registered nurse turnover was during the third year of service (McCarthy, 2002). The same was illustrated in this study, whereby those who worked in maternity wards for three years tended to be lesser than the ones who worked for one year, as illustrated by figure 4.5 that displayed the years of experience

of the participants in the maternity wards. According to the researcher, shortage of midwives causes the midwives to feel overwhelmed with work and this disposes them to injuries, such as needle pricks. This might expose them to illnesses such as HIV/AIDs and Hepatitis B. All these, in the end, force the midwives to leave the profession. According to Matlala and Lumadi (2019) the shortage of midwives has a direct impact on the provision of poor quality care, due to increased workload, which is usually associated with low morale and burnouts experienced by the midwives. A poor-quality workplace finds it difficult to achieve its performance targets and quality health outcomes, which makes it more challenging to attract, motivate and retain staff, leading to even more shortage of staff.

Furthermore, more than half of the midwives who participated in the study reported that the shortage of midwives increases medical errors committed among midwives (60%). This correlates with some studies done on the effects of shortage of staff, in which the findings illustrated that the staff shortage predisposes nurses and midwives into making mistakes and medical errors (Nursing Shortage Effect on the Health Care Industry: Current Trends, Future Growth, 2016). According to the researcher, midwives are prone to commit medical errors because of fatigue and mental exhaustion from being overworked with many patients but few staff. Sarafis et al. (2016) further stated that work-related stress causes staff to lose compassion for patients, hence increases evidence of practice errors.

However, only 20% of the respondents agreed that the shortage of midwives causes high absenteeism among midwives, while the majority of the respondents (60%) disagreed with the

statement, but 20 % of the respondents were indecisive. This could mean that the midwives in the two respective hospitals are indeed committed to their work and absenteeism is not really an option, as it was indicated that though midwifery is stressful, but the care of others and the happiness of the clients can be rewarding (Kirkham's, 2006, as cited in Bloxsome et al. (2019). According to the researcher, absenteeism could also be just due to exhaustion of the existing staff. Duffy (2010) indicated that a nurse or midwife need time to care for 'self' in order to be able to care for others. In this case, the midwives' absenteeism could be just a time out, but not necessarily that they hate their jobs or want to quit.

5.3.2 The frequency that midwives commit medical errors as an effect of the shortage of midwives on their performance

The midwives who participated in this study indicated that the common medical error that midwives often commit due to the effects of the shortage of midwives is infusing medicine or intravenous fluids or blood transfusion at a wrong rate. It was also reported that the shortage of midwives can influence the midwives to sometimes commit the following medical errors: mixing up medicines between patients; administering a wrong quantity of medicine; administering a wrong medical drug to a patient; administering a wrong form of medicine (i.e. tablet for injection); and administering a wrong medicine dose to a patient. Moreover, it was also mentioned in one of the study that staff shortage predisposes nurses and midwives into making mistakes and medical errors (Nursing Shortage Effect on the Health Care Industry: Current Trends, Future Growth, 2016). Another study conducted on the same topic indicated that "close to half of all nurses and midwives employed have admitted to committing a medication error in the past year" (The Nursing Shortage and How It Will Impact Patient Care, 2017, para. 10). Such errors ranged from infusing

medicines at the wrong rate, or giving the wrong medicine or mixing up medicines between patients, which may result into fatal consequences (The Nursing Shortage and How It Will Impact Patient Care, check year only 2016 /or add if 2017).

According to Shahrokhi et al. (2013) medication errors have drawn the attention of the health managers, because of its contribution to higher mortality rate and cost of health-care. It is indicated that "in USA, the medication error-related deaths have been more than the deaths related to car accidents, breast cancer and human immunodeficiency virus/acquired immune deficiency syndrome" (Shahrokhi et al., 2013, para. 2). The study done in Iran indicated that the nurse-related factors were found to be the most contributing factor to medication error compared to management-related factors and work-environment related factors, and these factors included factors such as inadequate attention, tiredness due to excessive overtime work, and shortage of time (Joolaee et al., 2011). According to the researcher, the midwives who are working in an environment of severe shortage of staff experience work pressure, which leads them to exhaustion that tend to affect their mental state. This causes them to lack concentration on the dose, route or form of medication prescribed by the doctor or physician, leading them to administer wrong medication, or wrong route or form of certain medication to a patient. This, in the end, might affect the patient's outcome negatively.

5.3.3 Lack of rest as an effect of the shortage of midwives on their performance

Majority of the midwives (80%) who participated in the study from the two hospitals, Rundu Intermediate Hospital and Nyangana District Hospital reported to have worked long hours in a

week without rest. These findings are similar to that of a study conducted in Tanzania by Bremnes et al. (2018), which demonstrated that all midwives interviewed reported of being exhausted, and that they barely had time to sit or rest.

Moreover, Duffy's 'Quality Caring Model' was developed after she found out from the patients and their families whom she happened to interview, who were implying that nurses seemed not to care about patients. According to Duffy (2013), the ultimate role of a nurse in her caring model is to engage in caring relationships with self and others, in order to produce a feeling of 'cared for'. In addition, Kooken, Wolverton and Weaver (2012a) as cited in Duffy (2013) stated that "the quality of nurse-patient relationships is linked to patient safety and quality outcomes" (p. 10). It is further stated that for the relationship with self, nurses as human beings must be aware of their internal bodily processes, feelings and connections with others. This is considered an orientation of self, which is always lost in the business of life and because of the fact that nurses (or midwives) are always busy caring for others and their families, and they forget to connect with themselves (Duffy, 2010). This implies that nurses or nurse midwives first need to care for himself or herself before they are able to care for others, which the midwives of Rundu Intermediate Hospital and Nyangana District lacks, due to their busy shifts.

A study done in Tanzania by Bremnes, et al. (2018) illustrated that all midwives interviewed reported being exhausted, that they barely had time to sit or rest. Duffy further stated in her model that the practice of long working shifts "contributes to high levels of worker's fatigue and reduced productivity, impacting patient safety" (Duffy, 2013, p. 10). A study done in the UK aiming at the experience of the midwives under the workplace pressures and the emotional demands of the job,

demonstrated that resilience was a process that the midwives learned through a range of coping strategies, including accessing support and developing self-awareness and protection of self (Hunter & Warren, 2014). According to a global study done in Sub-Sahara Africa regarding the implications of shortage of health professionals on maternal health, working in an environment of under staffing causes midwives to work long hours without rest (Copper, 2014).

In addition, the majority of the midwives who participated in this study also reported that they sometimes get two days off to rest in a week, and about fifty percent of them reported that the unit manager sometimes requests for an extra staff for overtime. In a nutshell, the overall findings on these questions demonstrate that midwives from the two hospitals (Rundu Intermediate Hospital and Nyangana District Hospital) often worked long hours without rest. Only sometimes that they get two days off per week to rest or for their in-charge to get an extra staff for overtime to balance the number of staff and reduce the workload.

5.3.4 The extent to which the MoHSS EmONC (Emergency Obstetric Care) guideline is implemented in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital

According to the findings of this study, the MoHSS EmOC guideline is quite implemented in the maternity ward of the two hospitals, Rundu Intermediate Hospital and Nyangana District Hospital. The results indicated that about 70%, (though not 100%), of the midwives who participated from the two hospitals assured that the EmOC guideline is indeed implemented in the two hospitals. According to Otolorin, Gomez, Currie, Thapa and Dao (2015), the aim of the EmOC guideline was to reduce the maternal and neonatal mortality rates, especially in the higher burdened

countries. This included interventions such as prevention and treatment of postpartum haemorrhage, pre-eclampsia and post eclampsia, as well as the management of birth asphyxia. However, about 30% of the midwives who participated in this study indicated that the EmOC guideline is not fully implemented in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital.

According to the researcher, the reason of the above could be that not all midwives are trained in the Emergency Obstetric Care and it could also be due to the shortage of midwives in the maternity wards of the two respective hospitals. This study also have shown that though the EmOC guideline has been implemented, to a greater extent, according to the respondents (70%), it has also been stated by the same respondents that there is lack of performance in the implementation of the EmOC (Emergency Obstetric Care) guideline (82.5%), as one of the effects of the shortage of midwives on their performances. According to Mkoka, Kiwara, Goicolea and Hurtig (2014), most of the challenges faced by rural district managers in Kenya during the implementation of emergency obstetric care included the shortage of health workers and lack of incentives to motivate the overburdened staff. One way to achieve the implementation of the Emergency Obstetric Care (EmOC) was through the training of service providers in emergency obstetric care. In addition, a study on ‘challenges in implementing Emergency Obstetric Care (EmOC) in Malindi District in Kenya, showed that a shortage of nurses-midwives was one of the hindering factors in the implementation of the EmOC services (Echoka, 2012). Furthermore, maternal death reviews in Malawi had shown that health workers are one of the major contributors to maternal death, as they were believed to have caused delays in initiating emergency interventions and poor performance on the EmOC (Emergency Obstetric Care) signal functions (Bradely et al., 2015).

5.3.5 The seriousness of the effects of the shortage of midwives

The majority (85%) of the midwives who participated in the study reported that the issue of the effects of the shortage of midwives on their performances in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospitals is indeed serious and almost all midwives (92.5%) who participated in the study are concerned about this. According to Mitchell (2008) quality of care goes hand in hand with patients' safety. A global report concerning African countries indicated that insufficient staffing and working excessive overtime compromises the safety for women, as it causes stress and emotional exhaustion to midwives (Filby et al., 2016), which in return causes midwives to commit medication error (Joolaee et al., 2011) that may cause harm to the patients and increase mortality rate among patients (Shahrokhi et al., 2013).

In addition, the shortage of midwives hinders important obstetric care programs from being fully implemented, such as the implementation of the EmOC guidelines in the two hospitals, Rundu Intermediate Hospital and Nyangana District Hospital, which was evident from the research findings. The shortage of midwives increases the mortality, morbidity and disability rate (Raven, Tolhurst, Tang & Van Den Broek, 2012). It is also reported that the shortage of midwives prevents the dissemination of information to all clients, which in return makes the clients not to care for themselves either in the hospital or at home after they are discharged, hence, lead to poor health and delayed recoveries (Nair et al., 2014). According to a study done in Malawi, inadequate staffing was identified as a barrier to the provision of quality emergency care (Chodzaza & Bultemeier, 2010).

5.3.6 The degree of concern of the participants regarding the effects of the shortage of midwives on their performance

Most midwives who participated in the study were very concerned about the effects of the shortage of midwives on their performances in the maternity units of the two respective hospitals. This was because the shortage of midwives causes midwives to be exhausted and delays emergency interventions, as well as contributes to the increase in mortality rates of stillbirths, maternal and neonatal deaths.

5.3.7 The satisfaction of the participants with staffing, wages, working environment, leadership and support

The majority of the midwives who participated in the study were dissatisfied with almost all the four aspects, such as staffing (70%), wages (47.5%), working environment (47.5%), leadership and support (40%). However, some were neither satisfied nor dissatisfied (20% on staffing, 25% on wages, 15% on working environment and 22.5% on leadership and support). Few of the midwives who participated in the study reported to be happy with the four management aspects (staffing 10%, wages 27.5%, working environment 37.5%, leadership and support is 37.5%). Nevertheless, the shortage of staff may not guarantee bad working condition. According to According to Blaauw et al. (2013) it is stated that "better working conditions may not result in higher health worker job satisfaction and retention" (p. 135).

The research done by Bloxsome et al. (2019) on midwive's retention and attrition suggested that when midwives have good working relationships and receive adequate support from their

managers, they are able to develop relationships with the women in their care. They can work in a normal birth centric model that offers variety and the opportunity to practise to the full scope of their role. Moreover, according to Tuckett, Winters-Chang, Bogossian and Wood (2015) nurses and midwives leave their profession because of the lack of support from their managers and unsupportive relationships within their work group.

5.3.8 The degree of happiness of the participants to work in the maternity wards of Rundu intermediate Hospital or Nyangana District Hospital

Most of the midwives who participated in the study (75%) reported to be happy to work in maternity ward, despite the shortage of staff and its negative effects. According to Kirkham's (2006) as cited in Bloxsome et al. (2019), one midwife respondent in the study stated that though midwifery is stressful, the good days somehow justify one to stay in practice. Another midwife responded that job satisfaction overweighs the frustrations. However, some midwives reported to be slightly happy to work in the maternity wards of Rundu Intermediate hospital or Nyangana District Hospital, while some were totally not happy to work in maternity ward. This might probably be because of the exhaustion or increased workload as a result of the shortage of midwives.

5.4 THE EFFECTS OF THE SHORTAGE OF MIDWIVES ON THE QUALITY OF CARE

5.4.1 Participants opinions on the WHO's quality statements regarding the standard of care that should be rendered to patients in the maternity units

The midwives who participated in the study reported that some of the WHO's (2016) standards of care are yet to be implemented in the two maternity wards of the two respective hospitals. However, the participated midwives' views were that all newborns receive routine care immediately after birth and all women with pre-eclampsia or eclampsia promptly receive appropriate interventions. In addition, all women with postpartum haemorrhage promptly receive appropriate interventions, though there are still some women with delay in labour or whose labour is obstructed who do not receive appropriate interventions, as well as some newborns with suspected infection or risk factors for infection who are not promptly given antibiotic treatment.

Furthermore, the results also insinuate that not all women with or at risk of infection during labour, childbirth or the early postnatal period promptly receive appropriate interventions as how it should be according to the WHO (2016) standard of care. Similarly, not every woman and newborn has a complete, accurate, standardized medical record during labour, childbirth and the early postnatal period and not all women are assessed routinely on admission and during labour and childbirth and are given timely, appropriate care as it should be. These can be influenced by the shortage of midwife staff. According to Matlala and Lumadi (2019), the shortage of midwives is related to the poor provision of quality care. According to Roemer and Montoya-Aguilar (1988) as cited in Raven et al. (2012) quality of care is defined as the actual care given to the patient which is measured against the standard of care that was supposed to be provided to the patient or client, which also reduces the mortality, morbidity and disability. Duffy in her caring model emphasised

that nurses (or midwives) need to renew their energy in order to refocus on their work, so that they are able to practice effectively, hence render quality of care (Duffy, 2014). Duffy further mentioned that professional nurses (or midwives) requires self-care, in which they need to have short pauses or time out in their work environment. However, according to the findings of this study, eighty percent (80%) of the midwives in the two hospitals reported to have been working long hours in a week without rest. In Duffy's Caring Model, it was stated that each individual nurse (or midwife) is expected to care for the self, before attempting to care for others, in order to provide quality of care, which the midwives of Rundu Intermediate Hospital and Nyangana District Hospital lack due to the limited staff (Duffy, 2013).

Moreover, the findings also revealed that less than fifty percent of the midwives who participated in this study believed that all women and their families receive information about their care and have effective interactions with staff' and that every woman is offered the option of experiencing labour and childbirth with the companion of her choice. According to Nair et al. (2014) to provide less information to woman is one of the barriers to improving quality of care.

5.4.2 Participants' opinions on how important the issue of staffing in maternity ward is in relation to patients' care

Almost all the midwives (97.5%) who participated in the study reported that the issue of staffing in maternity ward in relation to patients' care was in deed important. Only 2.5% stated that it was slightly important, but none stated that it was not important at all. According to a global study on 'what prevents quality midwifery care', it was stated that there are various barriers that prevents quality midwifery care deliverance, namely: social barriers, economic barriers, professional

barriers and burnout, in which the social barriers included inadequate numbers of staff (Filby et al., 2016). This also demonstrates that the issue of staffing is important, because it affects the quality of the care that is rendered to the patients. The issue of staffing is important because it increases the mortality, morbidity and disability rate (Raven et al., 2012). It also prevents the provision of quality of care to be delivered to all patient through adequate dissemination of information to all clients (Nair et al., 2014). This can be that because there are more patients compared to a limited number of midwives in the specific unit or ward.

5.4.3 Participants' beliefs on statements regarding the effects of the shortage of midwives on the quality of care delivered to patients in maternity units

The majority of the midwives who participated in this study strongly believed that the shortage of midwives causes poor monitoring of patient condition, late attendance to patients, inadequate or poor patient care. It also cause delay in initiating emergency interventions and lack of performance in the implementation of the EmOC (Emergency Obstetric Care) guideline. According to a study by Kaye (2000) on 'Quality of midwifery care in Soroti District, in Uganda', understaffing was identified as one of the causes to the provision of inadequate quality care. It was found that most of the health centres had only two or three midwives who were conducting all the deliveries and run the antenatal clinic.

In addition, the midwives who participated in the study also believed that the shortage of midwives causes negative attitude of health workers towards patients and increases mortality rate (still birth, neonatal and maternal death). According to Pettersson-Lidbom (2014, p. 3.) "A doubling in the

number of trained midwives led to a 20-40 percent reduction in the MMR during the period 1830-1894". According to Kaye (2000), high maternal deaths in developing countries are recognised as a public health issue, and that midwifery workforce crisis was one of the causes of maternal deaths in Ghana. According to Mselle (2013) some women in labour complain not to receive the support they need and they feel neglected in a way, and they say to experience physical and verbal abuse from the midwives attending to them.

Moreover, it was also reported that the shortage of midwives causes unnecessary complications to patients that delay recovery, causing emergency room overcrowding, and patients to be sent back without assistance. According to Austin et al. (2014) the approaches to improve the quality of maternal and newborn care involve the followings: skilled attendance at delivery, and emergency obstetric care. The researcher's view on this is that, the poor implementation of the EmOC guidelines in the two maternity wards could mean that not all staff in the two maternity ward of the two hospitals were trained. In addition to that, overcrowding of the emergency room could mean that there is a possibility for patients to receive inadequate care, as the number of patients may overweigh that of the midwives.

5.5 Summary

Chapter 5 discussed the findings of the study conducted on the effects of the shortage of midwives on their performance and the quality of care. The discussion was done using the objectives of the study as a guide. In this study the midwives stated that though the shortage of staff does not cause high absenteeism as the feeling of helping people overweighs the exhaustion; they still believe that the shortage of midwives causes burnouts and moral distress. It also increases job dissatisfaction,

contributes to both neonatal and maternal mortality rate, and decreases the midwives' willingness to work, just as it was found by previous researchers on the similar research area.

In addition, regarding the quality of care, the midwives in Rundu Intermediate Hospital and Nyangana District Hospital believe that the shortage of midwives affects quality of care in the way that it causes poor monitoring of patients' conditions and late attendance to patients. They also believe that it also causes poor provision or in adequate care to patients and the delay in initiating emergency interventions to the patients in need. The findings also showed that although the WHO's standards of care are implemented in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital, some women whose labour are delayed or obstructed do not receive the appropriate interventions. In addition to that, not all newborns with suspected infections or risk for infections are given the antibiotic treatment, neither do all women with suspected infections. These findings are similar to those of the previous researchers, where it was stated that understaffing causes delay in the provision of care and poor quality care.

CHAPTER 6: CONCLUSIONS, RECOMMENDATIONS AND SUMMARY

6.1 Introduction

Chapter 5 presented the discussions of the results which were presented and analysed in chapter 4. Chapter 6 will present the conclusions, recommendations and a summary of the study, which will be based on the findings of this study. The purpose of the study was to determine the effects of the shortage of midwives on their performance and to analyse the effects of the shortage of midwives on the quality of patient care, in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital, Kavango East Region, Namibia. The objectives of the study were:

- To determine the effects of the shortage of midwives on their performance, in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospitals;
- To analyse the effects of the shortage of midwives on the quality of care, in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospitals.

6.2 Conclusions

The conclusions of the study were based on the above stated objectives:

Objective 1: To determine the effects of the shortage of midwives on their performance, in maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital

The shortage of midwives in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital, was reported to increase midwives' workload and causes fatigue. Others effects

of the shortage were reported to include: emotional exhaustion, increase stress levels, burnout and moral distress, increase job dissatisfaction among midwives, increase mortality rate (i.e. still birth, neonatal and maternal death), decrease midwives' willingness and ability to work, and high staff turnover. Increase risk of injury among midwives and risk of illness among midwives, as well as increase medical errors that are committed among midwives, were among factors associated to the shortage of midwives. Besides that, the results of the study also indicated that the shortage of midwives causes midwives to commit medical errors, such as administering wrong quantity of medicine. Others include mixing up medicines between patients, administering wrong medical drug to a patient, administering wrong medicine dose to a patient, and administering wrong form of medicine (i.e. tablet for injection). Very few of the participants stated that it causes midwives to administer medicine in a wrong route (i.e. oral for intramuscular).

Furthermore, the findings from the study also reported that the shortage of midwives causes midwives to work long hours without rest in a week. The majority of the midwives admitted that the shortage of midwives on midwives' performances were indeed serious and that it was a concern to most of them.

Furthermore, almost all the midwives who participated in the study reported to have worked long hours without rest in a week, and only some times that the unit manager requests for an extra staff for overtime to balance the number of staff and reduce the workload. Though according to the findings of the study the EmOC guideline is implemented to a greater extent in the maternity wards of the two respective hospitals, most of the midwives who participated in the study reported that the shortage of midwives causes poor performance in the implementation of the EmOC guidelines. Overall, the shortage of midwives was seen as a very serious issue by the majority of the midwives

in Rundu Intermediate Hospital and Nyangana District Hospital. They were concerned about it. The majority of the midwives admitted to be dissatisfied with the number of staff allocated in maternity ward of Rundu Intermediate Hospital and Nyangana District Hospital. In addition, most of the midwives reported to be dissatisfied with the wages and the working environment of the two hospitals, but a few were satisfied with the leadership and support that they receive from their supervisors and the management at large. All in all, despite all the challenges that the midwives face on a daily basis, the majority were quite happy to work in the maternity wards.

Conclusion: the findings for objective 1 indicates that the shortage of midwives affects the midwives' performances negatively, such as increases their workload, causes fatigue and emotional exhaustion, increases stress level, causes burnout and moral distress, increases job dissatisfaction, contribute to mortality rate (i.e. still birth, neonatal and maternal death), decreases their willingness and ability to work, cause high staff turnover, increase risk of injury, increases risk of illness, and increase medical errors that are committed among midwives. It also indicates that the majority of the midwives who participated in the study were not satisfied with the number of staff allocated to the maternity wards of the two hospitals, Rundu Intermediate Hospital and Nyangana District Hospital. Furthermore, most of the midwives also indicated that though the EmOC is implemented in the maternity wards of these two hospitals, the midwives' performance in its implementation remains poor. In addition to that, the majority of the midwives who participated in the study reported that the issue of the effects of the shortage of midwives on their performances in maternity wards of Rundu Intermediate to be serious, while the minority stated that the issue of the effects of the shortage of midwives on their performance is slightly serious and somewhat serious. This clearly indicates that the effects of the shortage of midwives on

performance is indeed seen as serious by all the midwives who participated in this study and it needs to be addressed. Moreover, almost all the midwives who participated in the study were concerned about these effects on the midwives' performance.

Objective 2: To analyse the effects of the shortage of midwives on the quality of care, in the maternity wards of Rundu Intermediate Hospital and Nyangana District Hospital

The findings indicate that 90% of participants agreed that the WHO's quality statements are well applied in the two hospitals, Nyangana District Hospital and Rundu Intermediate Hospital. The study revealed that all newborns receive routine care immediately after birth and that all women with pre-eclampsia or eclampsia promptly receive appropriate interventions, as well as all women with postpartum haemorrhage promptly receive appropriate interventions. About ninety percent of the midwives who participated in this study from the two hospitals, reported that all women are assessed routinely on admission and during labour and childbirth are given timely, appropriate care, and that every woman and newborn has a complete, accurate, standardized medical record during labour, childbirth and the early postnatal period. In addition, all newborns who are not breathing spontaneously receive appropriate stimulation and resuscitation with a bag-and-mask within 1 min of birth.

Similarly, about ninety percent of the participated midwives reported that women with delay in labour or whose labour is obstructed receive appropriate interventions, and that, all women with or at risk for infection during labour, childbirth or the early postnatal period promptly receive appropriate interventions. Moreover, above seventy percent of the participated midwives reported

that all mothers and newborns receive routine postnatal care, and that all women in preterm labour receive appropriate interventions for both themselves and their babies, as well as that Newborns with suspected infection or risk factors for infection are promptly given antibiotic treatment. However, the majority of the participated midwives reported that not all women and their families receive information about the care and have effective interactions with staff', and that not every woman is offered the option to experience labour and childbirth with the companion of her choice.

The study also uncovered the participants' views regarding the quality of the care rendered to patients in Rundu Intermediate Hospital and Nyangana District Hospital, in which the majority of the participants reported that the shortage of midwives causes late attendance to patients and poor monitoring of patient condition. They also reported that it also causes inadequate or poor patient care, delay in the treatment of patients, increase in mortality rate (i.e. still birth, neonatal and maternal death), unnecessary complications to patients that delay recovery, negative attitude of health workers towards patients and causes midwives to commit medical errors. A few of the participated midwives (less than fifty percent) reported that shortage of midwives causes emergency room overcrowding and causes patients to be sent back without assistance.

Conclusion: The findings for objective 2 indicated that the the WHO's quality statements are well applied in the two hospitals, Nyangana District Hospital and Rundu Intermediate Hospital. However, it also revealed that the shortage of midwives affects the quality of care rendered to the patients in the maternity wards of the two hospitals under discussion. This is because it was said to have caused the following: late patient attendance and poor monitoring of patient condition,

inadequate or poor patient care, delay in the treatment of patients, increase in mortality rate (i.e. still birth, neonatal and maternal death), unnecessary complications to patients that delay recovery, negative attitude of health workers towards patients and causes midwives to commit medical errors. The study also revealed that the majority of the midwives who participated in the study reported that not all women and their families receive information about the care and have effective interactions with staff. Similarly, not every woman is offered the option to experience labour and childbirth with the companion of her choice. All in all, this indicates that the research objective 2 was successfully achieved.

6.3 Recommendations

6.3.1 Recommendations to the Ministry of Health and Social Services (MoHSS)

- The MoHSS and the professional councils, should come up with, if not already in existence, proper methods to determine the midwife-to-patient ratio. In addition, the human resource of the MoHSS, should at least make provision in the staff establishment that more midwives be recruited. Recruiting more staff in maternity ward will improve patient care and prevent or minimize staff fatigue and emotional stress, which in the end reduces the maternal neonatal mortality. However, patient quality care and service must be a priority.
- As findings indicate that the shortage of midwives causes burnout and moral distress, increases job dissatisfaction, decreases midwives' willingness to work, and increases the risk of injury and illness among midwives, it is therefore recommended that the MoHSS should make a provision of a service that provides the midwife staff with emotional and psychological

support, in order to cope with working under stress or in overcrowding, and assist staff on how to control their emotions. There should be the provision of adequate equipment to enhance performance of few staff and the provision of a relief staff.

- It is further recommended that the MoHSS provides the midwives with support and motivation from the management, in order to avoid staff turnover. In addition, the MoHSS should also make sure that, the working environment is conducive, in order to attract more midwives to work in maternity wards, therefore overcome the shortage and in the end, ad to staff retain.
- It was also noted from the study that although the EmOC guidelines had been implemented in all the maternity wards of the two hospitals, there had been poor performance in the implementation. Hence, the MoHSS should provide in-service training to all the midwives prior to their location to the maternity ward or immediately after their location to the maternity wards, in order to acquaint them with the necessary knowledge and skills on the obstetric and neonatal care, for the provision of quality care, despite the number of staff allocated in the maternity ward.
- Furthermore, it is recommended that the MoHSS should have adequate and functional equipment in maternity ward, in order to prevent delay on early diagnosis, such as fetal distress, obstructed labour, etc. Lack of equipment also causes delay in service and poor monitoring of patient, hence, it was suggested that the maternity ward should be fully equipped with machines to use, such as sonar and Cardiotocography (CTG), for easy monitoring of patient and early detection of complication that may result in a reduction of mortality rate in the maternity wards.
- It is also recommended to the MoHSS that all women in maternity wards should be provided with the information they need as an indicator for quality service, so that they are able to care

for themselves accordingly. This goes with the allocation of adequate staff in the maternity units and proper nurse-patient ratio as discussed above.

6.3.2 Recommendations to the education sectors or Schools of Nursing

- The school of nursing should educate the nursing and midwifery students on effective ways to deliver health care to patients, as well as educate them on how to prioritise their work and help them cope with work pressures.
- The education sectors should also make sure that the student nurses or midwives are oriented on the new obstetric equipment's use, such as Cardiotocography (CTG), during their trainings, for effective monitoring of labour and reduce delay in early diagnosis and intervention of complications, in order to reduce maternal and neonatal mortality.

6.3.3 Recommendation for further research

- The final recommendation is that there is a need for further research on the midwives' perception on the effects of the shortage of midwives on their performance and quality of care: an exploratory study.

6.4 Contribution to the body of knowledge

This study has provided adequate information regarding the effects of the shortage of midwives on their performance and quality of care, in Rundu Intermediate Hospital and Nyangana District Hospital, which is an area which was never researched before in the Kavango East region. The findings of this study has added to the body of knowledge which was gathered by a previous

research study conducted in the Kavango East region, by Muntenda, Nuuyoma and Stern (2017), on the perceptions of women on childbirth in a public health facility on the women residing in Kehemu location, a peri-urban settlement of the Rundu town. The findings of this study showed that although women in Kehemu preferred to deliver in a public hospital, they experienced a feeling of hopelessness with regards to the quality of care they were offered when they visited the maternity hospital as there were few midwives on duty and did not meet their expectations, as they preferred the midwives to spend adequate time with each of them which did not happen.

6.5 Summary

This chapter provided the discussion, conclusion, and recommendations. The findings of the study were discussed and a conclusion to the findings was formed and stated. The recommendation was made to specific stakeholders, which could be a benefit to the respective hospitals under study, in terms of improving the working environment in the two respective hospital's under study, and in terms of adequate human resources and well trained personnel, for the provision of quality care.

REFERENCES

Aluko, J. O., Anthea, R., & Modeste, R. M. (2019). Manpower capacity and reasons for staff shortage in primary health care maternity centres in Nigeria: a mixed-methods study. *BMC health services research*, *19*(1), 10. Retrieved from https://doi.org/10.1186/s12913-018-3819-x

Austin, A., Langer, A., Salam, R. A., Lassi, Z. S., Das, J. K., & Bhutta, Z. A. (2014). Approaches to improve the quality of maternal and newborn health care: an overview of the evidence. *Reproductive health*, *11*(S2), S1. Retrieved from https://doi.org/10.1186/1742-4755-11-S2-S1

Bell, J & Walters, S. (2014). *Doing Your Research Project: A guide for first time researchers.* 6th Ed. New York: Bell & Bain

Blaauw, D., Ditlopo, P., Maseko, F., Chirwa, M., Mwisongo, A., Bidwell, P., ... & Normand, C. (2013). Comparing the job satisfaction and intention to leave of different categories of health workers in Tanzania, Malawi, and South Africa. *Global health action*, *6*(1), 19287. Retrieved from https://doi.org/10.3402/gha.v6i0.19287

Bloxsome, D., Ireson, D., Doleman, G., & Bayes, S. (2019). Factors associated with midwives' job satisfaction and intention to stay in the profession: An integrative review. *Journal of clinical nursing*, *28*(3-4), 386-399. Retrieved from https://doi.org/10.1111/jocn.14651

Boone, H. N., & Boone, D. A. (2012). Analyzing Likert Data. *Journal of Extension.* Retrieved from https://www.joe.org/joe/2012april/tt2.php

Bradely, S., Kamwendo, F., Chipeta, E., Chimwaza, W., de Pinho, H., & McAuliffe, E. (2015). Too few staff, too many patients: a qualitative study of the impact on obstetric care providers and on quality of care in Malawi. *BMC Pregnancy and Childbirth, 15* (1), 1-10. Retrieved from https://bmcpregnancychildbirth.biomedcentral.com/articles/10.1186/s12884-015-0492-5

Branch, V. (n.d.). Nurse / midwife: Patient ratios, it's a matter of saving lives. *Australian Nursing and Midwifery Federation*. Retrieved from http://www.anmfvic.asn.au/~/media/f06f12244fbb4522af619e1d5304d71d

Bremnes, H. S., Wiig, Å. K., Abeid, M., & Darj, E. (2018). Challenges in day-to-day midwifery practice; a qualitative study from a regional referral hospital in Dar es Salaam, Tanzania. *Global health action*, *11*(1), 1453333. Retrieved from https://doi.org/10.1080/16549716.2018.1453333

Brink, H., van der Walt, C., & Rensburg, G. (2012). *Fundamentals of Research Methodology for Healthcare Professionals* (3rd ed.). Cape Town, South Africa: JUTA

Brizuela, V., Leslie, H. H., Sharma, J., Langer, A., & Tunçalp, Ö. (2019). Measuring quality of care for all women and newborns: how do we know if we are doing it right? A review of facility assessment tools. *The Lancet Global Health*, *7*(5), e624-e632. Retrieved from https://doi.org/10.1016/S2214-109X(19)30033-6

Business Dictionary. (2019). *Quality*. Retrieved from http://www.businessdictionary.com/definition/quality.html

Cambridge Dictionary. (2019). *Care.* Retrieved from https://dictionary.cambridge.org/dictionary/english/care

Cambridge Dictionary. (2020). *Effect.* Retrieved from https://dictionary.cambridge.org/dictionary/english/effect

Cambridge Dictionary. (2020). *Shortage.* Retrieved from https://dictionary.cambridge.org/dictionary/english/shortage

Catholic Health Services. (2018). Nyangana District Hospital Staff Establishment. Windhoek, Namibia: Author

Catholic Health Services. (2018, April 12-14). Nyangana District Hospital Maternity ward: Midnight Census. Nyangana, Namibia: Author

Chodzaza, E., & Bultemeier, K. (2010). Service providers' perception of the quality of emergency obsteric care provided and factors indentified which affect the provision of quality care. *Malawi Medical Journal*, *22*(4). Retrieved from DOI: 10.4314/mmj.v22i4.63946

Collins Dictionary. (2019). *Maternity ward.* Retrieved from https://www.collinsdictionary.com/dictionary/english/maternity-ward

Copper, C. (2014, January 3). Midwives and patients warn of 'devastating' staff shortages. *The Independent.* Retrieved from https://www.independent.co.uk/life-style/health-and-families/health-news/midwives-and-patients-warn-of-devastating-staff-shortages-9037908.html

Creedy, D. K., Sidebotham, M., Gamble, J., Pallant, J., & Fenwick, J. (2017). Prevalence of burnout, depression, anxiety and stress in Australian midwives: A cross-sectional survey. *BMC pregnancy and childbirth, 17* (1), 1-8. Retrieved from https://doi.org/10.1186/s12884-016-1212-5

Creswell, J. W., & Clark, V. L. P. (2011). *Designing and conducting mixed methods research* (2nd ed.). Los Angeles, CA: Sage

Creswell, J.W. (2012). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research* **(**4th ed). Boston: Pearson Education

Cronbach's Alpha. (2018). Retrieved from http://www.open.ac.uk/socialsciences/spsstutorial/files/tutorials/cronbachs-alpha.pdf

Data Analysis: What, How and Why to do Data Analysis for your organization. (2019). *import.io.* Retrieved from https://www.import.io/post/business-data-analysis-what-how-why/

DeFranzo, S. E. (2011, September 16). What is the difference between qualitative and quantitative research? [Blog post]. Retrieved from https://www.snapsurveys.com/blog/qualitative-vs-quantitative-research/

DeFranzo, S. E. (2012). *Why Use Demographic Questions in Surveys?*. Retrieved from https://www.snapsurveys.com/blog/demographics-questions-surveys

Dehbanizadeh, A., & Hosseini, M. (2018). Medication errors and their management methods by nurses. *International Journal of Pharmaceutical Research.* Retrieved from https://doi.org/10.31838/ijpr/2018.10.04.038

De Vos, A. S., Strydom, H., Fouché, C. B., & Delport, C. S. L. (2011). Research at Grass Roots. Pretoria, South Africa: Van Schaik

Dudovskiy, J. (2015*). Purposive sampling.* Retrieved from https://research-methodology.net/sampling-in-primary-data-collection/purposive-sampling/

Duffy, J. R. (2010). Joanne Duffy's Quality Caring Model. In Parker, M. E. & Smith, M. C (Eds.), *Nursing Theories & Nursing Practice (3r^{d} Ed),* pp. 402-416. . Philadelphia, PA: F. A Davis Company

Duffy, J. R. (2013). Quality Caring in Nursing and Health Systems: Implications for Clinicians, Educators, and Leaders. 2nd Edition. New York, NY: Springer

Duffy, J. R. (2014). Joanne Duffy's Quality Caring Model. In Smith, M. C & Parker, M. E. (Eds.), *Nursing Theories & Nursing Practice (4th Ed),* pp. 393-433. Philadelphia, PA: F. A Davis Company

Echoka, E. (2012). *Challenges in implementing Emergency Obstetric and Neonatal Care (EmNOC) in Malindi District, Kenya: A Maternity Health Facility Survey*. Retrieved from https://www.researchgate.net/publication/268102991_Challenges_in_Implementing_Emergency_Obstetrict_and_Neonatal_Care_EmNOC_in_Malindi_District_Kenya_A_Maternity_Health_Facility_Survey

Filby, A., McConville, F., & Portela, A. (2016). What prevents quality midwifery care? A systematic mapping of barriers in low and middle income countries from the provider perspective. *PloS one, 11*(5). Retrieved from doi: 10.1371/journal.pone.0153391

Fitzpatrick, L. (2015). Midwife Patient Ratios the Road to Legislation. *Australian Nursing and Midwifery Federation: Victorian branch.* Retrieved from https://doi.org/10.1371/journal.pone.0153391

Gerein, N., Green, A., & Pearson, S. (2006). The implications of shortages of health professionals for maternal health in sub-Saharan Africa. *Reproductive health matters*, *14*(27), 40-50. Retrieved from https://www.tandfonline.com/doi/pdf/10.1016/S0968-8080%2806%2927225-2?needAccess=true

Glen, S. (2014). Cronbach's Alpha: Simple Definition, Use and Interpretation. *StatisticsHowTo.* Retrieved from https://www.statisticshowto.com/cronbachs-alpha-spss/

George, D., & Mallery, P. (2016). *IBM SPSS Statistics 23 Step by Step: A simple guide and reference* (14th ed.). New York, NY: Routeledge

Hannigan, D. J. (2013). *Maximising retention of nurses.* Retrieved from https://eprints.usq.edu.au/23352/2/Hannigan_2013_whole.pdf

Hellerawa, K. S. S., & Adambarage, A. C. (2015). *The Nursing Shortage Impact on Job Outcome (The Case in Sri Lanka).* Retrieved from http://www.cjournal.cz/files/197.pdf

Hunter, B., & Warren, L. (2014). Midwives′ experiences of workplace resilience. *Midwifery*, *30*(8), 926-934. Retrieved from https://doi.org/10.1016/j.midw.2014.03.010

In J. (2017). Introduction of a pilot study. *Korean journal of anesthesiology*, *70*(6), 601–605. Retrieved from https://doi.org/10.4097/kjae.2017.70.6.601

International Confederation of Midwives. (2007). Strengthening nursing & midwifery: scaling up capacity to reach the Millennium Development Goals. *International Midwifery, 20 (2), pp. 19-32.* Retrieved from https://www.nurse.or.jp/nursing/international/icm/update/archive/pdf/2007_06_ing.pdf

Jarosova, D., Gurkova, E., Palese, A., Godeas, G., Ziakova, K., Song, M. S., ... & Fras, M. (2016). Job satisfaction and leaving intentions of midwives: analysis of a multinational cross-sectional survey. *Journal of nursing management*, *24*(1), 70-79. Retrieved form https://doi.org/10.1111/jonm.12273

Joolaee, S., Hajibabaee, F., Peyrovi, H., Haghani, H., & Bahrani, N. (2011). The relationship between incidence and report of medication errors and working conditions. *International nursing review*, *58*(1), 37-44. Retrieved from https://doi.org/10.1111/j.1466-7657.2010.00872.x

Joubert, G., & Ehrlich, R. (2014). Epidemiology. *A Research manual for South Africa*. 3rd Edition. Cape Town, South Africa: Oxford University Press

Kaminju, A. (2011). *Midwife shortage impacts maternal health*. Retrieved from

http://www.irinnews.org/report/93071/south-africa-midwife-shortage-impacts-maternal-health

Kaye, D. (2000). Quality of midwifery care in Soroti district, Uganda. *East African medical journal*, *77*(10). Retrieved from https://www.ajol.info/index.php/eamj/article/download/46712/33102

Kumar, R. (2014). *Research Methodology: A step-by-step guide for beginners.* 4th Ed. London, England: SAGE

Laerd. (2020). Purposive Sampling. *Laerd dissertation.* Retrieved from http://dissertation.laerd.com/purposive-sampling.php

Mangum, B. P. (2016). *Descriptive and analytical studies.* Retrieved from https://www.youtube.com/watch?v=1TbgGuMqC64

Matlala, M. S. (2017). Perceptions of midwives on the shortage and retention of staff at a public hospital in Tshwane district, Gauteng province. Retrieved from https://pdfs.semanticscholar.org/8eb3/4f62abba77a3dea830cd769b050 8f88eaa59.pdf

Matlala, M. S., & Lumadi, T. G. (2019). Perceptions of midwives on shortage and retention of staff at a public hospital in Tshwane District. *Curationis*, *42*(1), 1-10. Retrieved from http://dx.doi.org/10.4102/curationis.v42i1.1952

McCarthy, G. (2002). National study of turnover in nursing and midwifery. *-80*. Retrieved from https://www.researchgate.net/profile/Camille_Cronin/publication/280494172_National_Study_of_Turnover_on_Nursing_and_Midwifery_Ireland/links/55b6978608ae9289a08bbe09/National-Study-of-Turnover-on-Nursing-and-Midwifery-Ireland.pdf

McCombes, S. (2019). Descriptive research. *Scribbr*. Retrieved from https://www.scribbr.com/methodology/descriptive-research/

Merriam-Webster. (2020). *Performance.* Retrieved from https://www.merriam-webster.com/dictionary/performance

Ministry of Health and Social Services. (2009). *Guidelines on Essential and Emergency Obstetric Care.* Windhoek, Namibia: Author

Ministry of Health and Social Services. (2014). *Report of the prevalence and contributing factors of facility-based maternal and neonatal deaths in five regions of Namibia (Erongo, Hardap, //Karas, Khomas, Omaheke) during 2010–2012*. Retrieved from https://www.intrahealth.org/sites/ihweb/files/files/media/report-of-the-prevalence-and-contributing-factors-of-facility-based-maternal-and-neonatal-deaths-in-five-regions-of-namibia-erongo-hardap-karas-khomas-omaheke-during-2010-2012/NamibiaMMRStudy.pdf

Ministry of Health and Social Services (2014). *Scope of practice of registered nurse, registered midwife, registered accoucheur, enrolled nurse, enrolled accoucheur, and nursing auxiliary*. Author

Ministry of Health and Social Services. (2016). *Ministry of Health and Social Services: Implementation of the new staff establishment after reconstructing particulars of staff*

proposed to be on new establishment, division Intermediate Hospital Rundu. Windhoek, Namibia: Author

Ministry of Health and Social Services. (2017). *Regulations relating to registration of nurses, midwives and accoucheur specialities and additional qualifications, maintaining of registers and restoration of name to register: NURSING ACT, 2004 Government Gazette of the Republic of Namibia. (2017, August 22).* Windhoek, Namibia: Author

Ministry of Health and Social Services. (2017). Strategic Plan 2017/2018-2021/2022. Retrieved from http://www.mhss.gov.na/documents/119527/573553/MOHSS+Strategic+Plan+2017-2022.pdf/9d09e210-5f91-4c45-b7f6-79e3e134939a

Ministry of Health and Social Services. (2018, April 12-14). Rundu Intermediate Hospital: Maternity ward Duty Roster. Rundu, Namibia: Author

Ministry of Health and Social Services. (2018). Rundu Intermediate Hospital: Maternity ward Midnight Census. Rundu, Namibia: Author

Ministry of Health and Social Services. (2018). *Rundu Intermediate Hospital staff establishment.* Rundu, Namibia: Author

Mitchell, P. H. (2008). Defining patient safety and quality care. *NCBI.* Retrieved from https://www.ncbi.nlm.nih.gov/books/NBK2681/

Mkoka, D. A., Kiwara, A., Goicolea, I., & Hurtig, A. K. (2014). Governing the implementation of emergency obstetric care: experiences of rural district health managers, Tanzania. *BMC health services research, 14*, 333. Retrieved from https://doi.org/10.1186/1472-6963-14-333

Moffitt, K. (2013). *Research methodology: Approaches & techniques*. Retrieved from https://study.com/academy/lesson/research-methodology-approaches-techniques-quiz.html

Mollart, L., Skinner, V. M., Newing, C., & Foureur, M. (2013). Factors that may influence midwives work-related stress and burnout. *Women and Birth*, *26*(1), 26-32.Retrieved from https://doi.org/10.1016/j.wombi.2011.08.002

Mselle, L. T., Moland, K. M., Mvungi, A., Evjen-Olsen, B., & Kohi, T. W. (2013). Why give birth in health facility? Users' and providers' accounts of poor quality of birth care in Tanzania. *BMC health services research*, *13*(1), 174. Retrieved from https://doi.org/10.1186/1472-6963-13-174

Muntenda, M. B, Nuuyoma, V., & Stern, R. (2016). The perceptions of women on child birthing in a public-health facility in a peri-urban area in Kavango East region, Namibia. *International Journal of Healthcare*, *3*(2), 37-46. doi.org/10.5430/ijh.v3n2p37

Mutebi, B. (2017). Uganda's overburdened midwives. *Global health now.* Retrieved from https://www.globalhealthnow.org/2017-03/ugandas-overburdened-midwives

Nair, M., Yoshida, S., Lambrechts, T., Boschi-Pinto, C., Bose, K., Mason, E. M., & Mathai, M. (2014). Facilitators and barriers to quality of care in maternal, newborn and child health: a global situational analysis through metareview. *BMJ open*, *4*(5). Retrieved from http://dx.doi.org/10.1136/bmjopen-2013-004749

Nursing Shortage Effect on the Health Care Industry: Current Trends, Future Growth. (2016). *Industry News*. Retrieved from https://www.schumacherclinical.com/providers/blog/nursing-shortage-effect-on-the-health-care-industry-current-trends-future-growth

Otolorin, E., Gomez, P., Currie, S., Thapa, K., & Dao, B. (2015). Essential basic and emergency obstetric and newborn care: From education and training to service delivery and quality of care. *International Journal of Gynecology & Obstetrics,* 130, S46-S53. Retrieved from https://doi.org/10.1016/j.ijgo.2015.03.007

Payne, T. (2020). What is a pilot study? Definition & example. *Study.com.* Retrieved from https://study.com/academy/lesson/what-is-a-pilot-study-definition-example.html

Pettersson-Lidbom, P. (2014). Midwives and maternal mortality: Evidence from a midwifery policy experiment in Sweden in the 19th century. *Unpublished manuscript*. Retrieved from http://www.ne.su.se/polopoly_fs/1.248885.1442859808!/menu/standard/file/midwivessept212015.pdf

Polit, D. F., & Beck, C. T. (2012). *Nursing research: Generating and assessing evidence for nursing practice*. (9th ed.). Philadelphia, PA: Wolters Kluwer Health/ Lippincot Williams & Wilkins

Profetto-McGrath, J., Polit, D., & Beck, C. T. (2010). *Canadian essentials of nursing research* (3rd ed.). Canada: Lippincott Williams & Wilkins

Pugh, J. D., Twigg, D. E., Martin, T. L., & Rai, T. (2013). Western Australia facing critical losses in its midwifery workforce: A survey of midwives' intentions. *Midwifery*, *29*(5), 497-505. Retrieved from https://doi.org/10.1016/j.midw.2012.04.006

Raven, J. H., Tolhurst, R. J., Tang, S., & Van Den Broek, N. (2012). What is quality in maternal and neonatal health care?. *Midwifery*, *28*(5), e676-e683. Retrieved from https://doi.org/10.1016/j.midw.2011.09.003

Reliability and validity. (2018). Retrieved from http://psc.dss.ucdavis.edu/sommerb/sommerdemo/intro/validity.htm

Research Methodology Introduction. (2015). *BBA/MANTRA.* Retrieved from https://bbamantra.com/research-methodology/

Resnik, D. B. (2015, December). What is ethics in research & why it is important. *Ideas.* Retrieved from https:wniehs.nih.gov/research/resource/bioethics/whatis/index.cfm?links=false

Reynolds, K. (2011). Joanne Duffy Nursing Theorist: Quality caring model. Retrieved from https://www.coursehero.com/file/14572584/JOANNE-DUFFY-Presentation1-1/

Rouleau, D., Fournier, P., Philibert, A., Mbengue, B., & Dumont, A. (2012). The effects of midwives' job satisfaction on burnout, intention to quit and turnover: a longitudinal study in Senegal. *Human resources for health*, *10*(1), 9. Retrieved from https://doi.org/10.1186/1478-4491-10-9

Salkind, N. J., (Ed). (2010). *Encyclopedia of research design,* (Vol 1). Retrieved from https://methods.sagepub.com/reference/encyc-of-research-design/n108.xml

Sarafis, P., Rousaki, E., Tsounis, A. Malliarou, M., Lahana, L., Bamidis, P., …Papastavrou, E. (2016). The impact of occupational stress on nurses' caring behaviours and their health related quality of life". *BMC nursing*, *15*(1), 56. Retrieved from https://doi.org/10.1186/s12912-016-0178-y

Shahrokhi, A., Ebrahimpour, F., & Ghodousi, A. (2013). Factors effective on medication errors: A nursing view. *Journal of research in pharmacy practice*, *2*(1), 18. Retrieved from doi: 10.4103/2279-042X.114084

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International journal of medical education*, *2*, 53. Retrieved from DOI: 10.5116/ijme.4dfb.8dfd

Tevington, P. (2011). Mandatory Nurse-Patient Ratios. *MEDSURG Nursing, 20(5), pp.265-268.* Retrieved from https://www.amsn.org/sites/default/files/documents/practice-resources/healthy-work-environment/resources/MSNJ_Tevington_20_05.pdf

The Nursing Shortage and How It Will Impact Patient Care. (2017). *Infographics.* Retrieved from, https://onlinedegrees.bradley.edu/resources/infographics/the-nursing-shortage-and-how-it-will-impact-patient-care/

Thomas, A. M. (2010). The discussion section: Your closing argument. *Clinical Chemistry , 56,* 1671-1674. Retrieved from https://libguides.usc.edu/writingguide/discussion

Tuckett, A., Winters-Chang, P., Bogossian, F., & Wood, M. (2015). 'Why nurses are leaving the profession… lack of support from managers': What nurses from an e-cohort study said. *International Journal of Nursing Practice*, *21*(4), 359-366. Retrieved from https://doi.org/10.1111/ijn.12245

Vinz, S. (2015). *Developing your theoretical framework.* Retrieved from https://www.scribbr.com/dissertation/theoretical-framework/

What does Cronbach's alpha mean?. (2018). *Idre.* Retrieved from https://stats.idre.ucla.edu/spss/faq/what-does-cronbachs-alpha-mean/

What is a midwife?. (2020). *WebMD.* Retrieved from https://www.webmd.com/baby/what-is-a-midwife-twins

White Ribbon Alliance Malawi. (2014). *Policy on Investing in Midwifery in Malawi: Delivering on commitments. Retrieved from* https://www.whiteribbonalliance.org/wp-content/uploads/2017/11/Malawi-Midwifery-Policy-Brief.pdf

World Health organisation. (2009). *Monitoring Emergency Obstetric Care.* Geneva, Swirtzerland: Author

World Health Organisation. (2010). *Workload Indicators for Staffing Need: User's Manual*. Retrieved from http://www.who.int/hrh/resources/WISN_Eng_UsersManual.pdf?ua=1

World Health Organisation. (2013). More midwives needed to improve maternal and newborn survival. *Bulletin of the World Health Organization*. Retrieved from https://www.who.int/bulletin/volumes/91/11/13-021113/en/

World Health Organisation. (2016). *Standards for improving quality of maternal and newborn care in health facilities*. Geneva, Switzerland: World Health Organization

World Health Organisation. (2016). *Workload indicators of staffing need (WISN): Selected country implementation experiences, human resources for health observer series no. 15*. Retrieved from, http://apps.who.int/iris/bitstream/handle/10665/205943/9789241510059_eng.pdf;jsessionid=440A1ED23EA64A4D87512A3F491F7BAB?sequence=1

World Health Organisation. (2020). *What is quality of care and why is it important?*. Retrieved from https://www.who.int/maternal_child_adolescent/topics/quality-of-care/definition/en/

APPENDIX A: ETHICAL CLEARANCE

UNAM
UNIVERSITY OF NAMIBIA

ETHICAL CLEARANCE CERTIFICATE

Ethical Clearance Reference Number: SON /482/2019 **Date: 21 August, 2019**

This Ethical Clearance Certificate is issued by the University of Namibia Research Ethics Committee (UREC) in accordance with the University of Namibia's Research Ethics Policy and Guidelines. Ethical approval is given in respect of undertakings contained in the Research Project outlined below. This Certificate is issued on the recommendations of the ethical evaluation done by the Faculty/Centre/Campus Research & Publications Committee sitting with the Postgraduate Studies Committee.

Title of Project: Effects Of Shortage Of Midwives On Performance And Quality Of Care In Maternity Ward, Rundu Intermediate Hospital And Nyangana District Hospital, Kavango East Region

Researcher: KANDJIMI EMILIE

Student Number: 200115480

Supervisors: *Prof. L. Haoses-Gorases (Main) Dr. T. Amakali-Nauiseb (Co)*

Faculty: School of Nursing

Take note of the following:

(a) Any significant changes in the conditions or undertakings outlined in the approved Proposal must be communicated to the UREC. An application to make amendments may be necessary.

(b) Any breaches of ethical undertakings or practices that have an impact on ethical conduct of the research must be reported to the UREC.

(c) The Principal Researcher must report issues of ethical compliance to the UREC (through the Chairperson of the Faculty/Centre/Campus Research & Publications Committee) at the end of the Project or as may be requested by UREC.

(d) The UREC retains the right to:

(i) Withdraw or amend this Ethical Clearance if any unethical practices (as outlined in the Research Ethics Policy) have been detected or suspected,

(ii) Request for an ethical compliance report at any point during the course of the research.

UREC wishes you the best in your research.

Dr. J.E. de Villiers: Chairperson

Ms. P. Claassen: Secretary

APPENDIX B: RESEARCH PERMISSION LETTERS

REPUBLIC OF NAMIBIA

Ministry of Health and Social Services

Private Bag 13198
Windhoek
Namibia

Ministerial Building
Harvey Street
Windhoek

Tel: 061 – 203 2507
Fax: 061 – 222558
E-mail: : itashipu87@gmail.com

OFFICE OF THE EXECUTIVE DIRECTOR

Ref: 17/3/3 EK
Enquiries: Mr. A. Shipanga

Date: 15 October 2019

Ms. Emilie Kandjimi
PO Box 2339
Rundu
Namibia

Dear Ms. Kandjiimi

***Re:* Effects of shortage of midwives on performance and quality of care, in maternity ward, Rundu Intermediate Hospital and Nyanganga District Hospital, Kavango East Region.**

1. Reference is made to your application to conduct the above-mentioned study.

2. The proposal has been evaluated and found to have merit.

3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**

3.1 The data to be collected must only be used for academic purpose;

3.2 No other data should be collected other than the data stated in the proposal;

3.3 Stipulated ethical considerations in the protocol related to the protection of Human Subjects should be observed and adhered to, any violation thereof will lead to termination of the study at any stage;

IA: 11026

9 - 0 / 0001

REPUBLIC OF NAMIBIA

MINISTRY OF HEALTH AND SOCIAL SERVICES

Rundu Intermediate Hospital	**Private Bag 2094**	**Tel: +264 66 265500**
Rundu	**Rundu**	**Fax: +264 66 255037**
Namibia	**Namibia**	**Ext: 506**

OFFICE OF THE CHIEF MEDICAL OFFICER

Ref: P/F
Date: 01 November 2019

TO WHOM IT MAY CONCERN

RE: APPROVAL TO CONDUCT RESEARCH STUDY: EMILIE KANDJIMI

Dear Ms. Kandjimi

Kindly be informed that permission to conduct study research on the proposed study title **" Effects of shortage of midwives on performance and quality of care, in Maternity ward Rundu Intermediate Hospital** during November - December has been granted.

We therefore expect for your consideration in the conditions stipulation in the attached letter from the Office of the Executive Director.

Wishing you success during your stay

Thank you.

.....
DR. MEDSON CHIBWE
MEDICAL SUPERINTENDENT

MINISTRY OF HEALTH AND SOCIAL SERVICES
2019 -11- - 1
MEDICAL SUPERINTENDENT
RUNDU HOSPITAL
REPUBLIC OF NAMIBIA

"YOUR HEALTH, OUR CONCERN"

NYANGANA DISTRICT HOSPITAL

CATHOLIC HEALTH SERVICES

(ASSOCIATION INCORPORATED UNDER SECTION 21)

P.O.BOX 1326, RUNDU TEL: 066-258266, FAX: 066-258

eric.sidile@chs-namibia.org

Andara, Nyangana, Oshikuku, Rehoboth Aroab, Bunya, Okatana, Sambyu, Tondoro Anamulenge, Ilyateko, Mayara, Mbambi, Old Bagani, Oshitutuma, Shinungwe

09/12/2019

Dear Ms Kandjimi

RE: APPROVAL TO CONDUCT RESEARCH STUDY: EMILIE KANDJIMI

May you kindly be informed that permission to conduct study research, with a proposed title, **" Effects of shortage of midwives on performance and quality of care, in Maternity ward Nyangana hospital"** during November – December 2019 has been granted.

Yours in health

.....

DR MUZIRIKAZI NYASHA

Acting SENIOR MEDICAL OFFICER

NYANGANA DISTRICT HOSPITAL
2019 -12- 09
CATHOLIC HEALTH SERVICES

APPENDIX C: INFORMED CONSENT

PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

ANNEX 5

TITLE OF THE RESEARCH PROJECT: EFFECTS OF SHORTAGE OF MIDWIVES ON PERFORMANCE AND QUALITY OF CARE IN MATERNITY WARD, RUNDU INTERMEDIATE HOSPITAL AND NYANGANA DISTRICT HOSPITAL, KAVANGO EAST REGION

REFERENCE NUMBER:

PRINCIPAL INVESTIGATOR EMILIE KANDJIMI

ADDRESS P.O. BOX 2339, RUNDU

CONTACT NUMBER 0812996990

You are being invited to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the study staff or doctor any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research entails and how you could be involved. Also, your participation is entirely voluntary and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study has been approved by the Research Ethics Committee at The University of Namibia and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and Namibian National Research Ethics Guidelines.

The research topic under study is as follows:

'Effects of the shortage of midwives on performance and quality of care in maternity ward Rundu Intermediate Hospital and Nyangana District Hospital, Kavango East region.'

The study will be conducted in Rundu Intermediate Hospital and Nyangana District Hospital maternity wards, to 48 midwives who work in those departments. The purpose of the proposed study is to determine the effects of shortage of midwives on midwives' performance and analyse the effects of the shortage of midwives on quality of patient care, in the maternity ward of Rundu Intermediate Hospital and Nyangana District Hospital, Kavango East Region, Namibia.

This study might inform the Ministry of Health and Social Services (MOHSS) on strategies to enhance midwife staffing, as well as influence national human resource planning.

The participants for the study will be selected using a non-probability, purposive sampling method, as all midwives working in the maternity wards of the two hospitals will be included in the study.

As a midwife, working in the maternity ward of Rundu intermediate Hospital or Nyangana District Hospital, you are invited to participate in order to enable the researcher to analyse the effects of the shortage of midwives in your respective hospital. As a participant in this study you are expected to receive a self-administered questionnaire from the researcher via the midwives in-charge of the maternity wards of your respective hospital and complete the questionnaire as per instruction and hand it back to the midwife in-charge. You are given a maximum of two weeks to complete the questionnaire adequately. The findings from this study might assist the MOHSS in identifying strategies to overcome professional and personal effects of shortage of midwives, as well as effects on the quality of care to patients in the midwifery units.

Please know that your participation in this study is voluntarily. Because your participation is voluntarily, you are therefore free to withdraw from the study at any point with no negative consequences or implications whatsoever.

Please also take note that this is an academic study, therefore no costs or payments are involved.

.

Declaration by participant

By signing below, I ……..……. agree to take part in a research study entitled "Effects of shortage of midwives on performance and quality of care in maternity ward, Rundu Intermediate Hospital and Nyangana District Hospital, Kavango East Region"

I declare that:

a) I have read or had read to me this information and consent form and it is written in a language with which I am fluent and comfortable.
b) I have had a chance to ask questions and all my questions have been adequately answered.
c) I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.
d) I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
e) I may be asked to leave the study before it has finished, if the study doctor or researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Signed at (*place*) .....….....…….. on (*date*) ……...…….. 2019.

Signature of participant Signature of witness

Declaration by investigator

I *(name)* declare that:

- I explained the information in this document to ……..
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use an interpreter. (*If an interpreter is used then the interpreter must sign the declaration below*.

Signed at (*place*) .....….....…….. on (*date*) ……...…….. 2019.

Signature of investigator Signature of witness

11. Declaration by interpreter

I *(name)* declare that:

a) I assisted the investigator (*name*) ……. to explain the information in this document to (*name of participant*) ……..…….. using the language medium of (Oshiwambo, Oshiherero, Afrikaans, etc.)

APPENDIX D: DATA COLLECTION INSTRUMENT

RESEARCH TOPIC: Effects of shortage of midwives on performance and quality of care in maternity ward, Rundu Intermediate Hospital and Nyangana District Hospital, Kavango East Region

Section A: Demographic Information of the participant

(Please tick in the appropriate box):

1. Name of Health Facility of work:

☐ Rundu Intermediate Hospital

☐ Nyangana District Hospital

2. Gender:

☐ Male

☐ Female

3. Age:

☐ 21 years and below

☐ 22 – 27 years old

☐ 28 - 33 years old

☐ 34 – 39 years old

☐ 40 years old and above

4. Rank:

☐ Registered nurse

☐ Registered midwife

☐ Registered nurse/midwife

☐ Enrolled nurse (includes enrolled midwife or accoucheur)

5. Educational level:

- ☐ Master Degree
- ☐ Post-graduate Diploma in Midwifery Science
- ☐ Bachelor's Degree in Nursing Science
- ☐ Diploma in Comprehensive Nursing and Midwifery Science
- ☐ Certificate in: Enrolled nurse/midwife

6. Years of experience:

- ☐ 1 year
- ☐ 2 years
- ☐ 3 years
- ☐ 4 years
- ☐ 5 years and above

Section B: Statements on the effects of shortage of midwives on midwives' performance

7. Please indicate to what extend do you agree or disagree with the following statements regarding the effects of the shortage of midwives on midwives' performance in maternity ward of Rundu Intermediate Hospital/Nyangana District Hospital:

	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly Agree 5
1. Shortage of midwives increases midwives' workload					
2. Shortage of midwives causes fatigue and emotional exhaustion					
3. Shortage of midwives increases stress levels					
4. Shortage of midwives causes burnouts and moral distress					

5. Shortage of midwives increases medical errors committed among midwives (such as wrong medication, wrong route, wrong patient, etc.)					
6. Shortage of midwives increases job dissatisfaction among midwives					
7. Shortage of midwives causes high absenteeism among midwives					
8. Shortage of midwives increases the risk of injury					
9. Shortage of midwives increases the risk of illness					
10. Shortage of midwives decreases the willingness to work					
11. Shortage of midwives decreases the ability to work					
12. Shortage of midwives contributes to mortality rate (I.e. Still birth, neonatal and maternal death)					
13. Shortage of midwives causes high staff turnover					

8. How often do the midwives commit the following types of errors:

	Never 1	Rarely 2	Sometimes 3	Very often 4	Always 5
1. Administering a wrong medical drug to a patient					
2. Administering a wrong medicine dose to a patient					
3. Administering a wrong form of medicine (I.e. tablet for injection)					

4. Administering medicine in a wrong route (I. e. Oral for intramuscular)					
5. Administering a wrong quantity of medicine					
6. Infusing medicine or Intravenous fluids or blood transfusion at a wrong rate					
7. Mixing up medicines between patients					

9. How often do you work long hours without rest in a week?

Never	Rarely	Sometimes	Very often	Always
1	2	3	4	5

10. How often do you get two days off every week to rest?

Never	Rarely	Sometimes	Very often	Always
1	2	3	4	5

11. How often does the unit manager request for extra staff for overtime?

Never	Rarely	Sometimes	Very often	Always
1	2	3	4	5

12. To what extent is the MOHSS EmOC (Emergency Obstetric Care) guideline implemented in this maternity ward?

To a very small extent 1	To a small extent 2	To a moderate extent 3	To a large extent 4	To a very large extent 5

13. In your opinion, state how serious the issue of the effects of the shortage of midwives is, on midwives' performance, in this maternity ward:

Not at all serious 1	Slightly serious 2	Somewhat serious 3	Serious 4	Very serious 5

14. How concerned are you regarding the effects of the shortage of midwives on midwives performance in this maternity ward:

Not at all concerned 1	Slightly concerned 2	Somewhat concerned 3	Moderately concerned 4	Extremely concerned 5

15. How satisfied are you with the number of midwives staff allocated in maternity ward:

Very dissatisfied 1	Dissatisfied 2	Neither satisfied nor dissatisfied 3	Satisfied 4	Very satisfied 5

16. Please use the provided scale below to rate the degree of your satisfaction with the following aspects of your practice in maternity ward:

	Very dissatisfied 1	Dissatisfied 2	Neither satisfied nor dissatisfied 3	Satisfied 4	Very satisfied 5
Staffing					
Wages					
Working environment					
Leadership and support					

17. State the degree of your happiness to work in maternity ward of Rundu intermediate Hospital/Nyangana District Hospital:

Not at all happy 1	Slightly happy 2	Fairly happy 3	Happy 4	Very happy 5

Section C: Statements on the effects of shortage of midwives on quality of care

18. Please indicate the degree to which you agree or disagree with the following statements regarding the care rendered to patients in maternity ward of Rundu Intermediate Hospital/Nyangana District Hospital:

	Strongly disagree 1	Disagree 2	Neither agree nor disagree 3	Agree 4	Strongly agree 5
1. All women are assessed routinely on admission and during labour and childbirth and are given timely, appropriate care.					
2. All newborns receive routine care immediately after birth.					
3. All mothers and newborns receive routine postnatal care.					
4. All women with pre-eclampsia or eclampsia promptly receive appropriate interventions.					
5. All women with postpartum haemorrhage promptly receive appropriate interventions.					
6. Women with delay in labour or whose labour is obstructed receive appropriate interventions.					
7. All newborns who are not breathing spontaneously receive appropriate stimulation and resuscitation with a bag-and-mask within 1 min of birth.					
8. All women in preterm labour receive appropriate interventions for both themselves and their babies.					
9. All women with or at risk for infection during					

labour, childbirth or the early postnatal period promptly receive appropriate interventions.					
10. Newborns with suspected infection or risk factors for infection are promptly given antibiotic treatment.					
11. Every woman and newborn has a complete, accurate, standardized medical record during labour, childbirth and the early postnatal period.					
12. All women and their families receive information about the care and have effective interactions with staff.					
13. Every woman is offered the option to experience labour and childbirth with the companion of her choice.					

(WHO, 2016)

19. In your opinion, rate how important the issue of staffing in maternity ward is in relation to patient care?

Not important 1	Slightly important 2	Fairly important 3	important 4	Very important 5

20. State your beliefs of the following statements regarding the effects of the shortage of midwives on patient outcome at Rundu Intermediate Hospital/Nyangana District Hospital:

	Very untrue 1	Untrue 2	Neither true nor untrue 3	True 4	Very true 5
1. Shortage of midwives causes late attendance to patients					
2. Shortage of midwives causes lack of performance of the MOHSS EmOC (Emergency Obstetric Care)					
3. Shortage of midwives causes delay in initiating emergency interventions					
4. Shortage of midwives causes inadequate/poor patient care					
5. Shortage of midwives causes delay in treatment of patients					
6. Shortage of midwives causes midwives to commit medical errors					
7. Shortage of midwives causes emergency room overcrowding					
8. Shortage of midwives causes poor monitoring of patient condition					
9. Shortage of midwives causes unnecessary complications to patients that delay recovery					
10. Shortage of midwives increases mortality rate (Still birth, neonatal and maternal death)					
11. Shortage of midwives causes negative attitude of health workers towards patients					

12. Shortage of midwives causes patients to be sent back without assistance					

21. What measures do you think can be taken in order to address the effects of the shortage of midwives in maternity ward of Rundu Intermediate Hospital/Nyangana District Hospital:

……
……
……
……
……
……
……
……
……
……
……
……
……
……
……
……

APPENDIX E: A LETTER FROM THE LANGUAGE EDITOR

Mrs Theresia Mushaandja (BED Sec (UNAM), BA Hons in English Studies (NUST), M.A. in English Studies (UNAM), Editing and Proof reading certificate (UCT), PHD in English Studies (UNAM) in progress. Lecturer, English (NUST) JOTERSS English Language and Research Private Academy (Chief editor) P. O Box 487, Windhoek Tel: 0816408864 Email: talamondjilahakalunga@gmail.com

21 October 2020

To: Whom it may concern

Re: Editor's report

This letter serves as an attestation that I, Theresia Mushaandja, from the language and research academy cited above, did the language editing of the research report of **EMILIE KANDJIMI; Student number: 200115480**. Her study is titled**: EFFECTS OF THE SHORTAGE OF MIDWIVES ON PERFORMANCE AND QUALITY OF CARE, IN MATERNITY WARD, RUNDU INTERMEDIATE HOSPITAL AND NYANGANA DISTRICT HOSPITAL, KAVANGO EAST REGION.**

The following linguistic components and features were focused on: the rule of concord; which is the agreement between subjects and verbs. Sentence constructions; at times one finds that some sentences may need rephrasing to make more meaningful sense or may need to be shortened or completed for the same effect. Consistency in the use of words, tenses and forms of language. Another area that I focused on is the use of punctuations, especially the omissions and or the over use of such essentials. I also suggested changes where words with same meaning were used but do not express the idea fully in the context they may be used.

In my edit, I set the computer English Language to UK and not to USA. I also made use of track changes, so that the student, and if need be the supervisor, will be able to track the changes I suggested to accept or decline them as may be found appropriate.

For additional questions and clarity, do not hesitate to contact me on: 08164 088 64 or e mail me on my email: talamondjilahakalunga@gmail.com

Sincerely yours,

T. Mushaandja (Language Editor)

Mrs Theresia Mushaandja (BED Sec (UNAM), BA Hons in English Studies (NUST), M.A. in English Studies (UNAM), Editing and Proof reading certificate (UCT), PHD in English Studies (UNAM) in progress. Lecturer, English (NUST) JOTERSS English Language and Research Private Academy (Chief editor) P. O Box 487, Windhoek Tel: 0816408864 Email: talamondjilahakalunga@gmail.com