A MODEL FOR IMPROVING QUALITY OF CARE IN MATERNAL HEALTH FACILITIES IN SOUTH AFRICA

by

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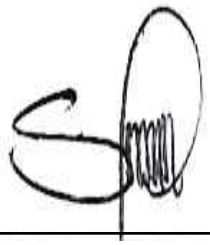
DECLARATION

I, **Sithembele Magqadiyane**, declare that "**A model for improving quality of care in maternal health facilities in South Africa**", is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

I further declare that I submitted the thesis to originality checking software and that it falls within the accepted requirements for originality.

I further declare that I have not previously submitted this work, or part of it, for examination at UNISA for another qualification or at any other higher education institution.



19/01/2022

SIGNATURE **DATE**

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DEDICATION

I dedicate this thesis to my late parents, Nomutile and Makhipholo, for blessing my academic success. Their benediction was to have a scholar in the household to brighten the family's academic recognition and support. From their point of view, "Sithembele" symbolises the significant role of supporting their household. I therefore sincerely appreciate and confirm to them that the seed they planted, against all the odds and weeds, has grown up triumphantly and become abundantly fruitful.

A MODEL FOR IMPROVING QUALITY OF CARE IN MATERNAL HEALTH FACILITIES IN SOUTH AFRICA

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ABSTRACT

Reducing maternal mortality ratios (MMRs) and neonatal mortality ratios (NMRs) remains a priority for improving the quality of care in various parts of the world, particularly in developing nations like South Africa. There has been no victory in reducing MMRs and NMRs in different models that were developed, tried, and tested. The study intended to develop a model for improving the quality of care in maternal health facilities in South Africa.

The study was conducted in a selected public hospital in Libode in the Eastern Cape province. A purposive sample of fifteen women, five doctors and fifteen midwives was used to conduct in-depth face-to-face individual interviews. Colaizzi's seven-step analysis framework was used to transcribe, code, and then extract and analyse key themes from the collected data.

The main study findings revealed that obstacles to receiving prompt, adequate and quality of care were common problems encountered in a maternal health facility. Both direct and indirect as well as possible contributing factors to poor quality maternal and newborn care were also revealed. These practices increase the risk of maternal and related perinatal deaths.

The study findings informed the development of a model for improving quality of care to advance health outcomes in women and newborns in the maternal health facilities in South Africa. The study findings further recommend the proposed model as an initiative to improve the quality of care in health care facilities and reduce maternal and neonatal deaths in the Eastern Cape province.

KEY TERMS: doctors; maternal health facilities; maternal health care; maternal health; maternal mortality ratio; maternal mortality; midwives; model; mothers; quality of care.

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LIST OF ABBREVIATIONS

ANC	Antenatal care
BANC	Basic Antenatal Care
CHIP	Child Healthcare Problem Identification Programme
CTG	Cardiotocography
DHS	District Health Services
DOH	Department of Health
DSGO	German Society of Gynecology and Obstetrics
ESMOE	Essential Steps in Managing Obstetric Emergencies
EPMM	Ending Preventable Maternal Mortality
HMHB	Healthy Mothers, Healthy Babies
iMMR	Institutional Maternal Mortality Ratio
IOM	Institute of Medicine
lb	Live Births
MMR	Maternal Mortality Ratio
MRU	Monitoring Response Unit
MSB	Macerated Still Births
NDP	National Development Plan
NMRs	Neonatal Mortality Ratios
NCS	National Core Standards
NHI	National Health Insurance
PHC	Primary Health Care
PPIP	Perinatal Problem Identification Program
QOC	Quality of Care
RMS	Rapid Mortality Surveillance
SA	South Africa
SDGs	Sustainable Development Goals
UNICEF	United Nations Children's Fund
UNISA	University of South Africa
UN	United Nations
US	United States
WHO	World Health Organization

CHAPTER 1
ORIENTATION TO THE STUDY

1.1. INTRODUCTION

Quality of care (QOC) in maternal health facilities in developing countries is a public health concern that compels both adequate human and material resources to achieve the best quality health care system (Eastern Cape Department of Health 2018:2). Maternal health facilities with adequate staff and resources have demonstrated good QOC (Chinkhumba, De Allegri, Muula & Robberstad 2014:3). Innovative strategies, such as strengthening role players in maternal health facilities, as well as close attention to infrastructural issues and enough procurement of basic equipment are required to improve the quality of maternal health services (MHS) in South Africa (SA) and elsewhere (Chinkhumba et al 2014:3).

Good quality maternal care ideally includes the decision of women who utilise MHS and consider them as partners in maternal health care provision (Marleen, Rajat, Laura, Zoe & Lale 2015:4). Accomplishing these best standards in maternal health care facilities could reduce complaints and increase compliments among female service users (Marleen et al 2015:5). Such female commendations are vital indicators of sustained QOC in maternal health care facilities (Amu & Nyarko 2019:1).

Developing countries, including SA, have minimal tolerance of maternal and child deaths despite the unforeseen leading circumstances such as poor MHS in primary health care (PHC) that contribute to macerated stillbirths (MSBs) (World Health Organization [WHO] 2015:1). These countries have a joint agreement on the Millennium Development Goals (MDGs) implementation to improve maternal health (WHO 2015:4).

Another effort employed in SA to improve maternal health is the National Health Insurance (NHI) which has been piloted as a strategy to improve the current state of the health system. Its effective implementation would ensure that all South Africans receive quality health care and address the current maternal and newborn care issues (Sithole, 2015:1; Riaz, Zaidi & Khowaja 2015:280).

Despite these efforts, SA is part of the countries presenting poor performance in terms of maternal health indicators (WHO 2016a:24). Many factors have been attributed to this deteriorating QOC in the public maternal health facilities, such as national economic

instability, poor service delivery, infrastructural problems, and the shortage of both doctors and midwives (WHO 2016a:27).

Currently, many South Africans who solely depend in public maternal health facilities are still lacking adequate QOC, and the greater proportion of these are women who are not members of medical aid schemes and cannot afford private health services (Moyakhe 2014:83). Most women from high socio-economic status have ready access to private MHS (United Nations Children's Fund [UNICEF] 2019:34). These are true realties: access to QOC in SA is currently determined by economic class. Such inadequate access to any health care services is contrary to human rights laws, which affirm equality regardless of racial or socio-economic differences. This endorses that there is no uniformity in the provision of quality care in both private and public health facilities because of the existing health system plans. Therefore, attaining NHI will also improve the quality of the health care system in maternal health facilities. This would mean that the decline in maternal mortality in SA could be linked to an improved QOC in maternal health facilities and not a decline in fertility rate. Therefore, improving the QOC in maternal health facilities will reduce maternal mortality and improve maternal health in SA.

1.2. BACKGROUND TO THE RESEARCH PROBLEM

Reducing the MMR requires action to improve the quality of maternal and newborn care for improving survival rates in countries around the time of birth for mothers and infants (Koblinsky, Moyer & Calvert 2016:2307). Many women die because of the poor provision of quality care in MHS (WHO 2016a:5). Reducing the maternal mortality rate (MMR) has long been a global health priority as stipulated in the MDG framework. However, accelerating the pace of improving the QOC remains a challenge in some developing countries such as SA (Jamieson, Berry & Lake 2017: 26).

The 21st century has been marked by a global commitment to meet the MDGs by 2015. This was a promising attempt to benefit populations as countries were provided with indicators aimed at giving strategic direction to service delivery and enabling countries to prioritise their goals. For achieving the MDGs, various interventions were adopted by international organisations to support continental, regional, and country-based interventions (Mulaudzi et al 2016: e1). The MMR has subsequently fallen by nearly 44% over the past 25 years, that is, an estimated MMR of 216 per 100 000 live births (lb) in 2015, from an MMR of 385 per 100 000 lb in 1990 (WHO 2015:24).

Despite the significant progress in accessing obstetric care in the past two decades, many women still suffer and die from pregnancy and childbirth-related health problems, mostly in the developing world. As of 2015, the two regions with the highest MMR were sub-Saharan Africa (546 per 100,000 lb) and Oceania (187 per 100,000 lb) (WHO 2015:15-16).

South Africa (SA), also in the sub-Sahara, saw its MMR increasing from 60 per 100 000 lb in 1996 to 138 per 100,000 lb in 2015 (WHO, UNICEF, UNFPA, World Bank Group, and the United Nations Population Division 2015:20). Some researchers reported with concern that by the end of 2015, the SA MMR increased from 150 per 100,000 lb in 1990 to 269 per 100,000 lb in 2015 (Mmusi-Phetoe 2016:133). This was against the United Nations (UN) target of 38 per 100,000 lb and revealed a failure of the country to achieve its 2015 target of maternal deaths (Pettifor 2015:2).

Building on the MDG agenda, 193 leaders came together in 2015 and created the Sustainable Development Goals (SDGs), which were adopted by the United Nations General Assembly (2015). The plan aimed at ending poverty and ensuring that all people enjoy peace and prosperity. Several countries, including SA, signed the 17 SDGs, thus committing to their implementation. SDG 3 calls for countries to ensure healthy lives and promote well-being for all at all ages (United Nations General Assembly 2015:20). SDG 3 has nine targets; target 3(1) calls for countries to reduce the global MMR to less than 70 per 100,000 lb by 2030. Target 2 or SDG 3(2) calls for an end to preventable deaths of newborns and children under five years of age. SDG 3(2) further requires all countries to reduce neonatal mortality to at least 12 per 1000 lb and under-five mortalities to at least 25 per 1000 lb (Gupta & Vegelin 2016: 433).

Though maternal mortality has been reduced by 45% since 1990, 303,000 women died from complications during pregnancy or childbirth in 2015 (WHO 2018:6). In February 2015, the WHO published “Strategies toward ending preventable maternal mortality (EPMM)”, which aimed at reducing MMR under the SDGs. Attaining the SDG target is a universal priority. The average global target is an MMR of less than 70 deaths per 100,000 lb by 2030. The supplementary national target is that no country should have an MMR greater than 140 deaths per 100,000 lb (WHO 2015:6).

SA is among the developing countries reported to be experiencing delivery of poor QOC to its mothers and babies (Oosthuizen, Bergh & Pattinson 2017:151). The effort to address this contributory factor to maternal mortality and the related newborn deaths has

received little attention (Van den Broek & Graham 2009:19). Therefore, in the researcher's view, a model for improving the QOC in maternal health facilities would make a difference in improving maternal mortality outcomes in this country. In addition, maternal, newborn and child health has been reported as one of the quadruple burdens of disease and a leading cause of death amongst South Africans, alongside HIV/AIDS and tuberculosis (TB), non-communicable diseases, and violence and injury.

1.3. THE RESEARCH PROBLEM

Improving the QOC in maternal health facilities remains a priority for achieving better health outcomes for mothers and babies (Madaj, Smith, Mathai, Roos & Van den Broek 2017:447). Health care providers are the primary base for improving the QOC in maternal health facilities. The public hospital in Libode, Eastern Cape province, accommodates approximately 86% of category A health care providers in its hospital residence (Department of Health Housing Policy 2015). This helps them to do calls at night and attend to the emergencies in the maternal health facilities to improve both maternal and newborn health outcomes. As a result, the total number of lb in the facility increased from 0.005 (1 560) per 1000 population in 2017 to 0.009 (2 952) per 1000 population in 2018 (Department of Health 2018:21).

Despite the increase in the delivery of lb in a year, the MMR in this public hospital in Libode, Eastern Cape province increased from 110 deaths per 100,000 lb in 2017 to 195 deaths per 100,000 lb in 2018 (Eastern Cape Department of Health 2018:83). Although many attempts have been made in the past to improve the QOC in maternal health facilities, maternal health outcomes remain poor (Oliver Tambo District Health Plan 2018:30). This is an indication that availability of maternal services alone will not necessarily result in better maternal and newborn health outcomes. Apparent un-caring, callous, unfeeling, and disrespectful care could be a major factor in the continuous high rates of maternal deaths and a deterrent to quality of health for mothers in public MHS.

In addition, the poor provision of quality care in the maternal health facility in Libode, Eastern Cape province and high rates of MMR could be a result of various factors such as poor physical infrastructure, lack of human resources, poor knowledge, lack of skills and capacity to deal with both normal pregnancies and complications that require prompt interventions (Tuncalp et al 2015:1045). This warrants exploration. In addition, in line with the SDG agenda SA's National Development Plan (NDP), there is a need to develop a model improving the quality of obstetric and newborn care with the ultimate aim of improving maternal and neonatal health outcomes.

1.4. AIM OF THE STUDY

1.4.1. Purpose of the study

A research purpose refers to a determination of what the researcher intends to do (LoBiondo-Wood & Haber 2014:34). The purpose of this study was to develop a model for improving the QOC to improve health outcomes in women and newborns in maternal health facilities in SA.

1.4.2. Research objectives

Research objectives articulate what researchers want to achieve with the research/study (LoBiondo-Wood & Haber 2014:35). To achieve the above aim, the study objectives were the following:

- Explore and describe the views of women in postpartum care units on quality-related factors that affect maternal and newborn care in a public hospital in Libode, Eastern Cape.
- Describe the perceptions of midwives and doctors about the quality of care provided for women and newborns in a public hospital in Libode, Eastern Cape.
- Describe the current interventions to improve the quality of maternal and newborn care in the public hospital in Libode, Eastern Cape.
- Develop a model for improving the quality of maternal and newborn care in the public hospital in Libode, Eastern Cape.

1.4.3. Research questions

Research questions are questions that a research study sets out to answer (LoBiondo-Wood & Haber 2014:35). Based on these objectives, the following research questions guided the study:

- What are the views of women regarding quality related factors that affect them and their newborns in the postpartum care facility in a public hospital in Libode, Eastern Cape?
- What are the perceptions of doctors and midwives about the quality of maternal and newborn care provided at a public hospital in Libode, Eastern Cape?
- What interventions are currently being implemented to improve the quality of maternal and newborn care in the public hospital in Libode, Eastern Cape?

- What model can contribute to improving the quality of maternal and newborn care in a public hospital in Libode, Eastern Cape?

1.5. SIGNIFICANCE OF THE STUDY

The study is expected to contribute to the understanding of factors that influence the quality of obstetric and newborn care. This study explored client–provider interaction (respectful care) and the provider's adherence to the service delivery guidelines (partograph use) in maternal and newborn care. This would include assessing the quality of maternal and newborn care and factors that affect quality and its implications for client satisfaction. Assessing women's and newborns' health outcomes will help to inform government initiatives for improving the QOC and reducing maternal and perinatal mortality in the country. The study developed and proposes a model for improving the quality of maternal and newborn care.

1.6. CONTEXT OF THE RESEARCH

The study was conducted in a public hospital in Libode in the Eastern Cape province in SA. The Eastern Cape province is one of the nine provinces in the country. The health system in SA comprises public and private sector service providers and currently the implementation of the NHI to promote universal coverage is being planned. MHS are among those service priorities for universal coverage. MHS at district level is strengthened through the integration of PHC with district health services (DHS). Multiple programmes such as the Perinatal Problem Identification Program (PPIP), Child Healthcare Problem Identification Programme (CHIP), and Monitoring Response Unit (MRU) are utilised to improve the QOC provision in the MHS. Eastern Cape province is one of the three most rural provinces of SA, with high maternal mortality and related perinatal deaths. The province has the third highest maternal mortality rate (MMR) of 135.28 per 100,000.00 (Department of Health 2016:56). Further details on the context of the study will be discussed in Chapter 2.

1.7. DEFINITION OF KEY TERMS

Doctor: A professional person who is licensed to practise medicine, which is concerned with promoting, maintaining, or restoring health through the study, diagnosis, prognosis and treatment of disease, injury, and other physical and mental impairments (Bernstein 2015:1).

Maternal health care: The health service provided to women during pregnancy, childbirth, and the postpartum period (WHO 2016a:3).

Maternal health facility: The accredited setting where health professionals provide both obstetric and newborn health care (Yaya, Uthman, Amouzou, Ekholuenetale & Bishwajit 2018: 195).

Maternal health: The health of women during pregnancy, childbirth, and the postpartum period (WHO 2016a:24).

Maternal mortality ratio (MMR): The number of maternal deaths per 100,000 lb; a measure of the risk of death once a woman has become pregnant (Morse 2014:23).

Maternal mortality: Death of either a pregnant woman or death of a woman within 42 days of delivery, miscarriage, termination, or ectopic pregnancy, provided the death is associated with pregnancy or its treatment (Payne & Cox 2016:35).

Midwife: An individual who has successfully completed a midwifery education programme that is based on the International Confederation of Midwives (ICM) Essential Competencies for Basic Midwifery Practice and the framework of the ICM Global Standards for Midwifery Education and is recognised in the country where it is located; who has acquired the requisite qualifications to be registered and/or legally licensed to practice midwifery and use the title ‘midwife’; and who demonstrates competency in the practice of midwifery (ICM 2017:1). In this study, a midwife would mean any person who possesses a qualification in midwifery and has the knowledge and skill to perform all midwifery procedures.

Model: A systematic description of an object or phenomenon that shares important characteristics with the object or phenomenon (American Heritage Publishing Company 2016:2). In this study, a model refers to a schematic representation of how MHS can be organised to enhance the QOC in the maternal health facilities in SA to improve health outcomes for women and newborns.

Quality of care (QOC): The extent to which maternal health-care services provided to individuals and patient populations improve desired health outcomes (WHO 2016a:1). According to Avortri and Modiba (2018: e3), QOC is the degree to which MHS for individuals and populations increase the likelihood of timely and appropriate treatment for the purpose of achieving desired outcomes that are both consistent with current professional knowledge and uphold basic reproductive rights.

Women of reproductive age: Refers to all women aged 15–49 years (WHO 2016a:9). In this study, it refers to 15 women in this age range who have given birth during the period from 1 January 2020 to 31 December 2020 in the public hospital in Libode, Eastern Cape.

1.8. THEORETICAL FOUNDATIONS OF THE STUDY

This section covers the theoretical framework, paradigm, research design and research method that guided the study.

1.8.1. Theoretical framework

A theoretical framework or model is required for scientific studies to guide the data collection and analysis process (Fox, Gardner & Osborne 2014:70). This study adopted Donabedian's theory of QOC to explore, evaluate and identify gaps and suggest improvements in the QOC in the maternal health facilities in Libode, Eastern Cape, SA. Donabedian's theory was used as a theoretical base to guide data collection, analysis, and the development of a model to improve the QOC in maternal health facilities in SA.

Donabedian's theoretical framework defines three pillars that address the quality of health services, namely structure, processes, and outcomes (Soter, Francesc, Kathleen, Stephen & Kerstin 2017:3). According to Soter et al (2017:3), Donabedian's model and framework reflect the values and goals of the health care system. Donabedian's Quality Care Model is depicted in Figure 1.1 below and briefly explained in the next section.

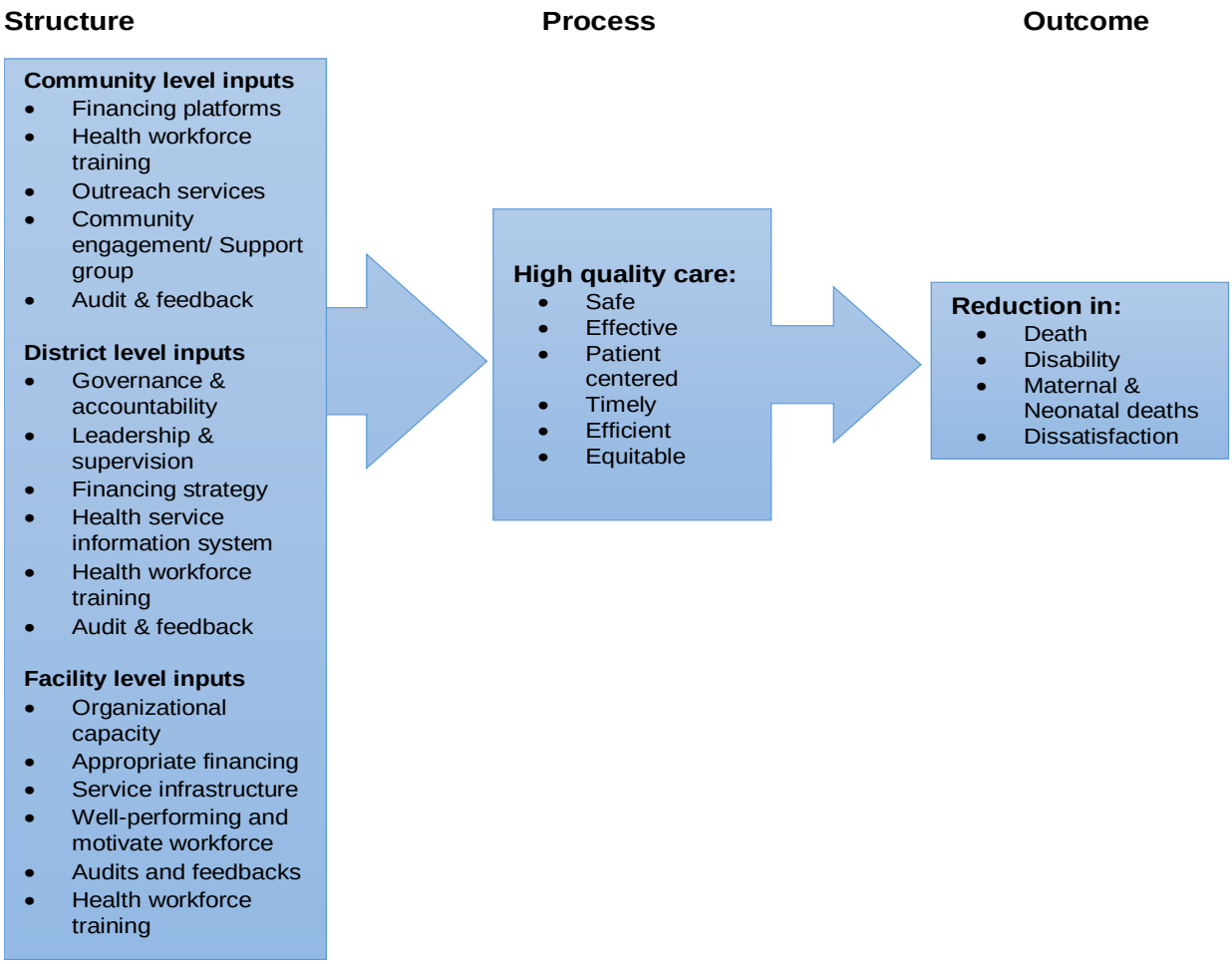


Figure 1.1: Donabedian's Quality Care Model

Structure: The environment in which health care is provided; political, legal, professional, and organisational resources needed to ensure that quality care is delivered, at community, district, and facility levels of the health system (Soter et al 2017:3). In terms of community level input in this study, community engagement and support describe mothers who have given birth during the period from 1 January 2020 to 31 December 2020 in the hospital in Libode, Eastern Cape. Critical elements of the district level will also be considered (e.g., dimensions of governance, accountability, health workforce, infrastructure, financing strategy, and health service information systems).

At the facility level, there are dimensions of leadership, health workforce, supplies, and technical capabilities. In this study, this component also includes the skills of the staff, the buildings, equipment and supplies, and the policies and procedures that the organisation makes available to provide QOC.

Process: Involves the technical aspect of doing the right things through the assessment, implementation and evaluation standards implemented to improve the QOC that could be characterised by being safe, effective, patient-centred, timely, efficient, and equitable (Austin et al 2014: s4). In this study, this also includes actual activities that the healthcare providers should perform for improving the QOC as a goal of the maternal health facility.

Healthcare providers' activities include availability and utilisation of policies or standards (admission, management of both low and high risk pregnant mothers), standards in case of emergency in the unit, policy or standards on referral procedures, monitoring and evaluation of facility or unit plans.

Outcome: Defines the effectiveness of the process and available structure in the provision of care. In other words, it means having the right things happen. It denotes the performance of the process in relation to the expected outcomes (Polit & Beck, 2017:241). This part of the model points to the effects of the care on the health status of the patient. In the study, the researcher looked at the end results of the quality maternal and newborn care provision. The researcher also believes that achieving high QOC in maternal health facilities increases the likelihood of good reduction of maternal and neonatal deaths.

Other researchers have also used Donabedian's theory to identify QOC (LoPorto 2020:42). Hence, the theory was applied in this study to guide the development of a model for improving the QOC in the maternal health facilities in SA (See Chapter 5). Chapter 2, Section 2.6.1.6 provides a detailed discussion about Donabedian's theoretical framework.

1.8.2. Paradigm

A paradigm refers to "fundamental conceptions of how to research in a specific field with consequences on the levels of methodology and theory" (Flick 2014:540). According to Polit and Beck (2017:250), a paradigm is defined as a way of looking at natural phenomena that guides one's approach. It is a philosophical stance of the researcher providing a set of beliefs guiding action (Burns, Grove & Gray 2015:324).

This study used a qualitative approach and the paradigm chosen for this study was interpretivism. According to Bryman et al (2016:14), an interpretivist paradigm is referred to as a generic social paradigm that aims at gaining understanding of social phenomena. This paradigm believes that social reality cannot be separated from the social actors (participants and the researcher). Meanwhile, from an epistemological perspective, interpretivists recognise that knowledge is derived from socially constructed concepts and meaning (Maree 2016:63).

Due to the nature of interpretivism's subjectivity, the chosen paradigm fits well with the qualitative methodology which was used for the study. In this regard, QOC was appraised from the voices of the mothers (i.e., participants) who were in postpartum care and shared their experiences about the QOC whilst in the unit. The healthcare providers in the maternal health facility were able to share their views and experiences about the QOC in the maternal health facility and possible interventions. Therefore, interpretivism was used in the study as the research approach to enable the researcher to capture participants' views as closely as possible during data collection. The research paradigm determines the research design and method to be followed.

1.9. RESEARCH DESIGN AND METHOD

This section presents a brief overview of the research design and method used. A detailed discussion is offered in Chapter 3.

1.9.1. Research design

A research design is a plan of how, when and where data collection and analysis will take place (Parahoo 2014:412). According to Bless, Higson-Smith and Sithole (2016:130), a research design relates to an overall plan for conducting a research project. Moule and Goodman (2014:462) define research design as a "map of the way in which the researcher will engage with the research participants to achieve the outcomes needed to address the research aims and objectives".

To achieve the intended outcome of the study, the researcher followed a qualitative, exploratory, descriptive, and contextual research design. This qualitative research design was regarded as suitable, because the researcher wanted to explore and describe the views of participants regarding the QOC in maternal health facilities in Libode in the Eastern Cape province. A detailed discussion of research designs is provided in Chapter 3. The new generated data from qualitative methods was used to develop a model for improving the QOC in maternal health facilities in SA with the guidance of Donabedian's theory to improve maternal and newborn care (see Chapter 5).

1.9.2. Research method

To attain the objectives of the study regarding the development of a model for improving the QOC in the maternal health facilities in SA, the researcher identified the research population and sample, as well as data collection and analysis techniques.

1.9.3. Qualitative method

Qualitative research is open ended and enables the researcher to capture participants' views during data collection. This research method is emergent and requires the active engagement of participants. Though it uses multiple data collection methods, this study utilised a face-to-face in-depth interview format. It is believed that qualitative research mostly depends on the exact words that participants say when they relate their views to the researcher. Qualitative research also focuses on the meaning and interpretation of the subjective description of experiences and the everyday world of participants. Since a qualitative method is the only method that helps researchers to understand the meanings, interpretations, and subjective experiences of participants, it was suitable for the study. Furthermore, the qualitative method is suitable because it allows thick and rich descriptions of the views of participants.

1.9.3.1. Population

Population refers to the entire group of elements sharing some common characteristics relevant to the research purpose (Polit & Beck 2014:31). These authors further state that within the entire group of elements there is a target population which is the group of elements that the researcher wishes to study and, where applicable, from which generalisations can be derived. An accessible population, on the other hand, is the group of elements within the target population that meets the criteria for inclusion in the study and is available to the researcher. The population in this study were doctors and midwives in postpartum units, and mothers in the same units.

1.9.3.2. Sampling

A sample is a small part or a fraction of the accessible population that the researcher selects to participate in the study (Polit & Beck 2014:34). These authors further state that a sample represents the entire population and for a researcher to be able to select a sample, a sampling frame is required. According to Bryman et al (2016:34), a sampling is a list of all elements of the accessible population from which the researcher can draw a sample. A purposive sampling strategy was utilised to access the population of doctors, midwives, and mothers in the postpartum unit of the public hospital in Libode in the Eastern Cape province. The sampling criteria for the study were the following:

Inclusion criteria for mothers

- All mothers between the ages of 15 and 49 years old.

- Mothers who were admitted and gave birth to babies during the period between 1 January 2020 and 31st July 2020 in the hospital in Libode, Eastern Cape.
- Mothers who resided in Libode, Eastern Cape.
- Mothers who were dependent on a public healthcare facility.

Inclusion criteria for health care providers

- All health care providers between the ages of 22 and 60 years old.
- Health care providers who were providing care in the public hospital in Libode, Eastern Cape province from 1 January 2020 to 31 July 2020.
- Health care providers who had more than one year's experience in a maternal health facility. The researcher believed that obtaining the opinions of those experienced and exposed to maternal and newborn care would have had adequate opportunity to provide valuable information on the nature of services rendered in the maternal health facility.

Exclusion criteria for mothers

- Mothers who were below the ages of 15 and those who were above 49 years.
- Mothers who had not given birth to babies during the period 1 January 2020 to 31 July 2020 in the hospital in Libode.
- Mothers who were unable to communicate in English.

Exclusion criteria for health care providers

- All health care providers who were not working in the public hospital in Libode Eastern Cape province before 1 January 2020 or after 31 July 2020.
- Any health care provider under age 22 years.
- All health care providers who had less than one years' experience in a maternal health facility.

1.9.3.3. Data collection

Data collection is the gathering of information needed to address a research problem (Maree 2016:45). In this study, consent to participate in the study was obtained from participants (i.e., midwives, doctors, and women) before commencing with data collection. Immediately after having obtained consent to continue with the interview

process, interviews using in-depth open-ended questions were conducted with doctors, midwives, and mothers. Each in-depth open-ended interview lasted for 45 to 60 minutes. All the interviews were audio recorded and transcribed later for the preparation of data analysis. The researcher also utilised field notes to capture verbal and non-verbal behaviours occurring during the interviews as well as noting personal reflection about the interview process (Polit & Beck 2014:290). The number of in-depth open-ended interviews was decided by data saturation. A detailed discussion is offered in Chapter 3.

1.9.3.4. Data analysis

Date analysis aims at organising, providing structure to, and deriving meaning from research data being collected. Qualitative studies usually collect and analyse data simultaneously (Polit & Beck 2014:307). Data analysis consists of the identification of categories or themes, data interpretation, data validation and qualitative report writing. A seven-step data analysis method by Colaizzi (1978, described in Polit & Beck 2014:317), was used by the researcher to analyse data. A detailed discussion is offered in Chapter 3.

1.10. TRUSTWORTHINESS

Trustworthiness refers to the truth value of the study. The strategies to ensure trustworthiness by Bryman et al (2016:44) were utilised in this study. These included credibility, dependability, transferability, and confirmability. A detailed discussion is offered in Chapter 3.

1.11. ETHICAL CONSIDERATION

According to Babbie (2016:118), ethics refers to matters associated with morality and ethical guidelines serving as a standard which forms the basis for the research to evaluate one's conduct. In the context of this study, ethics were guided by the principles of respect for persons, fidelity, autonomy, non-maleficence, beneficence, and justice (Bless et al 2016:29). To maintain scientific integrity, the researcher obtained ethical clearance from the Department of Health Studies at UNISA (see Annexure A) and followed guidelines from the supervisor. After ethical clearance was given, the researcher then applied to the Eastern Cape Research Ethics committee to get permission to collect data from the selected public hospital (see Annexure B). Once permission was given (see Annexure C), the researcher approached the OR Tambo district health office for permission to visit the selected public hospital to collect data. At the hospital, the researcher requested potential participants to participate in data collection (see Annexure D) and obtained

voluntary informed consent from them to participate in the study (see Annexure E). The ethical considerations will be further explained in Chapter 3.

1.12. SCOPE OF THE STUDY

The study was conducted in a public hospital in Libode, Eastern Cape province. This study covers the quality of maternal and newborn care, and particularly care delivered during childbirth for the women and their newborns. The study does not cover care delivered during pregnancy and the late post-partum period. It was interested in women's experience of care, and their satisfaction and health outcomes, particularly maternal and newborn mortality in the health facility. The study describes different dimensions of the QOC and factors that affect it. However, the study does not cover macro policy dimensions of health sector organisation that could affect quality.

1.13. OUTLINE OF THE THESIS

This thesis consists of five chapters with sub-sections. Summaries of each of these chapters are offered below to allow readers to follow and understand discussions on issues presented.

Chapter 1: Orientation to the Study. This chapter provides an overview of the entire study. It includes a background and a problem statement that indicates the rationale that motivated the researcher to conduct the study. Included in this chapter are also methodological issues, such as research design, methods, aims and objectives of the study.

Chapter 2 provides a review of literature relevant to the research objectives.

Chapter 3 provides a detailed description of the research design and method the researcher used in the study.

Chapter 4 provides the analysis, presentation, and discussion of the research findings.

Chapter 5 summarises the findings in terms of the stated research objectives and offers a discussion of the implications of a model for improving the QOC in maternal health facilities to improve maternal and newborn health outcomes in the Eastern Cape, SA. A model for improving the QOC in maternal health facilities in SA is presented. Conclusions and recommendations are offered to concerned bodies for further action.

1.14. CONCLUSION

This chapter presented the introduction and background research to the study. The problem and aim, which included the purpose, objectives, and research questions, were indicated. Conceptual definitions of key concepts were presented. The foundation of the study, research design and method used were introduced and the scope of the study was presented. Finally, an outline of the structure of the thesis was presented. The research methodology was briefly discussed, and its application will be discussed in Chapter 3.

CHAPTER 2
LITERATURE REVIEW

2.1. INTRODUCTION

The previous chapter presented an introduction and background to the study. This section presents a review of literature related to the quality of care in maternal health facilities, including the related theoretical framework. The reviewed literature provides lessons of the related models in the study and embraces international studies and national studies related to the quality of maternal and newborn care in public hospitals. The concept of quality of care in this regard is unpacked as comprehended by other countries elsewhere. Relevant studies were identified through a review of research articles found through an electronic search and the UNISA library.

2.2. DEFINING QUALITY OF CARE/ WHAT IS QUALITY MATERNAL AND NEWBORN CARE?

Numerous studies have shown that the quality of care received by mothers and newborns is poor in many developing countries, so contributing to the high levels of maternal and newborn mortality (WHO 2019:3). There is no universally accepted definition of quality of care, but increasingly the composite nature of quality is acknowledged (Wilhelm et al 2019:2). There is increasing global awareness that quality maternal and newborn care is crucial for keeping mothers and newborns alive and well (WHO 2017b:2). The Network for Improving Quality of Care for Maternal, Newborn and Child Health (Quality of Care Network) helps countries to improve the quality of care in their health facilities. Therefore, Wilhelm et al (2019:7) defined “quality” in the context of maternal health and incorporated the concept of both effective and timely access, and of reproductive health rights. This study defines quality of care as the degree to which MHS for individuals and populations increase the likelihood of timely and appropriate treatment for the purpose of achieving desired outcomes that are both consistent with current professional knowledge, uphold basic reproductive rights, and consider the preferences and aspirations of individual women and their families (Austin et al 2014: s6). This definition considers the characteristics of quality of care and two important components of care: the quality of the provision of care and the quality of care as experienced by women, newborns, and their families. In this study, quality of care is the process by which maternal and newborn health services provided to women and their population improve desired health outcomes to reduce maternal and newborn deaths.

2.3. MATERNAL AND PERINATAL MORTALITY TRENDS

2.3.1. Global trends

Maternal and perinatal mortality is still a major public health challenge in the world, despite the ongoing government efforts to improve the quality of maternal and newborn care (Lilungulu et al 2020:1). This arises from contributing factors such as high magnitude of severe maternal outcomes (maternal near-miss), infrastructural issues, and shortage of qualified and committed staff to their area of expertise (Lilungulu et al 2020:2). Perinatal mortality is the main contributor to infant mortality and is directly associated with maternal mortality. As a result, globally, 40% of infant mortality and 75% of neonatal mortality occur in the perinatal period. Worldwide, more than seven million perinatal deaths occur each year, which is higher than the total number of global deaths caused by AIDS (2.1 million), tuberculosis (1.6 million) and malaria (1.3 million) (WHO 2019:4). Remarkably, more than 8,200 babies are stillborn each day in the world while 11,000 die within the first week of their birth (UNICEF 2018:31). There is a continuous global failure in government to improve the standards of health systems, thus QOC in maternal health is still poor (Alkema, Chao, You, Pedersen & Sawyer 2014:253).

Significant progress has been made in recent decades to reduce maternal mortality worldwide, but the neonatal mortality rate has declined at a slower pace. Consequently, maternal mortality worldwide dropped by about 44% between 1990 and 2015 (Alkema et al 2014:1). Despite notable efforts such as the adoption of MDGs to reduce maternal deaths in health facilities, the pace of improvement was slow between 2000 and 2017. The maternal mortality rate had declined by 38% from an estimation of 342 maternal deaths per 100,000 lb and the annual rate of reduction was 2.9% (WHO 2019:20). The global low rate in reducing maternal mortality indicates poor quality of maternal and newborn care provision.

Every year, more than seven million maternal and perinatal deaths occur across the globe (3.5 million still births and 4 million neonatal deaths), which is higher than the combined annual deaths at all age levels due to AIDS (2.1 million), tuberculosis (1.6 million) and malaria (1.3 million) (Berhan & Berhan 2014:30). About 99% of these perinatal deaths occur in low and middle-income countries. Approximately half of these perinatal deaths usually occur at home, unnamed and unrecorded, and thus unaccounted for. As a result, the reported high mortality figures may still underestimate the actual magnitude of the perinatal mortality rate in countries where vital registration is not established.

The importance of perinatal deaths reduction is also emphasised by describing its association with maternal mortality (Allanson, Muller & Pattinson 2015:3). For every maternal death there are an estimated 10 perinatal deaths. Based on the strong linkage of perinatal deaths with maternal deaths, about two-thirds of the causes of maternal deaths are also causes of perinatal deaths (UNICEF 2014:23). Currently, 2.9 million babies die within the first month of life, accounting for 44% of under-five mortality, and an additional 2.6 million babies are stillborn (Allanson et al 2015:4).

Every day, approximately 830 women die from preventable causes related to pregnancy and childbirth (WHO 2018:3). In addition, an estimated 99% of all maternal deaths occur in developing countries. Maternal mortality is higher in women living in rural areas and among poorer communities. As a result, South Sudan has the highest infant maternal mortality ratio (iMMRs) of 1,150 deaths per 100,000 lb above the global rate of 211 maternal deaths per 100,000 lb (WHO, UNICEF, UNFPA, World Bank Group & the United Nations Population Division 2019:2).

Maternal, infant, and neonatal mortality rates are benchmarks for maternal/infant care and the health of society in general. Global efforts to reduce these mortality rates have been led by the WHO and the UN. The rates have decreased substantially worldwide, but the ambitious reductions set forth by the MDGs have not been achieved (WHO 2019:34).

Other efforts have been established, such as the sustainable development goals, to strengthen health systems and reduce maternal and perinatal mortality rates (WHO 2017:10). However, between 2016 and 2030, as part of the SDGs, the target was to reduce the global MMR to less than 70 per 100,000 lb (WHO 2019:23). There is a continued urgent need for maternal health and survival to remain high on the global health and development agenda and to move beyond just survival. Achieving maternal health outcomes requires efforts to improve the accessibility and quality of care (Bhutta, Das, Bahl, Lawn & Salam 2014:348). The 2018 Declaration of Astana repositioned PHC as the most (cost)-effective and inclusive means of delivering health services to achieve the SDGs and is the cornerstone for achieving universal health coverage (Bhutta et al 2014:350). Currently, this global target has not yet been attained. Therefore, the study aimed to develop a model for improving quality of care in maternal health facilities.

Between 2000 and 2017, the subregion of Southern Asia achieved the greatest overall percentage reduction in MMR, with a reduction of 59% maternal deaths per 100,000 lb (WHO, UNICEF, UNFPA, World Bank Group & the United Nations Population Division

2019:24). This equates to an average annual rate of reduction of 5.3%. In addition, four other sub-regions roughly halved their MMRs during this period: Central Asia (52%), Eastern Asia (50%), Europe (53%) and Northern Africa (54%) (WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division 2019:24). Despite its very high MMRs, sub-Saharan Africa as a region also achieved a substantial reduction of roughly 38% since 2000. Notably, one sub-region with very low MMR in 2000 and Northern America had an increase in MMR of almost 52% during this period, rising to 18 in 2017. This is likely related to already low levels of MMR, as well as improvements in data collection, changes in life expectancy and/or changes in disparities between subpopulations (WHO, UNICEF, UNFPA, World Bank Group & the United Nations Population Division 2019:26).

The greatest decline in proportion of deaths among women of reproductive age that are due to maternal causes occurred in two regions: Central and Southern Asia (56.4%), and Northern Africa and Western Asia (42.6%) (Benova, Cumming & Campbell 2014:369). Almost no change was seen in perinatal mortality in Europe and Northern America. The 10 countries with the highest MMRs in 2017 (in order from highest to lowest: South Sudan, Chad, Sierra Leone, Nigeria, Central African Republic, Somalia, Mauritania, Guinea Bissau, Liberia, Afghanistan) all had ARRs between 2000 and 2017 of less than 5% (Assarag, Dujardin, Essolbi, Cherkaoui & De Brouwere 2015:1415).

Regional progress in reducing the MMR since 1990 ranged from an annual rate of reduction of 18% (0.0-3.1) in the Caribbean to 5.0% (4.0-6.0) in Eastern Asia (Assarag et al 2015:1416). Regional MMRs for 2015 ranged from 12 deaths per 100,000 lb (11-14) for high-income regions to 546 (511-652) for sub-Saharan Africa (WHO, UNICEF, UNFPA, World Bank Group & the United Nations Population Division 2019:26). Therefore, a remarkable progress will be needed to achieve the SDG goal and countries will need to reduce their MMRs at an annual rate of reduction of at least 7.5%.

2.3.2. Regional level trends

Even though maternal and neonatal mortality are highly researched by both local and international authors or institutions in South Africa, there are great doubts about these estimates in the country (Moodley & Fawcus 2018: s4). This is based on high dependence on only a few data sources and limited empirical work. The concern is that maternal and newborn care is a priority for countries' reproductive health. High maternal and neonatal deaths could affect the population growth of the country. Therefore, proper data recording is highly significant (Moodley & Fawcus 2018: s8).

Indeed, accounting for these uncertainties about the actual levels of MMR and NMR in the country, estimates from both institutional reports and global metrics indicated an upward trend in MMR and NMR until around 2006 and 2009 (Moodley, Pattinson, Fawcus, Schoon, Moran & Shweni, 2014:54). A surge in MMRs between 2001 and 2006 emanated from a consistent increase in HIV prevalence among pregnant women in the same period (WHO 2018:37). Again, the reduction in trends of MMRs and NMRs from 2009 can be linked with the massive uptake of HIV treatment and an increased coverage of essential interventions; in particular, the prevention of mother-to-child transmissions (PMTCT) of HIV which currently stands at over 90% (Moodley et al 2014: 55). Nonetheless, all recent estimates are much more closely grouped, indicating convergence over time.

Global metrics and institutional monitoring figures, while widely divergent, suggest that South Africa has not reached the maternal and neonatal mortality MDG targets, but has made substantial progress over the last decade in reducing these outcomes (WHO 2014b:24). According to Morello (2014:43), these uncertainties about the true estimates of maternal and child mortality in SA are illustrated by inconsistencies in the data sources and accuracy from which these estimates were collected, and highly volatile estimates.

According to Moodley et al (2014:56), although the South African quality of maternal and newborn care is still a public concern, this country was regarded as the only country among the sub-Saharan countries that improved reporting of maternal deaths, despite the data reporting inconsistencies, since a reporting tool was developed that audited deaths in facilities. The NCCEMD, a ministerial committee of experts representing obstetrics, midwifery, anaesthesia, and representatives from each of the nine provinces with the Department of Health's (DOH's) support, audited and reported maternal mortality with data collected from the PPIP (Moodley et al 2014:56).

In South Africa, maternal and newborn care still struggles to receive the QOC expected. Therefore, the total number of maternal deaths resulting from obstetric causes was 185 per 100,000 lb in 2010. Pregnancy-associated maternal deaths were 423 per 100,000 lb, which was considerable. When PMTCT programmes were launched in 2012/13, this number was reduced; the figures went down to 132,9 maternal deaths per 100,000 lb (Bomela 2020:19). As a result, SA was far from achieving SDG 5, based on the available

data, i.e., reducing maternal deaths by 75% between 1990 and 2015 (Statistics South Africa [Stats SA] 2015:9).

The Eastern Cape province is among the provinces with high institutional maternal mortality ratios (iMMR) and interventions related to reducing the rate need to be prioritised in these provinces (Mabaso, Ndaba & Mkhize-Kwitshana 2014:183). Only the Western Cape and Gauteng are urban provinces with a lower iMMR. Regarding the Eastern Cape, there are reflections of poor maternal and newborn care. It is further revealed that provinces with high iMMR are rural provinces versus urban ones in SA. The Eastern Cape is part of rural provinces and Oliver Tambo district hospitals, including the public hospital in Libode, where the study took place, and which reported higher iMMR (Eastern Cape Department of Health 2018:35). For example, this public hospital in Libode where the study was conducted reported a high early neonatal death rate of 15.1 which is linked to direct causes such as post-partum haemorrhage and eclampsia (Department of Health 2018:3). These outstanding and unresolved high maternal and neonatal death rates are linked with poor quality maternal and newborn care in the Eastern Cape, especially in the rural hospitals.

Referrals from their own and other districts were obtained by these hospitals. As compared to countries, it would be better to be able to do the research with respect to catchment areas (Department of Health 2016:3). Assessing a whole catchment area would give us a better understanding of the standard of treatment within the country in maternal and newborn care (Department of Health 2016:9).

2.3.3. Local level trends

Despite a 44% decline in maternal mortality worldwide from 1990 to 2015, SA's maternal mortality remains high (Bomela 2020:2). Notwithstanding the high levels, SA has reported a decline in the number of maternal deaths and the institutional maternal mortality ratio (iMMR) since 2009 (Moodley & Fawcus 2018: s5). A notable decline in iMMR from a peak of 189 deaths per 100,000 lb in 2009 to 135 deaths per 100,000 lb was reported in 2016. The Rapid Mortality Surveillance (RMS) of 2016 also noted the reduction in iMMR when they compared estimates from other sources (Moodley & Fawcus 2018: s5). The reduction in deaths from non-pregnancy related infections and the success of the human immunodeficiency virus (HIV) antiviral treatment programme in pregnancy and beyond have been hailed as the main reason for the decline in iMMR in SA during the past few

years (United Nations 2017:45). An inventory of progress made on the SDGs in SA revealed significant advances made in development, including health, over the past 25 years, as well as the considerable challenges that remain (United Nations 2017:56).

Based on poor quality care provision at local levels, the maternal and perinatal mortality rates have not changed over the last 10 years (Bhutta et al 2014:364). Most perinatal mortality occurs in district hospitals. The overall early neonatal mortality rate for all infants with birth weight of >500 grams is 12 per 1,000 lb and 8.5 per 1,000 lb for those weighing >1,000 grams (WHO 2016a). The perinatal mortality rate was high for women less than 18 years of age (64.5/1000 births) followed by women older than 34 years of age (49.4/1000 births) (Santosh et al 2013:547).

The common obstetric causes associated with perinatal deaths were unexplained intrauterine deaths (22%), spontaneous preterm labour (21%), intra-partum hypoxia and trauma (16%), maternal hypertension (15%), and antepartum haemorrhage (11%) (Santosh et al 2013:549). The district and provincial hospitals reporting on these mortalities identified that most of the deaths (1 in 5) were probably avoidable (Rhoda et al 2014:5-10). The Child Healthcare Problem Identification Programme (CHIP) uses the hospital-based mortality review process to assess the level of care children receive in the South African health system (WHO 2017a:31). Neonates account for 7% of admissions to children's wards (WHO 2018:10). About 10% of neonatal deaths recorded in children's wards arrive in the hospital already dead and another 45% die within 24 hours of admission. About 48% of neonates who die in children's wards weigh below their normal age (Bucens, Reid, Barreto, Dwivedi & Counahan 2013:30). Moreover, most deaths of neonates were caused by infections. Septicaemia was the most common cause, followed by pneumonia, acute diarrhoeal diseases, meningitis, and pneumocystis pneumonia (PCP). Major resource allocation problems in both neonatal high and intensive care facilities have been identified, together with the allocation of skilled clinical personnel to neonatal care (Bucens et al 2013:32). From the private sector report, the stillbirth rate was 7.5 per 1,000 deliveries and the neonatal mortality rate 4.0 per 1 000 lb (WHO 2016a:20).

2.4. WHY QUALITY MATERNAL AND NEWBORN CARE?

A wealth of knowledge and experience in enhancing the quality of maternal and newborn care has accumulated globally over many decades. Despite this wealth of experience, the continuous problem experienced by researchers and policy makers at country level in both low and high middle-income countries is to know which quality strategies would

have the greatest positive impact on the outcomes delivered by their health systems. Therefore, health care service delivery systems need to ensure standard quality of maternal and newborn care achieves the expected health outcomes that are shown by the reduction of preventable mortality and morbidity among women and their newborns (WHO 2016c). Quality maternal and newborn care must be maintained in health facilities as a central concern to improve the clinical outcomes of all patients. According to the WHO (2018:2), quality of maternal and newborn health (MNH) care is defined as "the degree to which maternal and newborn health services increase the likelihood of timely, appropriate care for the purpose of achieving desired outcomes that are both consistent with current professional knowledge and take into account the preferences and aspirations of individual women and their family". There is a complex relationship between quality of health care and expected health outcomes. However, the evidence clearly indicates that only increasing the number of facilities will not be sufficient to reduce maternal and neonatal mortality and morbidity unless quality of care is maintained (Gülmezoglu, Lawrie & Hezelgrave 2016:24).

Therefore, improving the quality of maternal and newborn care is a mandatory step on the path to reaching the sustainable development goals and universal health coverage (UNICEF 2014:18). Provision of quality maternal and newborn care helps to ensure that health services provided to individuals and patient populations improve desired health outcomes and sees a future where every mother and newborn receives quality care throughout pregnancy, childbirth, and the postnatal period. Quality maternal and newborn care provides dignity for women and children. Part of providing quality maternal and newborn care includes access to skilled birth attendance and essential obstetric care that is effective to reduce maternal and newborn mortality and morbidity (Gülmezoglu et al 2016:28).

2.5. FRAMEWORKS FOR QUALITY MATERNAL AND NEWBORN CARE

Various quality maternal and newborn frameworks have been developed to improve the quality of maternal and newborn care. Researchers have argued that prior to developing the frameworks as a phenomenon of interest, researchers should understand effective maternal and newborn care towards improving the quality of care. Successful maternal and newborn care is associated with high quality of care provision (Austin et al 2014: s8). Part of the initiative for high quality maternal and newborn care provision was the establishment of the sustainable development goals (United Nations 2019:26). These

sustainable development goals seek to prevent deaths and improve the quality of maternal and newborn care.

Quality maternal and newborn care is fundamental in the reproductive health rights paradigm to improve maternal health (WHO 2016a:7). The reproductive health rights paradigm enhances women's right to achieve safe pregnancy and childbirth that has the best chance of having a healthy infant (WHO 2016a:10). Quality care provision is central in the current paradigm of improving maternal health by focusing on saving the life of women and their newborns (Alyahya, Khader, Batieha & Asad 2019:5). Improving maternal health in the current paradigm demands that direct obstetric complications, which are the leading causes of death in women of reproductive age, be treated (WHO 2019:3). Approximately 50% of all childbirths are complicated and the probability that a normal delivery can face complications is unknown. Multiple efforts have been created to intervene in the poor quality of care provision, namely effective and efficient antenatal health care service provision in the primary health care setting (WHO 2017a:116).

Multiple frameworks have been developed in various studies with the specific focus to improve quality of care in maternal and child health, namely a quality framework for maternal and newborn care, understanding of the framework for improving quality standards of maternal and newborn care, the framework for quality health care assessment, the conceptual framework for quality care in maternal and newborn care, the theoretical framework for quality of care, and specifically Donabedian's theoretical model of quality care and its criticism.

2.5.1. A quality framework for maternal and newborn care

The renewed focus on understanding quality of care was triggered in part by the realisation that many of the MDG targets and indicators were focused more on universal coverage and many countries conducting millennium development goals evaluation did not achieve their health coverage due to lack of quality (WHO 2018:1). One of the problems is that, to date, researchers have not been consistent in defining quality of care, leading to its failure to be measured and achieved. In maternal health facilities, many countries have reported poor quality of care based on the high number of maternal and perinatal deaths (Bailey, Andualem & Brun 2017:295). In intervening to improve the quality of care, a study by Maphumulo and Bhengu (2019: e4) stated that many literature searches to date had shown that for achieving good quality of care, management and delivery of health services should be integrated with measurements for the health system to receive attention. Many quality care frameworks have been described. The researcher

utilised a WHO framework for quality maternal and newborn health care as it incorporates a little of the characteristics and the system's models. This framework, represented in Figure 2.1 below, acknowledges that there are differences in the provision and experience of care, and it takes account of the structure, process, and outcomes of care.

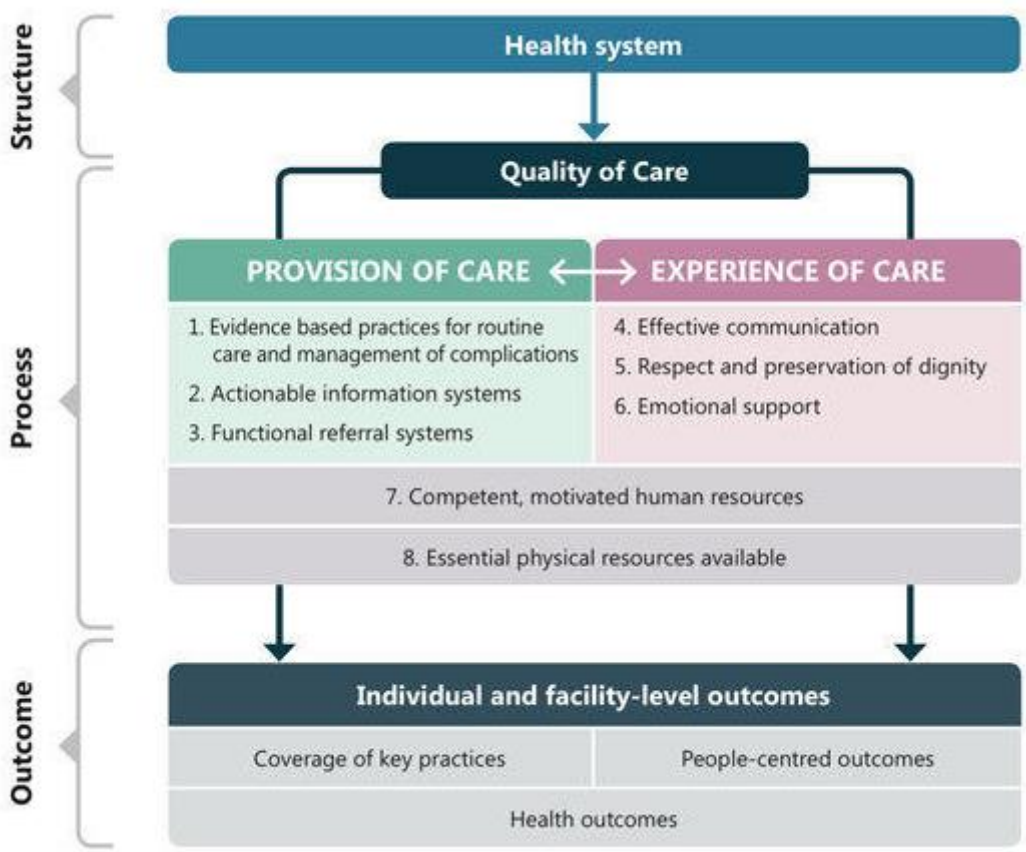


Figure 2.1: WHO framework for quality maternal and newborn health care

This framework comprises eight domains of quality of care for pregnant women and newborns in facilities. The presence of these domains increases the likelihood that the desired individual and facility outcomes could be achieved. The health system approach provides the structure for quality improvement, linking the two dimensions of provision and experience of care (WHO 2016c:34). This framework recognises service providers and includes the systems they utilise to provide services to recipients of the health services. The provision of care includes use of evidence-based practices for routine and emergency care, information systems in which recordkeeping allows review and auditing, and functioning systems for referral between different levels of care (Okawa et al 2018: e1).

Experience of care consists of effective communication with women and their families about the care provided, their expectations and their rights; care with respect and

preservation of dignity; and access to the social and emotional support of their choice. The cross-cutting areas of the framework include the availability of competent, motivated human resources and of the physical resources that are prerequisites for achieving the best quality of care in maternal health facilities (Okawa et al 2018: e9).

This framework is also used to assess the characteristics or dimensions of quality of care in various sectors of the health system, from the perspectives of service users, service providers, and managers. Based on this framework and in line with the organisational mandate, six strategic areas of work were identified for improving the quality of maternal and newborn care and ending preventable mortality and morbidity among mothers and newborns. These six areas were used as the basis for a systematic, evidence-based approach to preparing guidelines, standards of care, effective interventions, indicators of quality of care, and research and capacity-building for improving the quality of maternal and newborn care.

2.5.2. The framework for improving quality standards of maternal and newborn care

The next millennium is professed to become the era of quality health care provision which requires all maternal health facilities to strive for world-class care and ensuring overall optimisation of resources for the improvement of standards of care (WHO 2016c:2). Therefore, there is a global drive to improve the quality of maternal and newborn care and thus reduce maternal and newborn deaths (WHO 2016c:3).

The WHO (2016a:1) published the new “Standards for improving quality of care for mothers and newborns in health facilities” which are part of the integrated management of pregnancy and childbirth care package to guide countries to improve the quality of health care provision among women and their newborn babies during pregnancy, childbirth, and the postnatal period. These standards are outlined below and would help in achieving the agenda for sustainable development goals, which is to end all preventable maternal, newborn and child deaths, including stillbirths, by 2030, and improving their overall health and wellbeing (WHO 2016a:2-3).

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 WHO guidelines.

Standard 2: The health information system enables use of data to ensure early, appropriate action to improve the care of every woman and newborn.

Standard 3: Every woman and newborn with condition(s) that cannot be dealt with effectively with the available resources is appropriately referred.

Standard 4: Communication with women and their families is effective and responds to their needs and preferences.

Standard 5: Women and newborns receive care with respect and preservation of their dignity.

Standard 6: Every woman and her family are provided with emotional support that is sensitive to their needs and strengthens the woman's capability.

Standard 7: For every woman and newborn, competent, motivated staff are consistently available to provide routine care and manage complications.

Standard 8: The health care 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.

However, at the end of 2016, the WHO (2016c:1) revealed that although these standards of care had been established, there was no substantive guidance on implementation by countries, yet it was the key to ensuring the quality of care. As a result, the WHO (2016c:4) found that countries with high maternal mortality had inadequate and poor-quality health services. This is associated with reduced utilisation of health care services. Thus, increased emphasis is being placed on the need for ways of implementing standards of care, as well as interventions to address the barriers for quality care provision in the maternal health facilities. The WHO (2016c:7) recommends that ideas for implementing the standards should be based on each country's experience and on adaptive learning within and between countries.

Other studies, such as the one by De Graft-Johnson et al (2017: e8), show serious gaps in health facility readiness to provide the quality newborn health services which were an agenda of the WHO standards establishment. De Graft-Johnson et al (2017:8) highlighted that gaps such as poor infrastructure, lack of resources and incompetent health care providers contributed to high maternal mortality of 14 per 1000 lb. Most countries are still falling below the target of 75% reduction in maternal mortality due to poor implementation of standards of care as recommended by the WHO (Okawa et al 2018: e4).

SA is among the African countries falling below and with poor quality of maternal and newborn care that emanates from poor implementation of WHO standards of care

(Mathole et al 2018: ii5). Okawa et al (2018: e2) confirmed that, in most African countries, women did not receive high quality care due to poor implementation of recommended standards of care. This contributes to poor health outcomes in maternal and newborn care. Lazzerini, Valente, Covi, Semenzato and Ciuch (2019:1) conclude that there is little experience on the use of the WHO standards, and detailed guidance on their implementation has not yet been released.

2.5.3. The framework for quality health care assessment

The best analytic frameworks for quality assessment have guided development initiatives in the public and private sectors (Rockville 2018:4). One of the most influential is the framework developed by the Institute of Medicine (IOM). This framework revealed that a wealth of knowledge and experience in enhancing the quality of health care has accumulated globally over many decades (WHO 2018:5). Despite this wealth of existing knowledge and experience, the frequent factor influencing policy makers at country level in both high and low-middle-income countries is to know which strategies would result in the greatest positive impact on the outcomes delivered by their health systems (WHO 2019:56).

There are ample existing studies on how maternal and newborn care can be improved, but there is still a great need for establishing a guide that would promote a focus on quality in health systems and provide decision makers and planners with an opportunity to make informed strategic choices to advance quality improvement (Oosthuizen et al 2017:151). This arises from two main arguments for promoting a focus on quality in health systems. Firstly, it is indicated that even where health systems are well developed and resourced, there is clear evidence that quality remains a serious concern because of expected outcomes not attained (WHO 2018:4).

Secondly, it is argued that where health systems, particularly in developing countries, need to optimise resource use and expand population coverage, the process of improvement and scaling up needs to be based on sound local strategies for quality so that the best possible results are achieved from new investment (WHO 2018:5).

In addition, achieving sustainable development goals in low-income countries will require an organised total health system perspective. It is strongly believed that even today many low-income countries will have substantial difficulties in achieving the sustainable development goals if the concept of quality care receives less recognition (United Nations 2019:24).

However, areas of attention such as sufficient financial investment, good infrastructure, and adequate skilled human resources in clinical and support staff are key drivers for improving the quality of maternal and newborn care (Lassi, Kumar & Bhutta 2016:10). Indeed, the continued lack of attention to these factors contribute to increase the perception that private health facilities deliver better quality services than public health facilities (Mosadeghrad 2014:78). Therefore, there is a high probability of increasing the difference between the poor and the wealthy within society. Patients who can afford private health services automatically go to private health facilities for their medical assistance. The issue of poor quality in facilities continues to affect the poorest of the poor as they solely depend on public health services (Mayosi & Benatar 2014:1345). The researcher believes that there is still an opportunity for improving the quality of care provision and of performance of the health care system. This would enhance good outcomes in our patients and positive perceptions about the services rendered (Tinker 2018:3).

The researcher believes that every initiative taken to improve the quality and outcomes in health systems has as its starting point some understanding of what is meant by 'quality'. Without this understanding, it would be impossible to design the interventions and measures required to improve results. Table 2.1 provides a summary of the dimensions of quality, showing how each concept defines its role in providing a quality health care system.

Table 2.1: The Institute of Medicine's (IOM's) six aims for improving health care quality

Aim	Description
1. Safe care	Avoiding harm to patients from the care that is intended to help them.
2. Effective care	Providing care based on scientific knowledge
3. Patient-centred care	Providing respectful and responsive care that ensures that patient values guide clinical decisions
4. Timely care	Reducing waits for both recipients and providers of care
5. Efficient care	Avoiding waste
6. Equitable care	Ensuring that the QOC does not vary because of characteristics such as gender, ethnicity, socioeconomic status, or geographic location.

Source: Agency for Healthcare Research and Quality (AHRQ), 2018

Safe care

Both doctors and midwives have a legal and moral responsibility to maintain high-quality patient care in maternal health facilities (Department of Health 2017:30). These health care providers would only fulfil this obligation when their mandate focuses in improving policy, systems, and procedures in their respective health facilities (Department of Health 2017:34). Achieving these standards would help in decreasing the level of patient safety incidents.

It has been revealed that medical errors affect at least one in 10 patients who receive health care in facilities that are well funded and technologically advanced each year. This translates into tens of millions of injuries and deaths annually, and billions of dollars in additional medical expenses (WHO 2015:2). In the United States alone, the patient safety expert report shows that more than 250,000 die every year from preventable medical errors (McMains 2016:1). The author further states that there has been no trend of improving the situation. Poor coordination among health care providers, patients and communities at large worsens the situation because many public hospitals are unable to analyse medical errors and therefore lack the ability to understand root causes which could help them in developing a quality improvement plan (ECRI Institute 2014:3).

Ensuring and preventing medical errors against patients in any health facility is fundamental to attaining high-quality care for all countries to promote patient safety through development of models focusing on preventing any patient safety incidents such as adverse drug events and associated cross infections (Parand, Dopson, Renz & Vincent 2014:1).

South Africa is among countries with established standards to improve safety in all health facilities and prevent any harm that could happen to a patient within the health facilities (Republic of South Africa 2018:9). Efforts such as the establishment of national core standards in 2011 are aimed at improving the standard of care in health facilities (Department of Health 2016:4). Six priority areas were identified, including patient safety. Patient safety aims to prevent or reduce harm that could happen and the development of a quality improvement plan (Republic of South Africa 2017:3).

Effective care

The provision of effective care rests on the development of the quality of health care systems by all health care disciplines (Babiker et al 2014:9). Effective care is fundamentally based on evidence that emanates from four types of research, namely

laboratory experiments, clinical trials, epidemiological research, and outcomes research, including case reports. Implementation of each type helps to improve quality care (Babiker et al 2014:11). There is a lack of research to support the implementation of a variety of measures, such as methods of collecting, summarising, and evaluating information and making it accessible at the patient care level (Kieft, De Brouwer, Francke & Delnoij 2014:9). Its presence would help to broaden the knowledge base on quality treatment and its use in health settings. High quality care requires functional technology systems to improve standards of care (Downey 2019:1). This technology provides immediate access to clinical guidelines, procedural approaches and other information that is based on research evidence.

In addition, it has been observed that there is relatively limited current information that is collected, assessed, and fed back to health care providers to help them better understand their individual impact on care quality and thereby assist them in improving their performance (Gray & Vawda 2018:77). The limited information has resulted in the development of indicators to measure performance which further helps health care providers to engage in the development of a quality improvement agenda (Gray & Vawda 2018:77).

Patient-centred care

There is growing recognition that patient-centred care is associated with quality of care (DHCF 2019b:3-4). Important works that paved the way for the recent emergence of patient-centred care include frameworks such as the WHO standards for maternal and neonatal care in health facilities (Sacks & Kinney 2015:6). It is one of the frameworks where quality of care, and especially a patient-centred approach, are explained. Patient-centred care that encompasses informed decision making can improve treatment choice, quality of care and outcomes (WHO 2014a:23). Patient-centred care was developed to improve processes of care through changes to the existing health systems (Delaney 2017:119). Health care organisations and research agencies have adopted the idea of developing patient-centred care as a strategy to decentralise health care services to the patients (Eapen & Jain 2017:2). These research agencies and policy makers agreed that the implementation of a patient-centred care model would facilitate a successful holistic approach to the care of patients. This resulted in the embracement of the idea of a patient-centred care approach since the late 1970s. The IOM listed patient-centred care as one the six aims for improvement of quality in the health care system (Starfield 2017:1). The author further indicated that patient-centred care should be focused on patients'

concerns, presenting problems, respecting values, and resulting in clinical evidence-based practice. Therefore, the patient-centred care approach would benefit patients through improving communication and appropriate intervention to enhance satisfaction and good clinical outcomes that increase the quality of care (Otte-Trojel, De Bont, Rundall & Van de Klundert 2014:752). Figure 2.2 provides a summary of eight principles of patient-centred care required for developing a model of quality care. These principles are briefly discussed below.

Figure 2.2: Picker's eight principles of patient-centred care

Source: National Center for Interprofessional Practice and Education Resource Center 2015.

Respect for patients' preferences

Quality of care in maternal health facilities includes a variety of interventions, such as strengthening continuous updates of women about labour progress and involving them in all decision making (Sharma, Jones, Loxton, Booth & Smith 2018:327). Women's values, preferences and rights should be respected. Therefore, allowing them to share their views and experiences enhances their rights about treatment choice and other medical interventions (Vahdat, Hamzehgardeshi, Hessam & Hamzehgardeshi 2014: e12454). Maintaining and treating women with respect and dignity should be part of attaining high quality care (Lunze et al 2015: 337).

Coordination and integration of care

Some studies have revealed that women often believe that for a good outcome of labour they have to accept all midwives' plans for labour. These perceptions make them feel powerless and vulnerable, which compromises the provision of high quality of care in

maternal health facilities (Grigg, Tracy, Daellenbach, Kensington, Schmied 2014:210). Indeed, the aim of coordination of care is to alleviate those feelings. There are three areas in which coordination of care could reduce feelings of vulnerability, namely coordination of clinical care; coordination of ancillary and support services; and coordination of front-line patient care (Grigg et al 2014:210). Coordination of clinical care involves women moving from one practitioner to another for the purpose of proper medical intervention and this process might include referral systems from one level of care to another (Zamanzadeh, Jasemi, Valizadeh, Keogh & Taleghani 2015:216). These authors further argued that coordination of ancillary and support services is a process by which women receive care according to need.

The researcher argues that coordination of clinical care depends on adequate doctors and midwives at all levels of care for achieving high quality care. Furthermore, services from practitioners such as psychologists, social workers or dieticians should be made accessible. This is part of the integration of services for the provision of high quality of care. Coordination of frontline patients involves triaging patients according to the level of care required. There should be no queues in maternity wards to minimise maternal incidents. Midwives should always be visible and triage pregnant women (Kenyon et al 2017: 309).

Information and education

To achieve the expected high-quality care, Batho Pele principles clearly stipulate that clients should be given information on available services to minimise uncertainties in service provision (Department of Community Safety 2017:23). Providing health education for clients is also part of medical intervention that seeks to improve their standard of care and increase their level of knowledge about their condition (Department of Community Safety 2017:25). Despite these legislative frameworks aimed at improving aspects of service delivery, some studies have indicated that patients are not being informed about their conditions or prognosis, which compromises the quality of care they receive (Institute of Medicine 2017:1). It is suggested that to intervene in situations of this nature, maternal health facilities should focus on three kinds of communication, namely information on clinical status, progress, and prognosis; information on processes of care; and information to facilitate autonomy, self-care, and health promotion (Institute of Medicine 2017:3).

Physical comfort

Successful patient comfort in a hospital setting is linked with less pain felt by patients. Numerous studies have reported that the level of physical comfort has a vital positive impact on patients' experience (National Academies of Sciences Engineering Medicine 2013; Institute of Medicine 2017; Smith, Saunders & Stuckhardt 2013:15). Three areas have been reported as particularly important to patients, namely pain management; assistance with activities and daily living needs; and hospital surroundings and environment. Accordingly, once all types of pain are managed, patients will feel comfortable and will be unlikely to complain (Dueñas, Ojeda, Salazar, Mico & Failde 2016:458).

It is recommended that attending to all daily activities and patients' needs also minimises the chances of complaining and thus increases patient satisfaction. National core standards recommend cleanliness and patient safety as priority areas. Achieving high levels of cleanliness and patient safety which enhance physical comfort is associated with patient satisfaction.

Emotional support and alleviation of fear and anxiety

Fear and anxiety associated with illness can be as debilitating as the physical effects. To alley this anxiety pattern, midwives should pay particular attention to the following: anxiety over physical status, treatment, and prognosis; anxiety over the impact of the illness on themselves and family; and anxiety over the financial impact of illness (Feuston & Piper 2019:1).

Involvement of relatives in maternal health facilities

This principle addresses the role of family and friends in the woman's experience (WHO 2014a). Family dimensions of patient-centred care include providing relatives and friends an opportunity to come and support the woman during the labour period (Committee on the Learning Health Care System in America 2013; Institute of Medicine 2017; Smith et al 2013:18). The involvement of relatives, and especially the husband, would help when certain decisions about the woman are required. Therefore, it is recommended that midwives should ensure recording contact details of available relatives during admission. Relatives' needs should be recognised and accommodated to support their patients.

Continuity and transition

In maternal health facilities, it has been observed that many women struggle to care for themselves after discharge, which is assumed to be the result of a lack of health education (WHO 2016c:4). The WHO (2016c:7) has stated that consistent failure to attend to health education poses many difficulties at home. Many women would return to hospital with complications; therefore, continuous instruction of women whilst in hospital is recommended for improving their level of knowledge about how to take care of themselves. The information should include the following:

- Understandable, detailed information regarding medication, physical limitations, and dietary needs, etc.
- Coordination and planning of ongoing treatment and services after discharge.
- Information regarding access to clinical, social, physical, and financial support on a continuing basis.

Access to care

One of the Batho Pele principles is to ensure that citizens have access to services (National Department of Health 2018a:5). Therefore, patients need to know they can access care when it is needed. The following areas are important to the patient:

- Access to the location of hospitals, clinics, and physicians' offices;
- Availability of transportation;
- Ease of scheduling appointments;
- Availability of appointments when needed;
- Accessibility to specialists or specialty services when a referral is made; and
- Clear instructions provided on when and how to get referrals.

At a global level, there is an idea shift to empower women to take an active role in their care. This information would help shaping their idea about care as they can access required skills. It has been argued that the utilisation of technology would transform health care facilities into a warm, welcoming and therapeutic environment (National Health Insurance Report 2018:34). Technology could also help health care providers to realise their ambition to engage patients and significantly improve outcomes.

Other interventions enhancing access to care include patient experience of care; effective communications; management of waiting times; and proper complaint management systems (National Department of Health 2016:3).

Timely care

The timeliness of care delivery is often compromised, almost regardless of where a customer encounters health care (WHO 2015:9). Timeliness is compromised when patients needing immediate medical attention find themselves in overcrowded emergency rooms or experience a shortage of resources and a lack of available clinicians (National Department of Health 2011). These factors compromise the QOC and impact on poor timelines. Efforts to improve timeliness are multifaceted. Therefore, holistically improving the entire health care system would improve timely access to quality care outcomes in maternal health facilities.

Efficient care

Some quality experts indicate that adding more financial resources to the health care delivery system is highly inefficient, given the high level of waste in current practices (Starfield 2017:29). Frontline health care providers, namely nurses, play a major role in developing and promoting agendas designed to increase efficiency, ultimately making better use of the significant financial resources currently directed at health care (Department of Health 2017:34).

Their provision of quality care and follow-up of patients at home could significantly decrease expensive hospitalisation. Therefore, they play an exceedingly important role in achieving efficiency (Department of Health Care Finance 2019a:3). However, as the health care expenditures continue to rise nationally, public policymakers ought to allow researchers to develop models as well as other strategies that help to rein in high cost while improving quality of care in maternal health facilities (Mayosi & Benatar 2014:1346). Efforts toward achieving this aim provide new opportunities for health care providers, especially nurses, to create models that maximise the contribution of maternal care and newborn care and innovation in quality improvement plans.

Equitable care

Equity is about getting entry to quality care services (Southey & Heydon 2014:16). Challenges surrounding equity are mirrored in disparities in quality health care for all ethnic and socioeconomic groups, and geographic inequity that influences the health care

services available. Therefore, for equitable care sustainability, health care providers need to supply health care which does not range in excellence due to gender, race, ethnicity, geographical location, or socioeconomic circumstances (WHO 2016a:23).

2.5.4. The conceptual framework for quality in maternal and newborn care

Poor maternal and newborn care requires numerous interventions that would end preventable deaths (WHO 2016a:10). The researcher identified three main conceptual frameworks related to quality of care that could improve the quality of maternal and newborn care, as depicted in Figure 2.3 below.

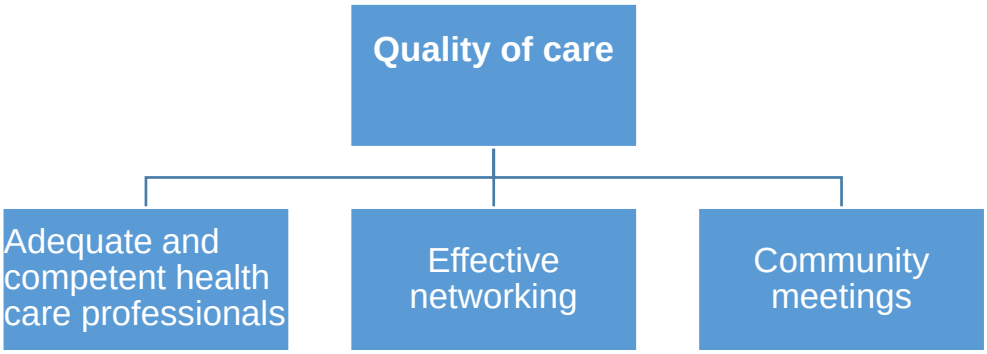


Figure 2.3: A diagrammatic presentation of quality care as a centre for improving maternal and newborn care

2.5.4.1. Quality of care (QOC)

Quality of care is becoming an increasingly important topic of discussion for researchers, policy advocates, and other stakeholders to participate in the development of appropriate monitoring and enforcement of quality standards (Mannava, Durrant, Fisher, Chersich & Luchters 2015: 38). Quality of care remains an area of focus for good client outcomes, despite the little attention it has received in recent years (WHO 2016a:2).

Nonetheless, everyone has the right to receive quality of care in a timely manner, care that meets the highest standards for quality health care. Midwives and doctors have a responsibility to provide care that assures quality care as a priority for women's rights. To achieve the high quality care required, midwives and doctors have to establish standard operating procedures, focusing on quality of care issues and ensuring their implementation to sustain norms of treatment and care. The WHO (2017a:1) has identified ten ways for improving quality of care in health facilities, namely:

- Pregnant women should receive the right care, at the right times;

- Newborns should receive essential care immediately after birth;
- Small and sick babies should be well cared for in a facility;
- All women and newborns must receive care that prevents hospital-acquired infections;
- Health facilities must have an appropriate physical environment;
- Communication with women and their families must be effective and respond to their needs;
- Women and newborns who need referrals must obtain them without delay;
- No woman should be subjected to harmful practices during labour, childbirth, and the early postnatal period;
- Health facilities need well-trained and motivated staff consistently available to provide care; and
- Every woman and newborn should have a complete, accurate, and standardised medical record.

The three main conceptual frameworks related to quality of care are briefly discussed in the next sections.

2.5.4.1.1. Adequate and competent health care professionals with basic equipment

Quality care provision in maternal health facilities is associated with adequate and competent doctors and midwives. In addition, essential physical resources should be available to enhance the provision of high quality care, namely clean water, essential medicines, equipment, and supplies. The WHO (2016a:3) has shown that approximately 90% of competent midwives were linked with reduced maternal deaths from 150 deaths per 100,000 lb to two deaths per 100,000 lb. These are true reflections of good QOC provision. Consistently, 75% of women who have successfully undergone caesarean section procedures were associated with the utilisation of adequate and functional equipment (Ituk & Habib 2018:2).

2.5.4.1.2. Effective networking

Achieving high quality in maternal health facilities depends on effective communication by health care providers. Maternal health services cannot be run properly without effective conversations among users and health care providers (Miteniece, Pavlova, Shengelia,

Rechel & Groot 2018:633). Effective conversation enhances a woman's understanding of the labour progression and expected outcomes about her baby. This is also part of her right to effective and quality health care service provision which should be supported by health care providers (WHO 2017b:2).

2.5.4.1.3. Community meetings

Countries continue experiencing high maternal mortality rates, which compromise the quality of care expected. These women and their babies belong to communities, and therefore, community meetings should be central to improving the quality of care they receive (WHO 2016c:4). The perspectives of women and their communities regarding the quality of health services is always unpredictable because of incompetence which sullies their expectation of the excellence achieved by other health facilities (Dodzo & Mhloyi 2017:1). Health facilities ought to provide outreach programmes to market their health services. The provision of health services in the form of outreach helps to alleviate myths or false information while also building trust about health facility services (Khuzwayo & Moshabela 2018:3). Stakeholders such as hospital or clinic boards also play a vital role in ensuring that they conduct meetings in the community to address concerns at their level about hospital services. The efforts of midwives, doctors, and hospital boards in outreach programmes are linked with achieving a high quality of care (McDaniel, Doherty & Hepworth 2014:7).

2.5.5. Current debates on frameworks used in the study

The researcher utilised various frameworks in relation with this study. In *"A quality framework for maternal and newborn care"* (2.5.1), the researcher agrees with the "WHO quality framework for maternal and newborn care" in certain areas, such as the aim of the framework to improve quality maternal and newborn care based on three aspects: structure, process, and outcomes, and the fact that the eight domains are important for providing quality of care. However, the researcher identified some gaps that required attention for proper quality of care provisioning in maternal health facilities. In the discussion of the provision of care and experience of care, the framework omits interaction of health care providers and patients, simply listing eight domains important in quality of care. The eight domains do not show any effective communication among care providers and patients. The researcher believes that the model needs to show interaction of health care providers with clients and the positive impact of effective communication.

Secondly, the study used the relevant literature on *"The framework for improving quality standards of maternal and newborn care"* (2.5.2). This framework is more relevant to this study because the concept of "quality of care" is explained in relation to mothers and newborns, mentioning eight WHO standards that play a major role in improving quality standards in maternal and newborn care. The framework is mostly applicable to the study, but the researcher was concerned that, although this framework was developed by the WHO (2016a), many countries, including SA, are still experiencing high maternal and infant mortality rates and face poor quality of maternal and newborn care. Therefore, authors like Lazzerini et al (2019:2) have indicated that there is little experience on the use of the WHO standards, and detailed guidance on their implementation has yet not been released.

Thirdly, the study used this framework as part of relevant literature to the study. The framework was about "quality health care assessment" (see section 2.5.3), based on the institution of medicine perspective as developers of this framework. It is indicated that a good framework should explain quality of care and include assessments to ensure that implementation takes place. This study concurs with the authors that "quality of care" should be fully discussed to ensure its implementation and that the health system have enough human resources to deliver quality health care. Unfortunately, this framework does not cover the aspect of "maternal and newborn care in relation with quality of care". If these aspects, which are special health services, are not considered, the lives of mothers or newborns are not guaranteed. The researcher believes that omitting vital aspects of the study such as quality maternal and newborn care is a serious concern for achieving the purpose of the current study. The literature of this framework focuses on general aspects of quality of care and assessment and not specifically on maternal and newborn care.

Fourthly, in "The conceptual framework for quality in maternal and newborn care" (see 2.5.4) the researcher indicated that this framework was relevant to the study because it addressed the concept of quality of care in maternal and newborn care. The framework shows interaction in institutions, including required equipment and practitioners, community, and patients. This seemed to add value in developing engagement and improving the model for quality of care in maternal health facilities.

In summary, the three frameworks focus on improving the quality of maternal and newborn care while one framework focuses on general quality of care. In this study, the researcher used the most important aspects in all these frameworks, but *"A quality*

framework for maternal and newborn care" (2.5.1) was utilised in the development of the proposed model because this framework has all the components that are needed in improving the quality of care: structure, process, and outcomes.

2.6. MODELS AND INTERVENTIONS FOR QUALITY MATERNAL AND NEWBORN CARE

2.6.1. Models for quality maternal and newborn care

LoBiondo-Wood and Haber (2014:110) define a model as "a symbolic representation of a set of concepts to represent an empiric experience that would help in evidence-based practice". There is a variety of models developed to improve maternal and newborn care. Some implementations in these models have shown improvements in maternal and child health outcomes. Developed countries have shown success in achieving the goals of the models in their maternal health facilities (Doctor, Nkhana-Salimu & Abdulsalam-Anibilowo 2018: 774). The literature searches in this study showed that countries with low resource settings are likely to fail in achieving the goals of the models (Doctor et al 2018:40; WHO 2017b:12). To note this, many countries, especially developing and underdeveloped ones, continuously fail to achieve MDGs 4 and 5 due to variety of reasons, such as financial support to build standard health facilities with enough material and human resources (WHO 2018:23). Based on these failures, there are still worrying issues in both maternal and newborn care. In the maternal and newborn care, the WHO (2014a:7) states that models are developed to improve quality of care. The successful implementation of these models is linked with the reduction of maternal and child deaths.

Some of these models that were developed to improve the quality of maternal and newborn care include the following: mHealth: A Sustainable Healthcare Model for Developing World (Jahan & Chowdhury 2014: 74); The Three Delays Model and our Integrated Approach (Maternity Worldwide 2021); Midwife-led Continuity of Care Model (Alba et al 2019); Faith-Based Models for Improving Maternal and Newborn Health (Chand & Patterson 2007); Risk Prediction Models for Maternal Mortality (Aoyama et al 2018); and the Healthy Mothers, Healthy Babies (HMHB) model approach (Victoria Department of Health 2015). Several of these models are briefly discussed in the sections below.

2.6.1.1. mHealth model

The mHealth model transforms health care delivery by making it more accessible, affordable, and available (Vital Wave Consulting 2019:1). In maternal and newborn care,

it focuses on improving communication strategies amongst the communities seeking MHS (Mbuthia, Reid & Fichardt 2019: 410). mHealth has already been deployed for remote collection of various health data, remote monitoring, and improved living standards of patients using mobile devices. According to the report established by the WHO (2018:32), higher-income countries show more mHealth activity than do lower-income countries. Countries in the European region are currently the most active and those in the African region the least active. mHealth largely emerges as a means of providing greater access to larger segments of a population in developing countries, as well as improving the capacity of health systems in such countries to provide quality health care (Mechael 2009: 104). Many countries have adopted technological devices, including the internet, as a way of effective communication. Programmes such as MomConnect, a South African National DOH initiative, are used because of the mHealth model to connect pregnant women with health practitioners. This programme helps pregnant women with health education information from pregnancy until delivery. Other countries adopting the model believe that facilities should be built into mHealth services both in urban and rural areas (Mbuthia et al 2019:410). In this regard, steps can be taken for enhancing the country's technical system with modern technology. Government as well as donor agencies, non-government organisations and other development partners of the country should participate in building up the necessary capacity in this area (Omofonmwan & Odia 2009: 249). In addition, doctors, nurses, health professionals and health service providers are the most vital resources in promoting mHealth services to the doorsteps of the people (Jahan & Chowdhury 2014:74). In other countries, including SA, modern and effective mobile telecommunication networks have been built to support mHealth services and programmes such as the nation health insurance (NHI) implementation in South Africa. It is stated that everyone should have access to mobile communication, not just those who are literate and economically privileged. Special attention should be given to the needs of the disadvantaged and remote village people (Jahan & Chowdhury 2014:76). Therefore, the mHealth model assists in delivering quality maternal and newborn health care services.

2.6.1.2. The three delays model

The three delays model as an integrated approach is one of the models in maternal and newborn care that aim to improve the quality of care. Worldwide, maternity care uses an integrated approach to address each of the issues women face when trying to access safe childbirth (Thomas 2017: 23). This is based on the three delays model which

identifies three groups of factors that may stop women and girls from accessing the maternal health care they need. The first factor is the delay in the decision of pregnant women to seek care due to the low status of women; poor understanding of complications and risk factors in pregnancy; previous poor experience of health care, financial implications, and acceptance of maternal death (George, Branchini & Portela 2016). The second factor is that the pregnant woman could delay in reaching care due to the distance she has to travel to reach maternal health facilities, availability of and cost of transport, poor roads, and infrastructure (George et al 2016). The third factor is the delay in receiving adequate health care due to poor maternal health facilities and lack of medical supplies, inadequately trained and poorly motivated medical staff, and inadequate referral systems (George et al 2016).

Based on these factors, some countries have strengthened their interventions to improve the quality of maternal and newborn care.

Some interventions were intended to provide communities with information on pregnancy, childbirth, and newborn health care to avoid delay in seeking medical help (Smith & Rodriguez 2016). This model is intended to facilitate income generation schemes for women to enable them to become financially independent and empowered to make decisions about their own sexual and reproductive health and to become future leaders (Shiffman 2017:185). In South Africa, there is a variety of fund grants. Some women use grants to support their reproductive health status. Secondly, many countries including South Africa are improving their roads and infrastructure for accessing health care services (Department of Health 2016:30). This includes building up maternity waiting homes in the maternal health facilities. Thirdly, the model promotes training local midwives who will remain in rural areas when qualified, training nurses, doctors, and health care professionals to provide safe births now and for future generations (Department of Health 2015:46). It further strives to ensure health centres are suitably equipped to provide safe deliveries and improve referral systems between health centres and hospitals.

2.6.1.3. Midwife-led continuity of care (MLCC) model

The midwife-led continuity of care (MLCC) model has been defined as care where “the midwife is the lead professional in the planning, organisation, and delivery of care given to a woman from initial booking to the postnatal period” (Chapman 2015: 34). This model aims to improve health equity and, ultimately, maternal and infant outcomes for pregnant individuals. Midwives are the primary providers of care in many antenatal care settings

(ANC). In midwife-led continuity of care models, a group of known midwives supports a woman throughout the antenatal, intrapartum, and postnatal period to facilitate a healthy pregnancy and childbirth, and healthy parenting practices (Sandall, Soltani, Gates, Shennan & Devane 2016: 4). The midwife-led continuity of care model includes: continuity of care; monitoring the physical, psychological, spiritual and social well-being of the woman and family throughout the childbearing cycle; providing the woman with individualised education, counselling and antenatal care; attendance during labour, birth and the immediate postpartum period by a known midwife; ongoing support during the postnatal period; minimising unnecessary technological interventions; and identifying, referring and coordinating care for women who require obstetric or other specialist attention. Thus, the midwife-led continuity of care model exists within a multidisciplinary network in which consultation and referral to other care providers occurs when necessary (WHO 2016a:2). The midwife-led continuity of care model usually provides care to healthy women with uncomplicated pregnancies (WHO 2014:10). However, this model fails to include abnormal or complicated pregnancy cases and the maternal mortality related to these pregnant categories are ignored.

2.6.1.4. Faith-based models for improving maternal and newborn health

These models aim to integrate with religious leaders to improve maternal health (Chand & Patterson 2007:1). Part of this model is to increase awareness about pregnancy and promote positive behaviour change. According to Chand and Patterson (2007:4), the many interventions include the following:

- Move projects to programmes: Projects are often donor driven and limited in scope and duration. Donors and policymakers should move from project-oriented activities to local, regional, and national-level advocacy programmes to build sustainable change. For example, some countries have implemented many programmes that deal with maternal health issues. Those programmes include MomConnect, and Helping Babies Breathe (HBB).
- Context, context, context: A thorough understanding of the local culture and social norms is imperative to successful maternal and newborn care programme implementation.
- Most religious leaders are open and with adequate information can produce behaviour and value changes. Utilising the Bible can support arguments and emphasise the issue of health and gender equity.

- Relationship building: Winning the trust of religious leaders can be difficult and time-consuming but is necessary for opening doors to patriarchal societies. In many countries health workers conduct outreach programmes and attend meetings in churches and with traditional tribal authorities. In these meetings, they request a slot and present maternal health issues and advice.
- Networks: There is a significant need to create forums that bring together the various global development communities to share knowledge and enhance advocacy messages and risk prediction models for reducing maternal mortality. Networks are needed to streamline resources and inventory of existing research, projects, and faith-based models that work.

Determination of the risk of a woman becoming critically ill or dying is helpful to better anticipate and possibly prevent serious illness and to guide therapeutic decision-making (Aoyama et al 2018:11). The risk prediction models for maternal mortality have been applied to pregnant and postpartum women to identify risks and provide preventions so that maternal mortalities are reduced. However, this model is limited due to a combination of unique conditions leading to pregnancy related critical illness, deaths, and physiological changes specific to pregnancy that may be different from other populations (Haddad et al 2014:3). Some studies show that non-specific risk prediction models tend to overestimate mortality when applied to pregnant and postpartum women (Haddad et al 2014:8). However, there is no prior systematic review of this literature exploring the validity of risk prediction models for mortality among pregnant and postpartum women. The model suggests that a basic antenatal care (BANC) programme should be used to assess the pregnancy risks in maternal health facilities. This programme identifies risks whether a woman could delivery in hospital or a clinic-based facility to reduce maternal mortality in the health facilities.

2.6.1.5. Healthy Mothers, Healthy Babies (HMHB) model approach

Historically, this model commenced when a certain family did not have the correct knowledge to raise a baby (WHO 2019:3). This lack of parenting skills and education almost led to the death of their baby. The model was founded in 2002 to meet the need in the community for a specialised clinic that focused on improving the health of mothers and children (Loggins & Andrade 2014:119). The model was intended to improve the quality and reach of public and professional education related to prenatal and infant care.

Healthy Mothers, Healthy Babies (HMHB) comprises a suite of studies that aim to save lives and improve health and wellbeing in developing countries (Regmi & Gee 2016:1). HMHB has made significant progress in understanding the causes of poor maternal and child health and identifying potential areas for improvement. Pregnancy is a key opportunity to reach women with essential services for their own health and that of their unborn child. Yet the costs of antenatal care and delivery services, coupled with other challenges, can deter pregnant women from seeking much needed care, endangering the lives of mothers and their babies (Greenhalgh 2015: 350).

More than five million families across Africa, Asia, Latin America, and the Caribbean spend over 40% of their household expenses on MHS every year. Nearly two-thirds of these households, or around three million, were in Asia, while approximately 1.9 million were affected in Africa (WHO 2019:4). Ensuring that every delivery is attended by a skilled provider – a doctor, nurse or midwife – is one strategy for reducing maternal and newborn morbidity and mortality (WHO 2019:11). The inclusion of skilled birth attendance in the SDGs was expected to spur efforts to reach universal coverage with skilled delivery care by 2030 and hold us all to account for progress (UNICEF 2019:1). Although global coverage of skilled birth attendance has shown impressive gains in recent years, wide gaps in coverage across countries persist. The lowest coverage levels tend to be in the poorest countries where maternal mortality levels are highest (WHO 2019:19).

2.6.1.6. The Donabedian model for examining quality of care

The Donabedian model is a conceptual model that provides a framework for examining health services and evaluating quality of health care (Soter et al 2017:3). The Donabedian model continues to be the dominant paradigm for assessing the quality of health care. This model is centred on providing quality of care among patients (Soter et al 2017:4). “Evaluating the Quality of Medical Care” became one of the most frequently cited public health-related articles of the 20th century, and the Donabedian model gained widespread acceptance (McDaniel et al 2014:36). The effective quality of care is a vital component in efforts to reach SDG 3 (WHO 2018:23). This SDG enhances healthy lives and promotes wellbeing for all ages. The Donabedian theory of quality care aims to improve the quality of care and provide a framework for evaluating the quality of care in maternal health facilities. It addresses the modification of structures and processes within health care delivery units to improve the quality of care provision (Donabedian 1998:1).

According to the model, information about quality of care can be drawn from three categories: “structure”, “process”, and “outcomes” (Soter et al 2017:3). Structure

describes the context in which care is delivered, including hospital buildings, staff, financing, and equipment (Soter et a 2017:3). Process denotes the transactions between patients and providers throughout the delivery of health care. Finally, outcomes refer to the effects of health care on the health status of patients and populations (WHO 2016a:31). The theory is applied in this study to guide the development of a model for improving the quality of care in maternal health facilities in SA. In summary, Donabedian proposed a model for assessing the quality of health services based on structure, processes, and outcomes (Soter et al 2017:3). These three elements of the model are discussed in the next section. Given below (Figure 2.4) is a diagrammatic depiction of the Donabedian quality care model.

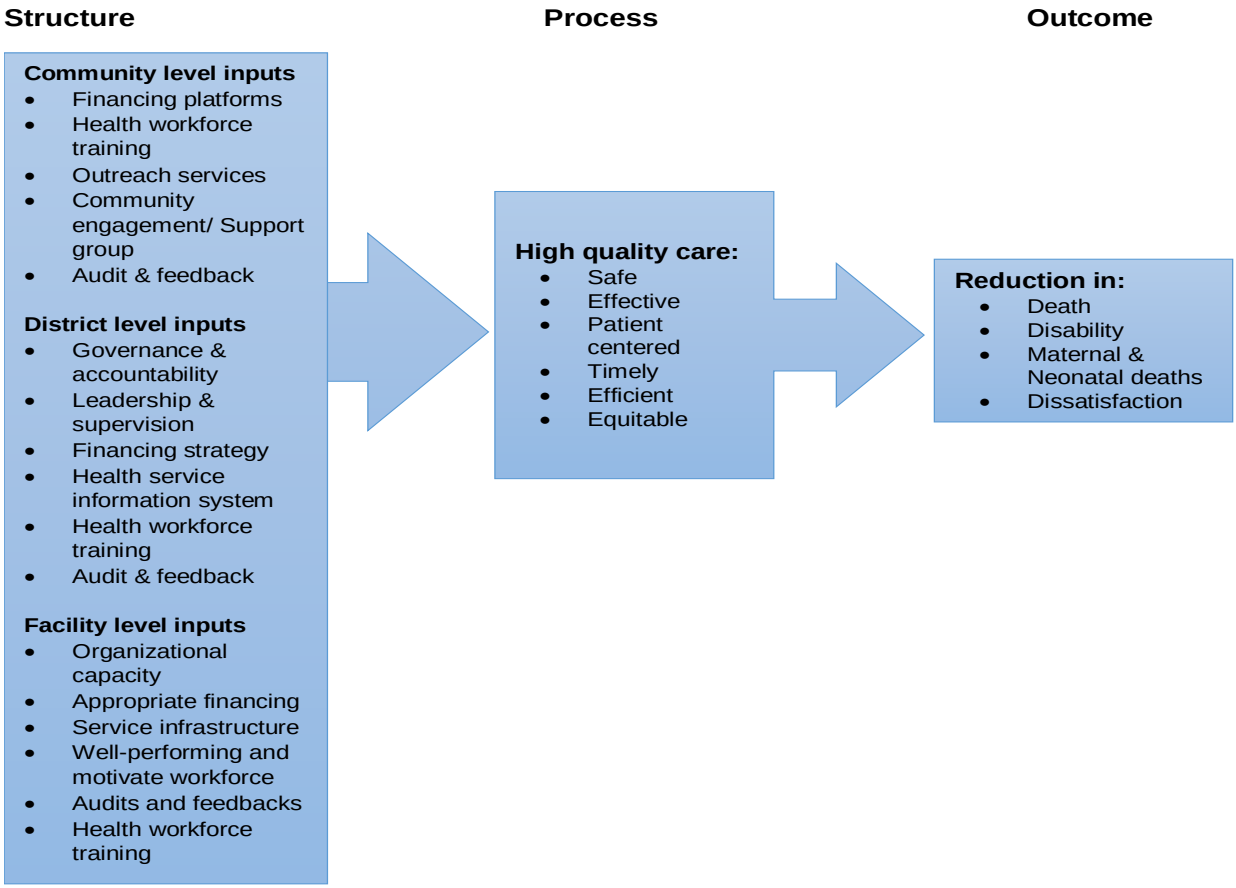


Figure 2.4: The Donabedian quality care model

Structure

This refers to the context in which health care is provided: political, legal, professional, and organisational resources needed to ensure that quality care is delivered at community, district, and facility-levels of the health system (Austin et al 2014: s4). The structural component of the framework includes inputs at three levels of the health system, namely community, district, and facility (Austin et al 2014: s4). These levels of

input allow the framework to be used by decision-makers at each of these three levels. It also allows for a greater understanding of the interplay between these levels. Data for measuring the structure dimension of quality care, including facility infrastructure, staffing and clinical training, generally come from routine health-facility records and surveys.

At the community level, the impact of outreach services, home visitation, financing platforms, and community mobilisation such as support groups and task shifting to lay health workers are considered (Austin et al 2014: s4). In this study, the community involvement refers to women who have given birth during the period from 1st January 2020 to 31st December 2020 in the hospital in Libode, Eastern Cape. This research intended to probe the true reflection on quality provision of obstetric and newborn care in the chosen health facility. Critical elements of the district level were also considered (e.g., dimensions of governance, accountability, health workforce, infrastructure, community involvement and participation). At the facility level, there are dimensions of leadership, health workforce, supplies, and technical capabilities.

Process

This refers to what is actually done in rendering care or whether good medical practices are followed, and the process should possess the following characteristics: safe, effective, patient-centred, timely, efficient, and equitable (Austin et al 2014: s4). The delivery of care also addresses aspects of the work environment: provider satisfaction, provider capabilities, good environmental hygiene, evidence-based practices, and user-centred care (Austin et al 2014: s5). This quality of care framework was developed as an easy-to-use and conceptual guide to understand the drivers of quality in facility-based maternal care (Austin et al 2014: s6).

Outcome

This refers to the desired quality of the health service resulting from the processes and the effects of the structure (Austin et al 2014: s8). This theory also declares that good structure should promote good process, which in turn should promote good outcomes. High quality care is a necessary process for improved health outcomes (Institute of Medicine, 2017). Improvements in any of these systematic or process dimensions of quality are likely to result in better maternal and newborn health outcomes such as reductions in death, disease, disability, discomfort, and dissatisfaction with the care provided. Therefore, the Donabedian model of quality care remains the foundation of this study.

2.6.1.6.1. Donabedian model limitations

Although this model was among the best models for evaluating, assessing, and measuring the quality of care in the health services, it did not include antecedent traits such as affected patient characteristics and environmental factors, which are important in evaluating the quality care (Berwick & Fox 2016: 238). These environmental factors are essential to fully understand the effectiveness of new modifications within the care process. Patient characteristics consist of genetics; socio-demographics; patient experiences, views, beliefs and attitudes; and preferences, while environmental factors comprise patients' cultural, social, political, personal, and physical characteristics; as well as factors related to the health profession itself (Berwick & Fox 2016:239). For this study, the model development included both patient characteristics and environmental factors that were omitted by the theory to improve the quality of care provision in maternal and newborn health care.

2.6.2. Interventions for quality maternal and newborn care

2.6.2.1. Care during pregnancy

Prenatal care is a type of preventive health care which helps to provide regular check-ups that allow doctors or midwives to treat and prevent potential health problems throughout the course of the pregnancy and to promote healthy lifestyles that benefit both mother and child (Ganle, Parker, Fitzpatrick & Otupiri 2014: 425). These authors further state that during check-ups, pregnant women receive medical information about maternal physiological changes in pregnancy, biological changes, and prenatal nutrition, including prenatal vitamins. Recommendations on management and healthy lifestyle changes are also made during regular check-ups. The availability of routine prenatal care, including prenatal screening and diagnosis, has played a part in reducing the frequency of maternal death, miscarriages, birth defects, low birth weight, neonatal infections, and other preventable health problems (Ganle et al 2014:425).

Midwives' close monitoring also helps them to respond to complaints that may be raised by pregnant women, and it is their role to provide information and counselling on self-care at home, including information about nutrition, safer sex, breast feeding, family planning and lifestyle (Zamanzadeh et al 2015: 216). Some information also includes birth planning, advice on danger signs and emergency preparedness (Zamanzadeh et al 2014: 217). The researchers added that midwives are the primary contacts with the women and are therefore required to record and report any information to the treating doctor for

effective quality of care for the women. Part of the quality care provision includes proper referral of emergencies to the next level, following the procedural path.

2.6.2.2. Childbirth care

Midwives and doctors play a vital role in ensuring successful birth (Sakeah, McCloskey, Bernstein, Yeboah-Antwi, Mills & Doctor, 2014:90). Giving birth is a major life activity that should be targeted at a healthy baby and mother (Sakeah et al 2014:90). The researcher stated that there is a growing demand for women to give birth in their chosen birth places and this requires that midwives be educated in a way that allows them to accept the choices that women make. Women have the right to be treated with respect and dignity during labour and childbirth by partnering with them in the decision-making process.

Giving birth can be either a wonderful experience or a traumatic one, depending on how women are treated by health professionals, particularly midwives. It is suggested that women should be included in the decision making process during delivery, even when the outcomes do not go as planned. This prevents violation of rights against the women. Continued uncooperative and unhealthy conflict may harm the mother or baby. Fortunately, there are also good stories to narrate about the progress made by midwives to save the lives of both mother and baby (McDaniel et al 2014:17).

Furthermore, approximately 65% to 75% of births worldwide are treated by midwives and occur without the use of medication or other labour-inducing techniques (Lazzerini et al 2019:2). These authors also show that approximately 20-25% of deliveries are performed by qualified physicians who use instruments and often medication during delivery procedures such as Caesarean sections. Midwives often provide life-saving services such as emergency treatment during childbirth (WHO 2014a:11). They have also provided healthy maternal and childcare in cases where there are no doctors in African countries.

With the increasing number of qualified midwives, healthier babies are born, and fewer mothers have died from childbirth and birth-related complications. Statistics from the WHO (2016a:25) indicate that developed countries decreased maternal deaths by half in the early 20th century by offering skilled midwifery care for children. Nonetheless, support for women during active work and birth significantly increases family satisfaction with the birth experience and decreases the use of drugs and procedures and increases the positive attitude that women need to take care of their children. Caring for women during labour and pregnancy is intended to create positive interactions for her and her family,

while ensuring the safety of her and her baby, avoiding complications, and responding to emergencies.

According to the WHO (2017b:10), no matter what provider a woman and her family choose, interprofessional cooperation is required to promote optimal maternal and newborn health, particularly when care is transferred to or shared with other members of the professional group. The following key family-centred care recommendations were proposed to attain quality care during childbirth:

- Women should have supportive care and constant physical presence of midwives during active labour and childbirth.
- Both midwives and doctors establish a relationship with women and tell them about their desires and aspirations for work and birth.
- During labour and birth, communication needs to be ongoing and responsive to the needs of women.
- Hospitals and birth centres are expected to develop guidelines and strategies that promote conventional birthing methods and cultural practices.
- Women are treated with respect; aided in the process of continuing informed choices during work and birth; and encouraged to participate completely in their care decisions.
- Health care professionals show mutual respect and interact and cooperate efficiently, acknowledging the vital role that each of them plays in providing women and their families with a healthy and rewarding pregnancy.
- Maternal and newborn interventions only occur when the reasons for this are well established and evidence-based.
- Create mechanisms that allow women to provide input on their experience and satisfaction with policies and programmes. Involve them in the further design of programmes.
- The implementation of new technologies in the field of labour and birth should be followed by clear evidence showing their value to mothers and their children, their cost effectiveness, and their compliance with professional guidelines.

2.6.2.3. Post-natal maternal care

Primary intervention during post-natal maternal care includes assessment of maternal wellbeing, prevention and detection of complications such as infections, bleeding, and anaemia. This is fulfilled by supplementation of iron and folic acid (Sumankuuro, Crockett & Wang 2018: e1). Part of intervention comprises providing information and counselling on nutrition, safe sex, family planning and provision of some contraceptive methods.

However, it is emphasised that women at this stage should be provided with postnatal care planning, advice on danger signs and emergency preparedness. Women should be informed and advised on receiving the contraceptive method of their choice (WHO 2015:13). Indeed, the role of the midwife is to present all types of contraceptives and let the client decide on the right choice.

2.6.2.4. Newborn care

The quality of care requires multiple strategies for its success. However, promotion and support for breastfeeding are one of those strategies that enhance quality care (WHO 2016a:35). Effective monitoring and evaluation of wellbeing, detection of complications such as breathing, infections, prematurity, low birth weight, injury, and malformation would save the lives of babies and form part of attaining quality care. During newborn care, infection prevention and control should be strengthened to prevent cross-infection to the newborn. Mothers should be empowered by information on home care, breastfeeding, and hygiene to improve the standard of care.

2.6.2.5. Postnatal care

Postnatal care takes place in the period after the delivery of the baby. This includes routine clinical examination and observation of the woman and her baby, including detection of complications and responding to maternal concerns (WHO 2016a). In addition, home visits by community health workers have been promoted as a post-natal care strategy based on innovative South Asian pilot studies that have shown a potential to reduce newborn deaths. With the marked increase in hospital deliveries seen in many settings in recent years, more attention is being paid to making better use of time before discharge to ensure the provision of key aspects of postnatal care. The challenges of making full use of this facility include the very high birth rate in some centres and the common practice of early discharge. Postnatal health facility follow-up visits can provide an important opportunity to ensure assessment, care, and provision of important advice. Suitable timing and content of such care will depend on the overall configuration of the

setting-specific postnatal care services. Typically, the main elements of postnatal treatment include:

- counselling and health education on recognition of danger signs and appropriate care seeking;
- counselling and health education on routine care practices such as exclusive breastfeeding and good thermal care practices;
- dispensing and related counselling for routine preventive interventions; and
- assessment and case management and referral for any identified complications or risk conditions.

It is through the same connections that we could improve outcomes for both mothers and newborns, and programmes and services will concentrate on the care needed for both (WHO 2016a:34).

2.7. ACCESS TO AND QUALITY OF OBSTETRIC AND NEWBORN CARE

In an ideal maternal health system, all women would have access to comprehensive, seamless medical care with links to behavioural, economic, and social support (Office on Women's Health 2019:2). Effective primary health care enhances women's access to MHS within their health clinics (Harris, Aboueissa, Baugh & Sarton 2015: 3280). Various strategies have been adopted to deliver services to communities, which include outreach health programmes that give health awareness on pregnancy testing and encourage pregnant women to attend antenatal care. Complicated pregnancy cases are immediately referred to the hospital to reduce preventable deaths among women and newborns (Harris et al 2015:3281).

Most maternal and newborn deaths occur at birth or within 24 hours of birth. Access to and provision of quality basic obstetric and neonatal care is crucial and the current recommended intervention to prevent maternal and newborn morbidity and mortality (Berhane et al 2019: 29). Access to quality service is not optional; it is necessary to decrease the complications and mortality of mothers and their newborn babies (Berhane et al 2019:26).

Access to quality basic obstetric and neonatal care service is mandatory for achieving the stipulated SDGs and reducing maternal and newborn mortality in South Africa and worldwide (Shalik, Madhu & Aro 2015: 1795). It is time to pay careful attention to the quality and equity of health services at all levels of the system and a great deal remains

to be done toward improving the quality of care at each level of the health system (Sumankuuro et al 2018: e4).

Quality of care is defined by the WHO as timely care adherent to an evidence base which considers the preferences and aspirations of individual clients and the cultures of their communities in a way that maximises resource use (WHO 2016c:37). Accordingly, the dimensions of quality care in health systems are effectiveness, efficiency, accessibility, acceptability, equity, and safety, which are congruent with the dimensions of the quality of care according of the institute of medicine (WHO 2019:3). The six complementary and synergistic dimensions or characteristics of quality care according to the institute of medicine are safety, timeliness, effectiveness, efficiency, equity and client centredness. The concept of quality has evolved from physician characteristics to systems of care determined as health care organisations' capacity to promote health and prevent error (Antony, Palsuk, Gupta, Mishra & Barach 2017:1076). Clients would experience safer, more reliable, more responsive, more integrated, and more available care if health care systems gained these six dimensions (Antony et al 2017:1078).

The effectiveness of care lies in providing services that are based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit (Spath 2014:23). Quality of care refers to care that is based on the use of systematically acquired evidence to determine whether an intervention produces the desired outcomes (Heiby 2014:117). The effectiveness of quality maternal and newborn care is achieved through ending preventable maternal and perinatal mortality. Therefore, effective maternal and newborn care not only reduces maternal mortality but also improves the quality of care (Singh & Upadhyaya 2020:31). The efficiency of care is in avoiding waste, including waste of equipment, supplies, ideas, and energy. It avoids the use of resources without benefit to the clients. Most quality improvements result in lower resource use. It thus entails the delivery of health care in a manner that maximises resource use and avoids waste (UNICEF 2015:20). Safety of care involves avoiding injuries to clients from the care that is intended to help them. The health care environment should be safe for all clients, in all its processes, all the time. It involves the delivery of health care in a way that minimises risks and harm to service clients. Equity of care involves the provision of care that does not vary in quality because of personal characteristics such as gender, race, ethnicity, geographic location, and socioeconomic status. Accessibility of care refers to the provision of care that is timely, geographically reasonable and provided in a setting where skills and resources are appropriate to medical needs (Persson 2017:14). The

institute of medicine describes timeliness as one dimension of quality of care. Timeliness of care reduces waiting times and sometimes harmful delays for both those who receive and those who give care. These are caused by factors at facility level such as lack of basic medical supplies, or lack of blood transfusion. Client-centred care involves the provision of care that is respectful of and responsive to individual client preferences, needs and values, and ensuring that client values guide all clinical decisions (Heiby 2014:117).

The WHO dimension of care that corresponds with this dimension of care is acceptability of care (United Nations 2015:2). Acceptability of care refers to delivering health care which considers the preferences and aspirations of individual service clients and the cultures of communities (Maphumulo & Bhengu 2019: e7). They also point out that other dimensions – efficiency and equity – are important in putting the care in context so that it can reach the population. The effectiveness of care is the extent to which care delivers its intended outcome or results in a desired process and in response to need (Spath 2014:3).

2.8. WOMEN'S NEEDS FOR IMPROVING THE QUALITY OF CARE IN A PUBLIC HOSPITAL

2.8.1. Physiological needs

The physiological needs are comprised of four subcategories, namely nutritional needs, physical environmental conditions, individual and hygienic needs, provision of physical comfort and ensured privacy. A study by Iravani, Zarean, Janghorbani and Bahrami (2014:10) found that women have expressed their desire to eat and drink during labour. These findings also revealed that most women experienced a lack of energy and women argued that eating and drinking would help them regain their strength for giving birth in that condition.

Women always desire comfort and a pleasant environment (Maputle 2018: 212). Therefore, ward routines such as controlled room temperature, controlled noise levels, and dim lights should be maintained and communicated to women (Lunze et al 2015:1). Such a setting plays a major role in enhancing the outcomes of labour. Physical comfort such as ambulation, walking and changing position are vital needs for good outcomes of the labour process (Lunze et al 2015: 337). Intervening to meet physiological needs can positively influence the woman's sense of control and empowerment during birthing (Maputle 2018: 216). Supportive care during labour may enhance physiological labour

processes as well as women's feelings of control and competence, and thus reduce the need for obstetric intervention (WHO 2016a:28).

2.8.2. Psychological needs

Midwives and doctors are expected to show empathy, encouragement, advocacy, and constant emotional support to women during labour and delivery stages (Iravani et al 2014:4). The empathy and kindness help women to relax during the stages of labour and delivery while a safe and calm environment positively influences the women's sense of control (Maputle 2018: 212). It has been found that women who receive adequate psychological support are less likely to use pain medication (Bohren, Hofmeyr, Sakala, Fukuzawa & Cuthbert 2017:2). These authors concur that women receiving psychological support are also more likely to be satisfied and have slightly shorter labours and their babies are less likely to have a low five minute Apgar score.

2.8.3. Informational needs

Giving information about labour and the ward environment is acknowledged as a need in women as it helps to increase their level of knowledge during the stages of labour and delivery (Vahdat et al 2014: e12454). Furthermore, inadequate orientation in the labour ward often increases women's stress levels. Women also need to be informed about the plan of care and procedures to be followed during labour and delivery (Vahdat et al 2014: e12454).

Many women want information that would help them to develop their confidence in necessary practical aspects of care for themselves and their baby (Dodzo & Mhloyi 2017:23). The childbirth information received by mothers during the antenatal period influences their sense of control and empowerment during labour and delivery (Iravani et al 2014:4). Midwives need to know the kind of information that satisfies their clients to improve the quality of care provision (WHO 2017a:24).

2.8.4. Social and relational needs

Social and relational needs are vital aspects among health care providers and women during labour (Alyahya et al 2019:34). Meeting such needs helps women to share their expectations whilst in maternity. Midwives play a crucial role in sharing best practice and rules to be adhered to (Iravani et al 2014:8). They are also expected to give the mothers timely attention, welcome them warmly and listen patiently to their conversations at the time of admission. However, the presence and support of a partner during labour and

childbirth seems to be of paramount importance for some women (Lunze et al 2015: 337). Some of the women interviewed believed the presence of a partner such as a husband or mother during labour played an important role in the relief of pain and the achievement of good outcomes of the labour process.

2.8.5. Esteem needs

Esteem needs are an important aspect for women during their childbirth (Chinkhumba et al 2014:9). According to Marleen et al (2015: 9), esteem needs play a major role in conveying respect and establishing trust early in the health care provision. Visibility of doctors during the labour process helps women for any enquiries raised. Their presence in the labour ward also decreases the anxiety and fear which parturient women may feel (Amu & Nyarko 2019:11). A study by Iravani et al (2014:11) revealed that women feel calm when they are well informed about their ability to give birth. This study further stated that women acknowledge the fact that they can participate in decision making about their pregnancy process. Their involvement in decision making with their partners empower them to feel confident in various aspects of care during labour and delivery.

2.8.6. Security needs

Security needs are a major category that is derived from the experiences of labouring women during labour and the delivery process. Almost all women require 100% security during labour and delivery stages (Republic of South Africa 2017:40). According to Parand et al (2014:10), women were afraid of losing their baby and experienced anxiety about their health, fear of childbirth, fear of encountering the unknown or fear of dying and needed assurance of professional expertise of the doctor or midwife. Therefore, Parand et al (2014:11) emphasised that assuring women of their safety and security alleyed anxiety during childbirth. This would help women to experience a feeling of control and empowerment. Fear of childbirth and low self-confidence could influence women's ability for give birth.

2.8.7. Medical needs

Meeting women's medical needs is a vital intervention for successful childbirth (Lunze et al 2015:337). Women require medication that relieves pain during labour and delivery (Dueñas et al 2016:31). Most of their pain is caused by the frequent use of urinary catheters and vaginal examination, and the routine use of episiotomy and enema (Dueñas et al 2016:34). Though these are medical interventions, many women still believe that they are likely to go through labour and give birth without medical intervention (Eapen &

Jain 2017:5). The participants believed that the promotion of comfort was an essential need for them during labour. Intervening to promote the comfort of labouring women can empower these women during childbirth and comfort can also decrease labour pain and the need for medical interventions and costs (Lunze et al 2015:26). Innovative approaches for improving maternal and newborn health are required.

2.9. QUALITY-RELATED FACTORS AFFECTING WOMEN AND NEWBORN CARE IN PUBLIC HOSPITALS

2.9.1. Human resource factors in maternal health

Adequate material resources and equipment usage depend on available competent, committed, and skilled human resource personnel (Department of Health 2017:43). Public hospitals with inadequate human resources are unlikely to attain high quality of care. This contributes to situations that compromise the quality of care which can lead to multiple incidents. According to McDaniel et al (2014:20), shortages, overload and incompetent midwives are likely to cause many deaths in maternity facilities. Such a shortage of midwives has a negative effect on the utilisation of MHS, and it compromises the expected quality of care (Dueñas et al 2016:457). In SA, it has been declared that there are public hospitals lacking highly qualified midwives to meet the challenging demand for high quality care (Gray & Vawda 2018:3). Multiple strategies such as frameworks for improving quality in the maternal health facilities have been developed. The agenda was to improve the standard of maternal and newborn care. Even to date, there is still less attention to the quality of care in maternal health facilities and hence researchers are still developing models to improve the provision of quality care (WHO 2018:11).

2.9.2. Infrastructure of public hospitals

The efforts and commitment to accelerate progress towards high quality care in the maternal and newborn health care in developing countries have focused primarily on providing medical interventions at maternal health facilities (United Nations 2019:21). Effective medical intervention depends on various factors, such as good infrastructure with enough basic equipment, and committed, competent health care providers (WHO 2016b:13). In most rural public hospitals, access to maternal and newborn care services is still a challenge and associated with infrastructural barriers. Even where services are available, there is often a lack of infrastructural prerequisites to function at the very basic level in providing essential routine health care services (WHO 2018). There is enough

evidence that maternal and newborn deaths continue to remain unacceptably high in these areas as a result of infrastructural issues, namely dilapidated roads and hospital infrastructure (Sacks & Kinney 2015:13). Many researchers have revealed that having a healthy infrastructure facility which meets minimum standards such as easy access to maternal health facilities, and a therapeutic and safe environment would improve the quality of care services (WHO 2019:4).

Numerous studies have revealed that poor infrastructure exposes patients to many incidents (Zamanzadeh et al 2015:8). These poor infrastructures include lack of adequate transportation and poor roads, lack of quality and adequate water and electricity. Poor infrastructure of public hospitals consequently creates a negative impact towards recruitment and staff retention of qualified midwives and doctors in maternal health facilities (Zamanzadeh et al 2015:11). This continued poor recruitment and retention of such personnel could limit the provision of high-quality care in maternal health facilities.

Developed countries recognise that providing necessities such as clean water and reliable electricity can attract qualified health personnel to rural areas, thereby improving access to crucial maternal and child health services (Sacks & Kinney 2015:10). This is also in line with the proposed NHI focus, which stipulates that its implementation depends fully on well-established health facilities with all basic equipment and qualified, committed and skilled human resources (National Health Insurance Report 2018:31).

2.9.3. Referral system challenges in public hospitals

To achieve high-quality care, a referral system policy was established to stabilise the flow of patients from home to one health facility, and from one health facility to another (Department of Health Referral Policy 2017:2). This policy controls movements of patients and the influx into one facility including long queues management.

The poor condition of the connecting roads and lack of adequate and reliable transportation are major impediments to accessing timely referral care and lead to many maternal mortality instances, especially in emergency cases (Grigg et al 2014:212). These authors further state that there are still areas where basic ambulance transport cannot fetch pregnant women because of poor access roads. Consequently, women are being managed where the necessary basic services are not available. This consequently contributes to poor referral systems and could cause harm to the pregnant women.

2.9.4. Shortage of medical equipment

Medical equipment is an essential health intervention tool used by midwives and doctors for the prevention, diagnosis, and treatment of disease and for labour management. Functional medical equipment is still a challenge in many developing countries. SA is among developing countries with inadequate and non-functional medical equipment (Mayosi & Benatar 2014: 1345).

According to the WHO (2016a:4), it is estimated that 50 to 80% of all medical equipment in developing countries is not working, creating a barrier to the ability of the health system to deliver high quality services to women in maternal health facilities. In addition, critical shortages of medical equipment in public hospitals occur in the form of unavailability of equipment, low quality, and poor maintenance of the few that are available (Parand et al 2014:4). This inadequacy impacts negatively on the quality of care provision in the hospital setting. According to Dodzo and Mhloyi (2017:12), the shortage is higher in rural public hospitals than in urban hospitals like in other countries. This shortage emanates from poor maintenance and repair as well as limited financial resources.

The National Core Standards for Health Establishments in South Africa require that medical equipment be maintained according to manufacturers' requirements to keep the equipment reliable, safe, and available for use when required for diagnostics, treatment, and monitoring of patients (National Department of Health 2011:23). This maintenance plan prolongs the life of medical equipment and minimises the cost associated with buying new equipment.

Medical equipment defects and failures are very common in hospitals where there are poor maintenance plans and can lead to injury or death and these hospitals have a responsibility to regularly maintain medical equipment to prevent malfunctioning and failure of equipment (Department of Health Care Finance (DHCF) 2019a:3). The shortages of medical equipment are likely to compromise the health systems' ability to reduce maternal and neonatal mortality (Parand et al 2014:9).

2.10. APPROACHES TO QUALITY MATERNAL HEALTH CARE PROVISION

A dynamic, effective, efficient, and exciting utilisation of quality maternal and infant health care services in a helpless population is illustrated by progressive techniques that address domain four (public health) of the National Core Standards (NCS) (National Department of Health 2011:5). This domain states that effective implementation relies on the decentralisation of health care services to vulnerable populations. The strengthening

of ANC services is part of outreach services that address maternal complications such as late bookings (WHO 2016a:31). This is indicated by case studies in various countries that have strengthened the effect of MHS in the PHC setting (Lunze et al 2015:1).

Evidence-based techniques and coordinated equity-based approaches and steady associations appear to be viable and to accelerate the advance towards accomplishing the reduction of maternal and child mortalities (UNICEF 2013:67). Moreover, nations can learn from one another's approaches, strategies, and interventions, and may imitate and adjust them to their specific settings (Babiker et al 2014:10).

Collaboration among nations and regions must be encouraged to upgrade facilities and spare the lives of millions of women and newborns and improve the prosperity of their families (Babiker 2014:11). Imaginative approaches in maternal and infant health care will moreover require imaginative procedures for their evaluation. Such innovative strategies include:

- integrating maternity waiting homes as part of the health system;
- maternal and prenatal death review to improve the quality of service;
- communication for a behavioural impact approach to antenatal care;
- a nationwide upgrade of health care facilities into birthing centres to address inequities in access to delivery services among the most deprived women;
- essential intra-partum and newborn care protocols;
- introduction of magnesium sulphate to manage pre-eclampsia; and
- involving communities in addressing maternal health inequalities (Lunze et al 2015:15).

2.11. CONCLUSION

This chapter addressed a comprehensive review of the literature on the provision of quality care in maternal and newborn care facilities. The literature review facilitated the development of a practical research plan for the research proposal and the research methodology. It helped the researcher to gain a better understanding of the topic of the study. It enabled the researcher to connect the research findings with existing knowledge gained. The next chapter presents the methodology relevant to the subject of the study.

CHAPTER 3
RESEARCH METHODOLOGY

3.1. INTRODUCTION

Chapter 3 describes the research methodology, including the research design and the research methods used in the study. McCusker and Gunaydin (2015:541) advise that the research methodology has a great influence on the quality of a study. It is therefore necessary for a researcher to critically think of the best approach to describe the methodology of a study.

A description of the research setting, research design, methods and ethical considerations are provided in detail. While a section of the research design describes the systematic process that the researcher followed to achieve the study objectives, the discussion of the research methods provides a thorough description of sampling, data collection and data analysis methods. Chapter 3 further provides a discussion of ethical considerations relevant to the study. The rights of the study institutions as well as the rights of the participants and ensuring scientific integrity are considered. The research objectives for this study were to:

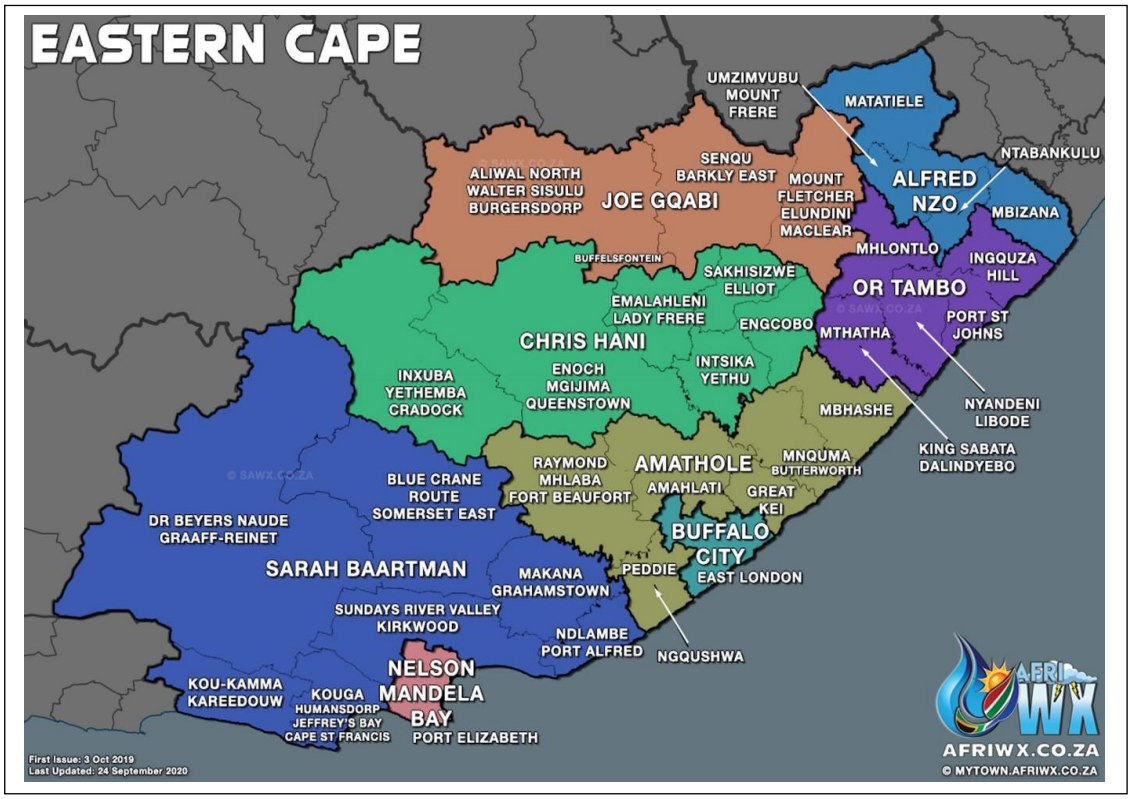
- Explore and describe the views of women in postpartum care units on quality-related factors that affect maternal and newborn care in a public hospital in Libode, Eastern Cape.
- Describe the perceptions of midwives and doctors on the quality of care provided for women and newborns in a public hospital in Libode, Eastern Cape.
- Describe the current interventions to improve the quality of maternal and newborn care in the public hospital in Libode, Eastern Cape.
- Develop a model to improve the quality of maternal and newborn care in the public hospital in Libode, Eastern Cape.

3.2. RESEARCH SETTING

The research setting refers to the physical location and the conditions where data collection takes place (Polit & Beck 2018:413). Therefore, describing the research setting is an important aspect of any research report to determine where the study is conducted (Lune & Berg 2017:209). According to Kumar (2019:230), a research setting highlights salient characteristics of the study respondents and draws attention to any available

relevant information regarding the study at hand. Lune and Berg (2017:209) argue that describing the research setting is an important aspect of any research report. Therefore, the setting in which the study was conducted is presented in detail below.

The setting for this study was a public hospital in Libode, in the Oliver Tambo district municipality, Eastern Cape province. Eastern Cape is one of the nine provinces in South Africa. It is situated on the east coast of SA. The population in the province was estimated at 6,734,001 in 2020. Eastern Cape has 91 public hospitals and 17 private hospitals.



Key: Research site municipality

Figure 3.1: Eastern Cape map showing the six district municipalities with local municipalities under each district municipality

Adapted from the South Africa District Municipality Province Maps 2020

Figure 3.1 above shows a detailed map of both district and local municipalities in the Eastern Cape province. The study research site, Nyandeni Libode in the Oliver Tambo district municipality where the public hospital is located, is visible on the map.

Oliver Tambo district and its local municipalities struggle to achieve targets set for health indicators. The district has been identified as one of the worst performing municipalities in the Eastern Cape regarding maternal health (Lembani et al 2018: 912). For example, the District Health Information System (DHIS) of 2018 (Department of Health 2018:5) reported that the antenatal first visit before 20 weeks' rate target was 62% and this district

achieved 41.8% (DHIS 2018:5). The MMR increased from 110 deaths per 100,000 lb in 2017 to 195 deaths per 100,000 lb in 2018 in the public hospital in Libode. During the same period, the facility estimates for the neonatal mortality rate (NMR) indicated a slight upward trend from 11.5 deaths per 1,000 lb to 15.1 deaths per 1,000 lb (Eastern Cape Department of Health 2018:83).

3.3. RESEARCH METHODOLOGY

The research methodology comprises the specific procedures or techniques used to identify, select, process, and analyse information about a topic (Polit & Beck 2017:743).

In this study, methodology refers to techniques which the researcher adopted to conduct and guide the study to achieve the study objectives. The research methodology section discusses both the research design and the research methods of the study.

3.3.1. Research design

A research design refers to an overall structure, the blueprint or a detailed plan for how a research study is conducted (Guest & Namey 2015:37). According to Moule and Goodman (2015:467), an appropriate research design improves the value of study findings and its contribution to evidence-based practice. Bryman et al (2016:40) asserts that the research design "provides a framework for the collection and analysis of data". Moreover, in this study the research design is about the preparation of parts that have to be incorporated to answer the research questions (Jha & Srivastava 2014:227). As a base of this study, the research design had to be well crafted at the beginning of the research journey.

The study used a qualitative, exploratory, descriptive research design. These research approaches were chosen as they were found to be ideal for achieving the objectives and answer the research questions of the study.

The quality of maternal and newborn care in the public hospital in Libode, Eastern Cape was empirically investigated and quantified. Factors that had been associated with poor provision of quality of maternal and newborn care were also investigated.

3.3.2. Qualitative approach

Qualitative methods are used to answer questions about the experience, meaning and perspective, most often from the standpoint of the participants (Ioannou & Papakitsou 2020:636). Qualitative research is an approach that is based on a subjective interpretation of phenomena and is mainly used to describe the lived experiences of human beings

(Parahoo 2014:55). Unlike quantitative research, qualitative research in this study assumes that 'reality' varies based on the perceptions of individuals (O'Dwyer & Bernauer 2014:26).

In this study, a qualitative method was used to investigate and understand better the lived experiences of the research participants (Campbell, Taylor & McGlade 2017:52). The qualitative research findings of this study were also used to develop a model for improving the QOC in maternal health facilities in SA.

3.3.2.1. Exploratory research

According to Polit and Beck (2014:430), an exploratory research design refers to a study that explores the dimensions of a phenomenon under investigation. It is also a study that develops relationship between phenomena. In an exploratory design, the researcher investigates the full nature of a phenomenon to understand its manifestations and underlying processes (Polit & Beck 2014:18). In this regard, the researcher employed this research design to explore factors that affect the provision of quality care in maternal health facilities in SA.

3.3.2.2. Descriptive methods

According to Grove and Gray (2019:310), descriptive research enables a researcher to explore and describe a phenomenon in its real situation. It allows the researcher to generate new knowledge of the subject by describing characteristics of persons, situations, and the frequency with which certain phenomena occur. It also enables the researcher to describe what he or she has observed to provide the deeper meaning of the experiences of participants (Polit & Beck 2014:18). A descriptive research design is one of the designs applied in social and health science research. It is a type of research design that is used to describe opinions, feelings, attitudes, and beliefs of people about a certain phenomenon of interest (Nayak & Singh 2015:63).

Based on the argument of Nayak and Singh (2015:63), the researcher in this study used descriptive research as an advantage as the aim was to explore and describe in detail factors associated with the provision of quality care in maternal health facilities in SA.

As Reynolds and Guest (2015:14) indicate, "descriptive studies are conducted to investigate a population's health service needs, experiences, or behaviours in order to inform interventions". Thus, it allowed the researcher to propose practical and feasible intervention and a model to improve the QOC in the maternal health facilities in SA.

3.3.2.3. Contextual research design

The context is the situation in which the research takes place, and comprises the human environment, and professional and organisational facilities. According to Creswell (2014:46), a study is contextual when a researcher collects data from participants in the natural setting where they experience the phenomenon, rather than in a laboratory. In this study, the design was used to capture the routine activities of the midwives, doctors, and women in the postpartum units in the public hospital in Libode, in the provision of MHS. The study also considered a contextual research design as the research was expected to produce interventions that could be applied in the contextual setting and in other similar settings.

3.4. RESEARCH METHOD

Research method refers to procedures used by the researcher to conduct the study to answer the research question (Polit & Beck 2014:12). Research methods are described as the strategies and processes that are used to collect data to uncover new information or create a better understanding of the subject under investigation (Polit & Beck 2017:330). There are many types of research methods which utilise different data collection tools (Polit & Beck 2017:340). The quality of a research study depends on the methods being used. Research method also includes sampling procedures to be followed and ways of data collection and analysis. Appropriate research methods guide researchers on how to take the sample and collect and analyse data to come up with valid and reliable results (Bell, Bryman & Harley 2019:410). The research methods in this study covered aspects such as population, sample, sampling method, sample size, data collection, data analysis and ensuring trustworthiness as well as ethical considerations.

3.4.1. Population

The population is the aggregate set of individuals or objects having some common characteristics (Polit & Beck 2017:739). Creswell (2014:23) refers to a study population as the entire group of elements sharing some common characteristics relevant to the research purpose.

The population of a research study is further defined as the total number of units (individuals, organisations, events, objects, or items) in which the researcher is interested and from which samples are drawn to answer the research questions (Morse & Cheek 2015:731). The unit of analysis may be a person, group, organisation, country, object, or any other entity that you wish to draw scientific inferences about. There are three types

of population in research, which are a general, target and accessible population (Morse & Cheek 2015:732).

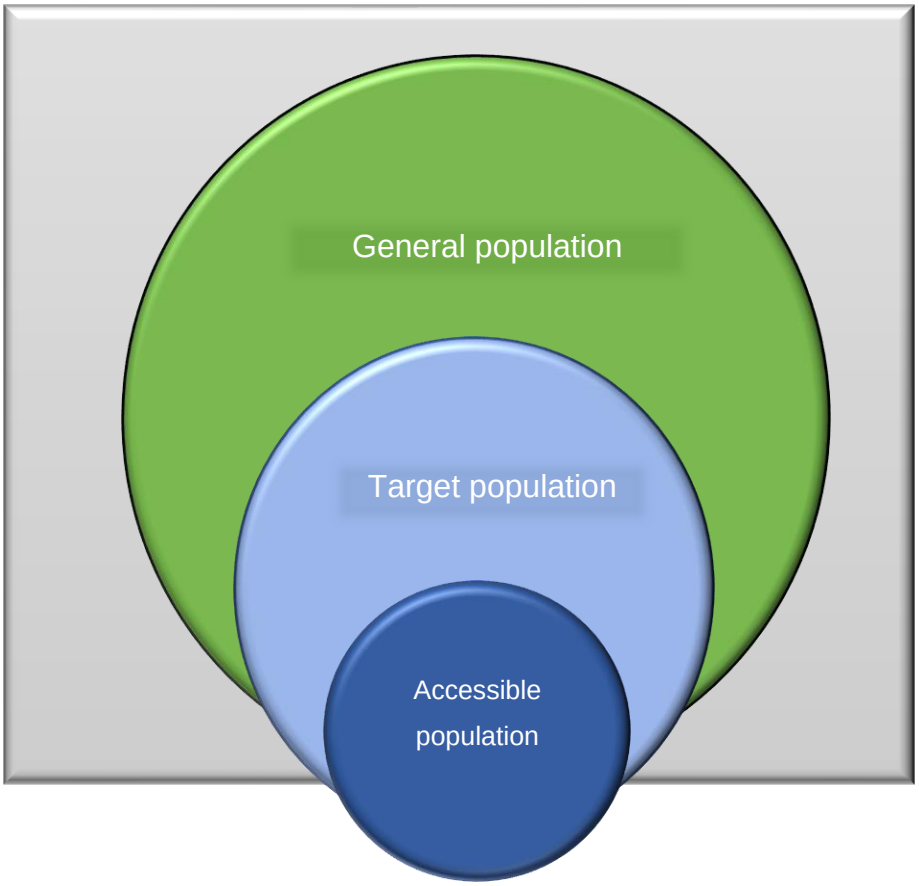


Figure 3.2: Population and sample

Adapted from Asiamah, Mensah & Oteng-Abayie 2017:1611

A general population is a certain group of people who share the same characteristics or elements which are the focus of a study (Gray, Grove & Sutherland 2017:336). In this study, the general population comprised all doctors and midwives who were working in the public hospital in Libode as well as mothers who had previously given birth to babies in the same public hospital.

A target population, according to Polit and Beck (2017:744), is the population as a whole in which a researcher takes an interest and possesses all the inclusion criteria and the researcher would like to generalise the study results from them. The target population in this study comprised doctors and midwives who met the sampling criteria and were working in the public hospital in Libode, and mothers who also met the sampling criteria and had given birth in the selected public hospital in Libode in the Eastern Cape.

The accessible population refers to the respondents who are drawn from the target population and are accessed by the researcher to provide data for the study during data collection (Polit & Beck 2017:307).

In this study, an accessible population were doctors, midwives and mothers drawn from the target population and accessed by the researcher to provide data for the study during the data collection period.

3.4.2. Sample and sampling methods

3.4.2.1. Sample

A sample refers to a subset of a population (individuals, elements, or objects) or a group selected to act as representatives of the population (Polit & Beck 2017:275). In this study, the researcher selected a sample of doctors, midwives, and mothers to represent the entire population through appropriate sampling methods.

3.4.2.2. Sampling method

Sampling involves selecting a group of people, events, behaviours, or other elements with which to conduct a study (Burns et al 2015:243). It can be either random or non-random. In this study, the researcher used non-random purposive sampling. Creswell (2014:206) states that in qualitative research the aim is not to generalise to a population but to develop an in-depth exploration of the phenomenon of interest. A non-random purposive sample of 20 health care providers (doctors and midwives) and 15 mothers who met the criteria were selected to participate in the study in order to gain in-depth rich information about the phenomenon of interest under investigation.

3.4.3. Eligibility criteria

Eligibility criteria are criteria that define who is in the population, that is, the criteria that specify population characteristics that must be shared by all participants (Polit & Beck 2014:740). To be included in this study, the participants (i.e., mothers and health care providers) had to meet the following criteria.

3.4.3.1. Inclusion criteria

Inclusion criteria for mothers

- These participants should be between the ages of 15 and 49 years old and be dependent on a public health care facility.
- Participants should also reside in Libode in the Eastern Cape.

- Further, participants should have been admitted and given birth to babies during the period between 1st January 2020 and 31st July 2020 in the hospital in Libode, Eastern Cape.

Inclusion criteria for health care providers

- These participants should be between the ages of 22 and 60 years old and should be working in the public hospital in Libode, Eastern Cape province any time from 1st January 2020 to 31st July 2020.
- Further, participants should have more than one year's experience in maternal health. The researcher believed that obtaining the opinions of those experienced and exposed to maternal and newborn care would have had adequate opportunity to give more information on the nature of services rendered in the maternal health facility.
- In the actual sample, all the participants were expected to be able to communicate in English in order to participate in the study.

3.4.3.2. Exclusion criteria

Exclusion criteria for mothers

- Participants below the age of 15 and above 49 years who were unable to communicate in English.
- Further, participants should not have been admitted and given birth to babies during the period between 1st January 2020 and 31st July 2020 in the hospital in Libode, Eastern Cape.

Exclusion criteria for health care providers

- These participants should be under the age of 22 and above 60 years old, who had less than one year's experience in a maternal health facility.
- Further, participants should not have been working in the public hospital in Libode Eastern Cape province any time from 1st January 2020 to 31st July 2020.

3.4.4. Sample size

A sample size is regarded as a crucial parameter to consider when conducting research (Anthoine, Moret, Regnault, Sibille & Hardouin 2014:2). However, this study used a qualitative approach and was unable to predetermine the sample size as the data had to be collected until no new information was obtained (Patten & Newhart 2018:99).

In this study, a sample of mothers and health care providers was considered rich in information related to the objectives of the study. The researcher believed that information-rich participants easily influenced the saturation limit. Hence, the sample was therefore not predetermined, but sampling was done until data saturation was achieved.

Accordingly, data saturation of health care providers was achieved with 20 participants, in which 16 were females and 4 were males, and data saturation of mothers was achieved with 15 participants. Achieving data saturation helped the researcher to be reasonably assured that further data collection would yield similar results and serve to confirm emerging themes and conclusions.

3.4.5. Data collection

Data collection is a systematic way of gathering relevant information that helps the researcher to answer the research question and meet the objectives of the study (Maree 2016:45). According to Du Plooy-Cilliers, Davis and Bezuidenhout (2014:147), data collection is one of the crucial aspects of any research study. The research question guides the data collection method to be followed. Data was collected between 3 September 2020 to 25 October 2020. The data collection process for this study is described in the subsections that follow.

3.4.5.1. Data collection approach and method

According to Du Plooy-Cilliers et al (2014:149), various data collection approaches and methods are used to gather data. In this study, an in-depth open-ended interview was chosen as the most appropriate data collection strategy. The in-depth open-ended interview is a flexible type of interview where the researcher could ask questions broadly and probe until no further information related to the main question is forthcoming (Polit & Beck 2014:537).

It also requires an experienced researcher in probing participants to reach saturation, and no specific order of questions is followed during this type of interview. However, this in-depth open-ended interview guide consists of in-depth open-ended questions with a few closed questions on demographic information (see Annexure F & G). The questions in the interview guide allowed participants to explore their experiences regarding the quality of maternal and newborn care. This open-ended individual in-depth interview method was suitable as it allowed the researcher to interact with each participant and to follow up on points made.

The researcher maintained privacy and confidentiality during the interview process and this brought comfort to participants, who were able to discuss sensitive issues and ask questions and they were provided with answers and clarifications about the matters they raised. These interviews with the participants were conducted face-to-face.

3.4.5.2. Development and testing of the data collection instrument

A data collection instrument is a device that is utilised to collect data (Polit & Beck 2014:740). In this study, an interview guide for face-to-face interviews was used to gather data from participants. The researcher developed the interview guides (Annexure G&H) as guided by the supervisor. These interview guides referred to were developed in English. The feasibility of the data instruments was tested by the researcher who conducted interviews with two participants per interview guide. This was a way to determine whether the questions were clear and understandable to the participants. Accordingly, the participants answered all questions with good understanding. This indicated that the data collection instruments were feasible, and participants were able to answer all prepared in-depth open-ended questions with understanding. Therefore, the researcher resumed with the prepared questions. The average interview time lasted between 45 and 60 minutes.

3.4.5.3. Characteristics of the data collection instrument in this study

In-depth open-ended questions were developed (Annexure G&H) as a tool to gather data. These questions in the in-depth interview guides enabled participants to share and describe their experiences by freely talking about their experiences of service provision of quality care in the maternal health facility, as well as related factors that affected the improvement of the quality of maternal and newborn care.

Two in-depth interview guides were developed (Annexure G&H) to collect data. Each in-depth interview guide comprised two sections, namely Section 1 and Section 2. The purpose of Section 1 (Annexure G&H) was to gather background information about the study participants.

Section 2 (Annexure G) consisted of questions regarding experiences of health care providers in providing quality of maternal and newborn care. Section 2 (Annexure G) consisted of questions about women’s experiences regarding the quality of maternal and newborn care provided.

However, section 2 (Annexure G&H) also entailed sub-questions. The researcher therefore utilised these sub-questions as probing methods to further explore each participant's initial response. During data collection, part of ethical procedures such as permission to use voice recorder and field notes was sought. These voice recorders and field notes also form part of data collection instruments. The researcher transcribed the recorded interviews in a Microsoft Word document. This process helped the researcher to extract themes that emerged from the data to make sense of the data.

3.4.5.4. Data collection process

In this study, the researcher commenced the data collection process after permission was granted by relevant authorities of the public hospital in Libode. Data collection consisted of two main study group participants, namely health care providers and mothers. In these study group participants referred to, the data was individually collected through face-to-face interviews.

3.4.5.5. Recruitment of the participants

3.4.5.5.1. Obtaining consent for participation

In line with the ethical requirements, the mothers and health care providers considered for the study were given an opportunity to choose or to refuse to participate in the research by signing the pre-prepared consent forms. The consent was previously reviewed and cleared by the UNISA Ethics Committee.

Before the individual interviews could take place, the researcher gave a brief overview of the consent form in order to create understanding in the participants before they signed and participated in the study. According to Creswell (2014:134), a consent form acknowledges that participants' rights will be protected during data collection.

The researcher further ensured that the consent form had the following information as stated in Creswell (2014:134): (1) identification of the researcher; (2) identification of the purpose of the study; (3) identification of the benefits for participating; (4) identification of the level and type of participant involvement; (5) notation of risks to the participant; (6) guarantee of confidentiality to the participant; (7) assurance that the participant can withdraw at any time; and (8) provision of names of persons to contact if questions arise. Copies of the consent forms appear in Annexure E.

The consent to participate in the study was obtained only after the researcher had disclosed the relevant information to the prospective participants and explained:

- The purpose of the research and the expected duration of the subject's participation;
- Why they were invited to the study;
- Whom to contact for answers to pertinent questions about the research and the research subjects' rights;
- That they were free to withdraw from the interview at any stage should they wish to;
- What would happen if they decided to withdraw from the research and how the withdrawal would be handled.

The respondents were given a copy of the signed document. The signing of the consent form paved the way for the interview to be conducted. After signing the informed consent form, the researcher handed participants the confidentiality binding form (see Annexure F). The contents of this form were also explained to ensure that the participants understood the confidentiality implications.

3.4.5.5.2. Administration of the research tool

For better understanding and information exchange, a data collection tool for administration of the research tool was translated from English to the local language. Cultural issues were taken into consideration when the data collection tool was adapted for use from English to the local language, namely isi-Xhosa.

3.4.5.5.3. The interview process

The first study group of participants to be interviewed were health care providers (midwives and doctors) and the second study group of participants were mothers. Since the permission was granted by relevant authorities, the researcher requested an appointment date to convene a briefing meeting with potential participants (health care providers) as guided in the inclusion criteria. The relevant authorities granted the briefing meeting after consulting the relevant unit to attend. This briefing meeting was convened on 1 September 2020 at 13h00–14h00 in a boardroom of the research site. For the second group of participants (mothers), the meeting was convened on the same day at 15h00–15h30 in the post-natal unit boardroom where health education takes place.

The meeting session was about giving a full overview of the study. The researcher started by giving a brief introduction to the study, the purpose of the study, and an explanation of why they had been invited to participate in the study. In this meeting, each participant was allowed to ask questions for clarity. The researcher provided each participant with honest

and clear answers regarding what they needed to know about the study. None of these participants refused to participate in the study, hence the researcher, in collaboration with these participants, scheduled times for the individual interviews.

For mothers, the interviews were agreed to take place after 10h00 and before 14h00 each day. This time allows ward rounds to proceed without interruption by the process. All interviews were conducted in a consultation room that was identified in the public hospital in Libode in the Eastern cape. This office environment made participants feel comfortable and they could openly express their experiences regarding the QOC provided in the maternal and newborn care setting.

In terms of the midwives and doctors, the interviews were agreed to and depended on the availability of the participants. It was agreed that only two to three participants would be interviewed per day so that no inconvenience would be caused by these interviews.

The method employed in this study was face-to-face, in-depth, open-ended, one-on-one interviews. These interviews were conducted with each participant who had agreed to participate in the study. The researcher was given consent to use audio recording and note taking to collect data during the interviews.

One consulting room was utilised for all these interview sessions. Individual interviews lasted between 45 to 60 minutes each. Two to three interviews were conducted per day to keep services running with no interruptions. The time scheduled for the interviews also depended on the availability of the participant, which was determined by the activities of the unit per day. These individual interviews were effectively conducted between 3 September 2020 and 25 October 2020.

3.4.6. Data analysis

According to Polit and Beck (2014:430), qualitative data analysis is the process that aims to discover themes, categories, and patterns of meaning. In this study, only themes and subthemes that had emerged from the findings were discovered. However, the researcher collected data from midwives, doctors, and mothers through in-depth open-ended individual interviews using tape recording and prepared them for analysis through verbatim transcription. The verbatim transcription as indicated helped in providing a written record of the conversation between the researcher and the participants. Field notes made by the researcher were also added to the transcription to become the final data document for analysis.

The researcher utilised Colaizzi's seven-step method of data analysis, as suggested in Creswell (2014:390), in the following order:

- Reading and re-reading each transcript to obtain a general sense of the content.
- Extracting significant statements from the transcripts that relate to the phenomenon under study.
- Formulating meanings from the significant statements.
- Sorting the formulated meanings into categories, clusters of themes and themes.
- Integrating themes into an exhaustive description of the participants' statements.
- Describing the structure of the phenomenon.
- Validating the findings with the research participants.

Following the seven steps as described above, the researcher was permitted by all thirty-five participants to use tape recording and note book recording during in-depth individual interviews. This audio-recorded information was transcribed into a Microsoft Word document. Also, the field notes were transferred into a Microsoft Word document.

When all information was already recorded in the Microsoft Word document, the researcher continued utilising Colaizzi's seven steps of data analysis. At this stage, the researcher read all transcribed interview responses and recorded notes to understand and become familiar with the data and extract themes that were relevant to the study. Themes were organised and categorised based on familiarity and meaning. Themes with same meanings were clustered together. The researcher went on analysing all these themes to present the findings. Extracts and quotes from the interview transcripts were used to support statements. This was followed by use of relevant literature findings of other researchers. Accordingly, the researcher discussed the findings in the context of what other studies had revealed about improving the quality of maternal health care in maternal health facilities. The themes and subthemes are discussed in Chapter 4.

3.5. TRUSTWORTHINESS

3.5.1. Credibility

Credibility refers to the level of confidence in the findings of the study (Anney 2014:272). In credibility that is ensured, people who read a research report can believe and accept the research findings as a true reflection. Prolonged engagement was used to establish credibility in this study.

Prolonged engagement means spending sufficient time with participants to deeply understand them and gain their trust (Polit & Beck 2014:589). The researcher engaged with midwives, doctors, and women separately to build trust, which in turn was useful, as accurate and rich information was obtained.

Credibility was also ensured by gathering information from those participants who met the inclusion criteria. Participants who meet the selection criteria are believed to have first-hand knowledge of the phenomenon under discussion. Participants were interviewed individually through in-depth open-ended questions and their responses were audio recorded and later transcribed verbatim. The verbatim reports are kept under lock and key and could be used as resource documents, but confidentiality will be taken into consideration. Finally, the researcher personally conducted all interviews to ensure consistent follow-up on questions.

3.5.2. Dependability

Dependability is the stability of data over time and conditions, and it asks whether the findings could be replicated, should the study be repeated with the same participants under similar conditions (Polit & Beck 2014:584). According to Moule and Goodman (2014:189), dependability refers to the reliability of data over time and the conditions under which it was obtained. Dependability is met when the study has satisfied the requirements for audit trail, dense description of research methods, and audit strategies. In this study, the researcher facilitated in-depth interview sessions until saturation was achieved (data saturation of health care providers was reached with 20 participants, 16 females and 4 males, and data saturation of mothers was achieved with 15 participants). Tape recordings of each session was transcribed by the researcher.

An audit trail refers to a practice where the researcher keeps a collection of materials and documents to allow any authorised auditor to make conclusions about the data (Polit & Beck 2014:591). It allows readers to examine the adequacy of the research process; hence researchers should clearly document in detail the data collection and analysis methods they used. The aim was to show the evidence and thought processes that led to the conclusions arrived at.

Taylor and Francis (2013:198) refer to an audit trail as auditability which can enable other researchers to determine the extent to which a study has been consistent in its use of research methods and procedures. In this study, the researcher kept voice recordings,

transcripts of interviews, field notes as well as codes discovered during data analysis for any examination that may be required.

Dense description is a process where a researcher provides rich and thick description of the setting, participants, and methods of conducting the study (Polit & Beck 2014:594). For dense description of the research method, the researcher provided a comprehensive description of the setting, participants, data collection, and data analysis and interpretation procedures that were followed, to enhance the possibility of other researchers repeating the study. The researcher further provided thorough descriptions of the findings supported by direct quotations from the interviews with participants and backed up with relevant literature.

For audit strategies, the researcher followed the Promotion of Access to Information Act (PAIA) 2 of 2000. This Act allows access to any information held by the State, and any information held by private bodies in a certain period. In this study, the researcher will keep the data collected such as audiotapes of the interviews, field notes and transcribed interviews for five years as an audit trail.

3.5.3. Confirmability

Confirmability refers to objectivity and accuracy of the findings after being confirmed by other researchers (Moule & Goodman 2014:190). According to Polit and Beck (2014:420), the researcher should report about the information provided by the participants and interpretations of that data excluding the researcher's imagination.

In this study, the researcher utilised a purposively selected sample of potential participants as per the inclusion criteria and conducted in-depth interviews with them. The topic was covered comprehensively. This helped the researcher to ensure the gathered data that was obtained supports the provision of thick descriptions. The researcher bracketed his personal experiences related to the topic by ensuring not to express his own thoughts and prejudices about the topic as he had previously worked in maternity care.

3.5.4. Transferability

Transferability means that the findings have applicability in other contexts (Tracy 2013:239). Polit and Beck (2014:524) suggest that researchers should provide detailed descriptions of their studies so that readers can evaluate their applicability to other settings. Thick description refers to a rich and thorough description of the research setting

and of observed transactions and processes (Polit & Beck 2014:526). To achieve transferability, the researcher ensured the application of the following criteria:

- selecting information-rich health care providers;
- conducting data collection until data saturation has occurred;
- providing in-depth accounts of the development of a model for improving the quality of care in maternal health facilities; and
- providing dense descriptions of the research data, so that in similar contexts and conditions the results could be transferable.

Further, the researcher also provided thick descriptions to enable any interested person to reach a conclusion on whether transfer to other settings is possible.

3.5.5. Authenticity

Authenticity refers to the extent to which qualitative researchers truthfully and honestly demonstrate that their data collection, analysis, and interpretation are believable, with no fabrication of findings (Polit & Beck 2014:720). In this study, the researcher was granted permission to collect data (see Annexure B). In addition, the researcher ensured respect for the participants which was demonstrated through verbatim references to their original information so that the meaning is truly expressed in its original form, unaltered, as described by them without any coercion to suit the researcher.

3.6. ETHICAL CONSIDERATIONS

According to Polit and Beck (2014:152), the Belmont Report (BR) articulates three broad principles on which standards of ethical conduct in research are based. These are the principles of beneficence, respect for human dignity, and justice.

3.6.1. The principle of beneficence

The principle of beneficence enforces a duty on researchers to minimise harm and to maximise benefits to participants (Polit & Beck 2014:150). In this study, the researcher stated in the consent letter to participants that there would be no risks involved in the study. Therefore, the safety of participants was ensured during the process of data collection. The researcher had a professional counsellor available to help through debriefing sessions where there could be signs of psychological trauma or distress experienced by the participants.

3.6.2. The principle of respect for persons

Respect for persons refers to the recognition of personal dignity and autonomy, which includes the right to full disclosure (Bless et al 2016:22). These researchers (Bless et al 2016:24) further state that in respect for persons, each participant as a self-governing person with the capacity to understand information provided by the researcher about the research can decide whether to participate or not.

In this study, the researcher had reached a prior agreement with participants to participate in the study. This included the fact that informed consent was officially obtained from the participants to voluntarily participate in this study and to withdraw at any stage if the individual wished to do so.

Further, to obtain informed consent, participants were fully informed about the process of the research, the research problem, the purpose and objectives of the study, and the benefits thereof. The researcher allowed participants to ask questions for clarification if they did not understand or required more information. This confirms that all participants were informed and knew that they could refuse to give information and that they had the right to ask questions relating to the study. Hence, no participant experience discomfort in the interviews after giving her/his consent.

3.6.3. The principle of justice

The principle of justice implies fairness and equity relating to the participants' right to fair treatment and their right to privacy (Polit & Beck 2014:111). The right to fair treatment entails selecting the participants based on the stipulated inclusion criteria and not on participant vulnerability. The researcher maintained the fact that mothers, midwives, and doctors were not targeted to participate in the study for the convenience of the researcher, but to contribute to a public health benefit. The researcher targeted a rural district hospital in Libode in the Eastern Cape province to ensure that all participants meeting the criteria were given a chance to participate and to benefit from participating.

To maintain privacy in the study, the in-depth open-ended individual interviews were conducted in a consulting room that enhanced confidentiality with comfort to share their experiences about the phenomenon under investigation. Privacy was ensured by pseudonyms instead of real names.

Further, the interview guides and voice recording will be kept under lock and key for five years. Only the researcher has access to these interview guides and audio recordings.

The researcher was flexible to allow short breaks during interviews for individuals who became overwhelmed by emotion when sharing their experiences during their care. Professional counselling was arranged in case a need arose. However, no participant experienced any adverse situation that required psychological intervention.

3.7. DISSEMINATION OF THE RESULTS

A completed examined report will be made available to the management of the study context and to the study respondents where needed. The results will be published with honesty through a written peer-reviewed article and submitted to an accredited journal.

3.8. CONCLUSION

This chapter described the research design and the method that were used to conduct the study. A qualitative explorative, descriptive, and contextual study design was used. Research procedures were described in detail. The research method applicable to qualitative methodology such as the population, sampling, sampling techniques, data collection, data analysis and ethical considerations were also described. In addition, scientific integrity and the dissemination of results were briefly described. The following chapter presents, describes, and discusses the findings of the study.

CHAPTER 4
ANALYSIS, PRESENTATION AND DISCUSSION OF RESEARCH FINDINGS

4.1. INTRODUCTION

4.1.1. Outline of the presentation

Chapter 4 presents the results and discusses the findings of the study. The results are presented in two main sections. The first section presents sample demographics about the study participants and the second section is a presentation and the discussion of the research findings from qualitative research methods.

The research findings are presented in such a way that they are linked to the achievement of the study objectives. The discussion of the findings follows the main themes that emerged from the research questions, and the coding and reduction of the data gathered through a qualitative research tool. The discussion is supported by quotations from the transcribed interviews.

The chapter commences with presenting the aim and objectives of the study and the procedures followed to analyse the data is presented as an introduction to the chapter.

4.1.2. Aim of the study

The aim of the study was to develop a model for improving the quality of care in maternal health facilities in the Eastern Cape, SA. The improvement of the QOC in maternal health should lead to improved health outcomes in women and their newborns.

4.1.3. Research objectives

The objectives of this study were to:

- Explore and describe the views of women in postpartum care units on quality-related factors that affect maternal and newborn care in a public hospital in Libode, Eastern Cape.
- Describe the perceptions of midwives and doctors (also referred to as health care providers in this study) on the quality of care provided for women and newborns in a public hospital in Libode, Eastern Cape.

- Describe the current interventions to improve the quality of maternal and newborn care in the public hospital in Libode, Eastern Cape.
- Develop a model to improve the quality of maternal and newborn care in the public hospital in Libode, Eastern Cape.

Data was collected between 3 September 2020 and 25 October 2020. An interview guide was used to conduct face-to-face interviews. The data collection tool was developed in English and the interviews were conducted in English and isiXhosa. A recording device (an audio recorder) was used to capture information during all the interviews.

4.2. DATA MANAGEMENT AND ANALYSIS

4.2.1. Data management

The data was managed for the qualitative phase where it (data) was collected from participants who met the inclusion criteria of the study. The collected data was checked for completeness, accuracy, and clarity by the researcher. The data is kept in a password locked file on the researcher's computer to prevent unauthorised access, thus ensuring its confidentiality.

The data for this study will be kept for a period of five years in line with the University's research data management policy. Thereafter, the data can be discarded with the approval of the appropriate University official if no query was laid against the study that demanded prolonged keeping of the data.

4.2.2. Data analysis

The data was analysed using the appropriate analysis methods, hence Colaizzi's steps of qualitative data analysis were adopted and adapted to analyse the data. This entailed the reading and re-reading of the transcriptions to familiarise the researcher with the data; identifying significant statements and phrases; formulating meanings from these statements; identifying themes and sub-themes and describing in detail the phenomenon under study. Validation of the participants' responses was not done at the end of the analysis but rather at the end of each interview session by de-briefing and asking the participants to confirm the captured information.

4.3. CONTEXTUAL BACKGROUND OF THE STUDY

Of the nine provinces of SA, Eastern Cape province is the hardest hit to provide high QOC because of its socio-economic factors. The province is also one of the poorest, as

well as the third most populated province in SA (Mahalalela, Blamey, Hart & Reason 2020). Poverty in the Eastern Cape province is rife in the former homeland of Transkei, which is mainly rural, with informal settlements surrounding most towns (Atkinson 2014:8).

The province has the worst development indicators. The unemployment rate is at 37.4% (Eastern Cape Socio Economic Consultative Council [ECSECC] 2019:20). The indirect estimates of under-five mortalities in 2016 was as high as 106 per 1,000 lb, with infant mortality of 77.9 per 1,000 lb (WHO 2019). The MMR is still too high in the Eastern Cape province (Bomela 2020:19). This suggests that there are still several unresolved challenges, including the role of sociodemographic factors and health care. Persistent differences between provinces suggest that more attention should be paid to improving the quality of PHC, district, regional and provincial hospitals (Bomela 2020:19). Improved QOC guarantees adequate and immediate attention not only to maternal health problems, but also to the health care of the entire population in these establishments.

Eastern Cape has ninety-one public hospitals and seventeen private hospitals. The infrastructure and human resource distribution in the public hospitals remains a public concern. All categories of staff are below the required recommended qualifications and skills. For example, the shortfalls in the various categories range from 17% to 97% (Gray & Vawda 2018:6). In the researcher's view, the gaps just outlined might be leading to poor leadership and management of health facilities which in turn result in poor QOC in the public hospital of Libode in the Eastern Cape, especially in the maternal health care facilities.

Libode, the research site for this study, is a small town with 5,000 inhabitants in the Eastern Cape province of SA (Kanyane 2014: 28). It is located on the R61 road from Port St Johns to Mthatha and serves as the administrative seat of Nyandeni local municipality (Kanyane 2014:29). The surrounding areas of Libode are mostly rural, and it has a community college and a hospital called St Barnabas Hospital. This is the only hospital available for these communities. Most women access MHS from St Barnabas Hospital irrespective of their socio-economic status.

Figure 4.1 below depicts the map of Oliver Tambo local municipalities including Libode, the municipality in which the research site of this study is located.

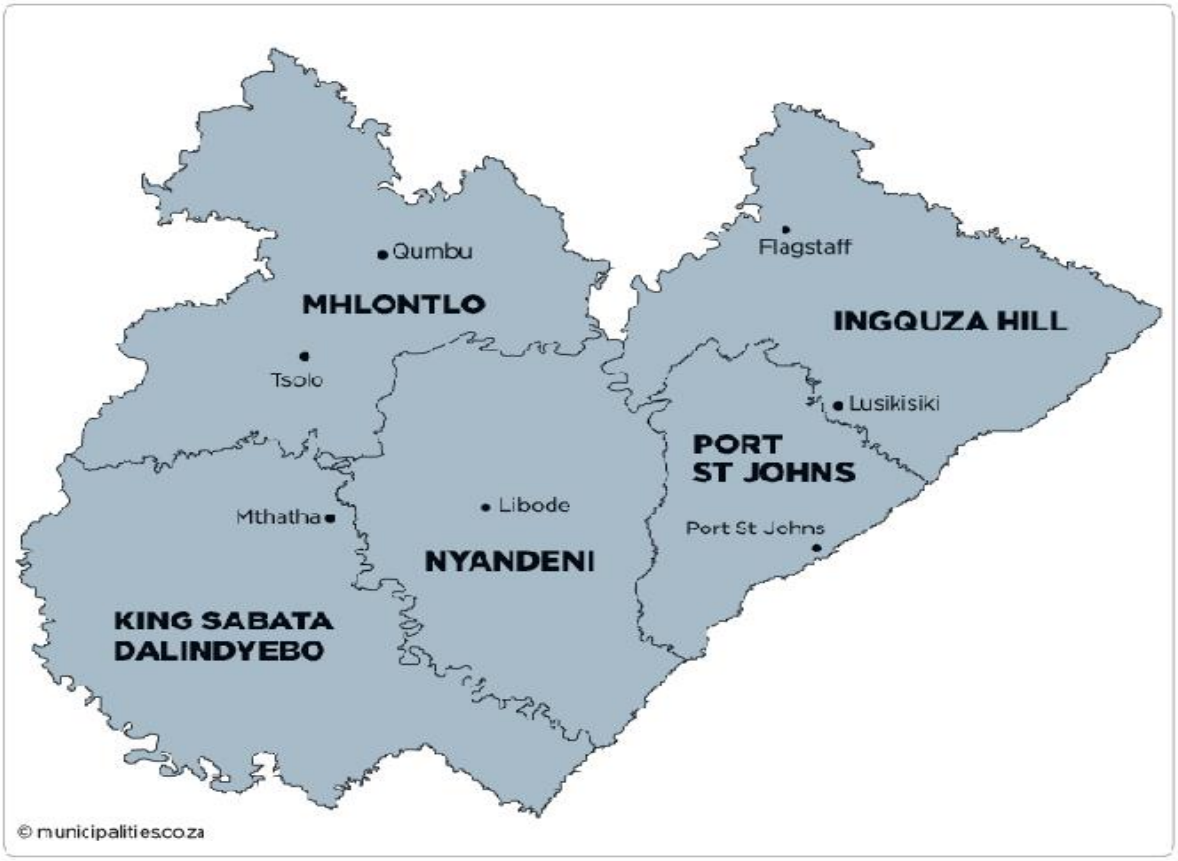


Figure 4.1: Map of OR Tambo local municipalities in the Eastern Cape province

Adapted from the South Africa District Municipality Province Maps 2020

4.4. RESEARCH RESULTS

4.4.1. Sample demographic characteristics

Data saturation was achieved with a sample size of fifteen women in postpartum care units and five doctors as well as fifteen midwives. To protect participants' identity, both the women in postpartum care units as well as the doctors and the midwives (health care providers) were given pseudonyms which are presented in Table 4.1 and Table 4.2 respectively.

This section presents the participants' socio-demographic details. The socio-demographic characteristics of women in the postpartum units are presented in Table 4.1. The socio-demographic characteristics of the midwives and doctors, the health care providers, are presented in Table 4.2.

Table 4.1: Demographic characteristics of women in postpartum units (n=15)

Age	Pseudonym	Educational level	Parity status	No. of times given birth at facility	Marital status	Employment status
15	W1	HS	Prim.	1	Single	No
18	W2	HS	Prim.	1	Single	No
24	W3	HS	Mult.	2	Married	No
24	W4	HS	Mult.	2	Single	No
25	W5	TERT	Prim.	1	Single	No
26	W6	TERT	Mult.	2	Single	No
27	W7	TERT	Mult.	3	Divorced	Yes
29	W8	TERT	Mult.	3	Divorced	No
31	W9	JNR	Mult.	3	Single	No
32	W10	TERT	Mult.	4	Single	No
35	W11	TERT	Mult.	4	Single	No
36	W12	JNR	Mult.	5	Single	No
36	W13	HS	Prim.	1	Single	No
38	W14	TERT	Mult.	5	Single	No
42	W15	TERT	Multi.	5	Married	Yes

Where HS refers to High School and TERT refers to Tertiary school; Prim refers to Primigravida and Multi refers Multigravida.

Data saturation was achieved with a sample size of 15 women in postpartum care units. All women participating in the study were given pseudonyms ranging from W1 to W15. The pseudonyms were given to protect the identity of the women.

Table 4.1 reflects the age, the education level, the parity, the number of times the woman has given birth in a facility, the marital status as well as the employment status of the women in the postpartum units. Table 4.1 further reveals that the age of the women in the postpartum units ranged from 15–42 years. Regarding education level, Table 4.1 shows that of the 15 women who participated in the study had some education. Eight women held tertiary education qualifications, five had completed high school and only two had junior school level of education.

According to Table 4.1, eleven women in the post-partum units were multiparous and four were primigravida.

Table 4.1 further shows that six had given birth more than once, five had given birth more than twice and four had given birth once in the health facility.

Table 4.1 illustrates that 11 were single, two were married, and two were divorcees. Lastly, Table 4.1 also shows that out of 15 women who participated in the study, 13 were unemployed and only two women were employed.

Table 4.2: Demographic characteristics of midwives and doctors (n=20)

Age	Sex/Gender	Pseudonym	Relevant educational level	Title/Rank	Work experience in years
25	F	M1	Basic midwifery	RM	1
26	M	M2	Basic midwifery	RM	1
26	F	M3	Basic midwifery	RM	2
28	F	M4	Basic midwifery	RM	2
28	F	M5	Basic midwifery	RM	2
29	M	M6	Basic midwifery	RM	3
30	F	M7	Basic midwifery	RM	3
31	F	M8	Basic midwifery	RM	11
32	F	M9	Basic midwifery	RM	11
34	F	M10	Basic midwifery	RM	12
43	F	M11	Advanced midwifery	RM	14
43	M	M12	Basic midwifery	RM	16
45	F	M13	Advanced midwifery	RM	17
47	F	M14	Basic midwifery	RM	17
53	F	M15	Basic midwifery	RM	20
33	M	D1	MBChB	Dr	1
35	F	D2	MBChB	Dr	2
39	F	D3	MBChB	Dr	2
40	F	D4	MBChB	Dr	4
44	F	D5	MBChB	Dr	5

The pseudonyms were given to protect the identity of the midwives and doctors and ranged from M1 to M15 and D1 to D15 respectively. Table 4.2 reveals the age, gender, qualifications, and years of experience of the midwives and doctors or health care

providers. The age of the 20 health care providers who participated in the study ranged from 25 to 53 years. Table 4.2 further shows that 16 of the health care providers were females, and four were males. Five (5) doctors who took part in the study held medical degrees as relevant qualifications in maternal health care. Of the 15 midwives who participated in the study, only two held advanced midwifery qualifications whilst 13 held basic midwifery qualifications. Lastly, Table 4.1 shows that the experience of the midwives and doctors ranged from 1 to 20 years.

4.4.2. Themes and sub-themes

Upon analysing the transcriptions of the interviews with the participants, the following themes were identified regarding the quality of maternal and newborn care in the public hospital in Libode, Eastern Cape.

Six (6) main themes and subthemes emerged from the in-depth interviews. These are presented below by each category, namely women in the postpartum units (first three themes, that is, themes 1-3) and health care providers (last three themes, that is themes 4-6).

Themes emerging from the interviews of women in the postpartum units:

- Theme 1: Factors affecting the quality of maternal and newborn care
- Theme 2: Reasons for preferring the health facility
- Theme 3: Service standards

Themes emerging from the interviews with midwives and doctors (health care providers):

- Theme 4: Quality of maternal and newborn care
- Theme 5: Improving the quality of maternal and newborn care
- Theme 6: Challenges facing the health care system to ensure the quality of maternal and newborn care in the health care facility

The above-mentioned themes emerging from the interviews with women in the postpartum units are presented in Table 4.3 and themes emerging from interviews with midwives and doctors are presented in Table 4.4.

Table 4.3: Themes and subthemes emerging from the interviews with women in the postpartum units

Themes	Sub-themes
Views of women in the postpartum units in relation to:	
Factors affecting the quality of maternal and newborn care	Absence of explanation on service provision
	Non-compliance of health care providers on full identification
	No sanitiser at all sites
	Lack of respect
	Negative attitudes and slow service provision
Reasons for preferring the health facility	Consistence
	Experienced doctors & nurses
	Good customer satisfaction
Service standards	State of the service received and experience in the facility
	Women's recommendations for improving quality of care

Table 4.3 illustrates that three (3) themes which emerged from the interviews regarding what women perceived as factors that affect maternal and newborn care. The three major themes are:

Women's views on the postpartum units:

- Theme 1: Factors that affect the quality of maternal and newborn care
- Theme 2: Reasons for preferring the health facility
- Theme 3: Service standards

Each theme and its sub-themes are discussed below.

4.4.2.1. Factors that affect the quality of maternal and newborn care

There is a growing need for a consultation process with service users to achieve QOC. This process helps to assess their experience of care in the health care system. The assessment of service users' experience with the QOC not only provides information about the actual experience, but also shows which aspects of quality are most important to patients. Patient experiences were identified as an indicator to assess and improve the QOC.

In this study, the participants expressed different views that facilitated identification of themes on factors that affect the quality of maternal and newborn-care in Libode, Eastern Cape. Five (5) sub-themes emerged from the theme on factors affecting the quality of maternal and newborn care. These were the absence of explanation on service provision; poor adherence of health care providers to full identification; lack of respect by health care providers; lack of sanitisers, which undermines the principles of infection prevention and control practices; negative attitudes and slow service provision from health care providers. The sub-themes are discussed below.

4.4.2.1.1. Absence of explanation on service provision

The participants of this study mentioned the absence of explanation on service provision as a factor that had a negative impact on the provision of QOC to achieve customer satisfaction and adherence to Batho-Pele principles. The latter promotes the provision of information and transparency among women. A 26-year-old multigravida woman who had given birth twice in this hospital said:

> *In the two consecutive periods of time I gave birth in this hospital I have been experiencing similar situation where a nurse just does procedure without any prior explanation in order to make an informed decision. [W6].*

Another 27-year-old multigravida woman stated that:

> *I never heard or saw any health care provider who does any health education or awareness of services that are provided in this hospital. [W7].*

A 24-year-old pregnant woman stated:

> *The nurse who gave me treatment whilst I was in the hospital explained the treatment though she was in hurry. I could not ask more questions but at least I got the explanation about the side effects of the treatment that I can expect whilst I am taking this treatment. [W4].*

This finding corroborates the findings of a study conducted in Iran on review of previous studies on patient participation in health care decision making. The Iranian study found that health care providers were obliged to explain all procedures prior to implementation to allow patients' participation in the decision making process (Vahdat et al 2014:12456).

A similar study conducted in Cape Town shared similar insights that patients have a legal right to be told any information that relates to their medical condition and their treatment

(Department of Health 2008:29). Furthermore, treating patients without their valid consent is a violation of their constitutional rights and transgresses a fundamental principle of medical law (Currie & De Waal 2014:24).

4.4.2.1.2. Non-compliance of health care providers on full identification

Women who participated in this study reported that health care providers did not have name tags and that posed a serious concern in respect of compliance with the patient rights charter. The patient charter stipulates that a patient has the right to be treated by health care providers with visible name tags for identification purposes. An 18-year-old woman who is a primigravida stated:

> *I did not see any nurse with name tag when I was here in my previous pregnancy. [W2].*

In a study conducted in SA on health care standards compliance where women participated, it was explained that health care providers should be identifiable with name tags for easier identification prior to attending to a patient to protect the rights of patients (Slim & Bazin 2019:182). Therefore, failure to wear a name tag violates the rights of the patients, as suggested in the Patients' Rights' Charter (Department of Health 2008).

4.4.2.1.3. No sanitiser at all sites

The participants of this study raised the concern that the maternal health facility did not have sanitisers in all designated areas. This lack of sanitisers had the potential of spreading infection such as the Covid-19 disease in post-partum units. Participants believed that the non-availability of sanitisers exposed health care providers' inability to maintain infection prevention and control practices. To confirm this, a number of staff members tested positive for the Coronavirus. It was believed to have emanated from infrequent washing of hands and the absence or ignorance of using sanitiser to rub hands to kill germs. A 35-year woman who narrated her observation about the spread of infection said:

> *In this hospital, particularly in maternity, not all areas site has sanitisers and water sink, as a result, there were approximately nine clinical staff who tested positive on Coronavirus. [W11].*

Another 27-year-old woman added:

> *I linked this with poor hand hygiene [that] takes place here. Sanitiser and other PPEs were organised by management after many staff were infected with Covid 19 pandemic disease. [W7].*

In a study conducted in centres of Southern Ethiopia on proper hand hygiene and sanitisation, it was explained that the primary way to prevent infections is to ensure that the health facilities had adequate water sinks for employees and patients to wash their hands and sanitise (Tamene & Afework 2021:6). In a similar context, the WHO (2019:3) emphasised that hand sanitiser is one of the best tools available to prevent the spreading of germs that could infect workers with the flu and other viruses.

In another study conducted in Switzerland on infection prevention and control practices, hand sanitisation was explained as an effective way of preventing the spread of pathogens and infections in health care settings (Kratzel et al 2020:10). Therefore, placing hand sanitiser in strategic locations throughout the health facilities helps employees and patients to have access to its usage to improve their hand hygiene (Kratzel et al 2020:11). Improper handwashing and sanitisation has the potential of spreading germs from one person to another throughout the health facility (WHO 2020:10).

4.4.2.1.4. Lack of respect

Respect is one of the Batho Pele principles. Therefore, treating women with courtesy and respect is part of the characteristics of QOC in maternal health facilities. Participants indicated that many health care providers did not display respect towards patients. Such disrespectful maternal health care is a sign of a fractured health system at functional level. A 42-year-old woman who once gave birth in this hospital narrated the disrespectful moment she experienced:

> *I was never being involved including explanation that I will undergo caesarean section procedure to deliver my baby and due to fear of losing my baby I had just let them to carry on. I really felt disrespected in this hospital. [W15].*

A study conducted in Nigeria explained that caesarean section has an important role in reducing the risk of maternal and foetal death due to parturition (Musie, Peu & Bhana-Pema 2019:11). The findings of this study further revealed that the emerging problem of modern midwifery today is the high rates of caesarean section performed without proper

explanation per individual pregnancy, which is disrespectful towards the patient (Musie et al 2019:14).

However, this is different from the study conducted in Geneva by the WHO (2018:2) on effective communication between maternity care providers and women in labour. The study stated that procedures should be explained to the woman and her consent sought and obtained prior to surgery. According to the WHO (2018:3), a woman should be encouraged to express her needs and preferences, regularly updating her and her family about what is happening and asking whether they have any questions.

Most of the participants in this study expressed their view that a failure to explain procedures to a patient was always a concern. For example, a 35-year-old woman explained:

> *Since I arrived, I never got any explanation on how things are going to be; what services to expect, until I gave birth with success. I was just discharge with no health education on how to take care [of] my baby and me at home yet it's my first baby. [W 11].*

A study conducted in Geneva by the WHO (2018:24) recommended that women should be informed of available mechanisms such as services that are rendered and include basic orientation about the relevant areas and information in the maternity unit.

A similar study conducted in maternity care facilities in Benue State, Nigeria, by Hameed and Avan (2018:10) emphasised that maternity health providers should ensure that they interact with the women to provide clear explanations on how the woman can be well supported during labour and childbirth, including an information session on how to take care of the baby at home after discharge.

4.4.2.1.5. Negative attitudes and slow service provision

Participants in this study raised the negative attitudes and the slow pace of providing health services that was displayed by health care providers as unacceptable, having the potential of increasing waiting time and disrespect-related complaints in health facilities. A 25-year-old woman expressed her experiences with delays:

> *I came in the hospital from home being referred by the clinic for high risk and spent about seven hours without being attended, without any explanation of the delays by any service provider. [W5].*

In SA, a waiting time (WT) of more than three hours in a district hospital is viewed as a long waiting time (LWT) (National Department of Health 2015:8). Many studies have reported LWTs within the public health facilities of SA (Baron & Kaura 2021:4). Therefore, health care providers are encouraged to keep patients well informed about the status of conditions leading to LWTs.

However, this is different from the study conducted in Kazakhstan, Central Asia, where the average WT was 35.7 minutes and ranged between zero and 300 minutes (Dauletyarova et al 2018:4). In Nigeria, the average time in the public hospitals was 3.8 hours and ranged from one to seven hours (Baron & Kaura 2021:12).

Many participants of this study added that these continuous negative attitudes had a huge impact but that women came for admission because of the proximity of the health facility and socioeconomic factors. A 32-year-old woman who was among multigravida of this hospital said:

> *As a neighbour and I always give birth in this hospital, women are complaining about attitudes of nurses, but they come because they have no choice. [W10].*

A study conducted in Geneva by Mannava et al (2015:39) revealed that high maternal mortality and morbidity persist in many health facilities due to inadequate access to timely and quality health care. According to Mannava et al (2015:39), attitudes and behaviours of maternal health care providers influence health care seeking and QOC. In addition, the WHO (2014b:31) indicated that attitudes and behaviours of both doctors and midwives might directly affect the well-being of patients and clients, and the relationship between patients and providers. Because of inadequate health facilities in certain areas of SA, patients' choices are limited in accessing health services (National Department of Health 2015:10).

Participants of this study believed that a huge shortage of health care providers could be a potential reason for the slow pace of service provision. Many standard procedures are being compromised. A 36-year-old woman who once became a patient in this hospital explained her frustration as follows:

> *I was in this hospital to give birth and I notice that vital signs are done once when you complain of labour pains, yet I am a nurse too but not working here. They should do vital signs every two hours and their shortage should not compromise the standard procedures. [W12].*

The guidelines by the WHO (2017b:32) state that vital signs in woman in labour should be taken every two hours to assess any alarming circumstances in the patient and the unborn baby and poor adherence to this standard could endanger both women's and babies' lives. According to Shobo et al (2020: 85), measuring vital signs is the first step in identifying women at risk to establish proper interventions in managing women in pregnancy and their unborn baby.

4.4.2.2. Women's views on reasons for preferring the health facility

High admission in the maternal and newborn care facility is associated with good quality care rendered in maternal health facilities. The increased clients' satisfaction and decreased complaints received show the high quality health care in maternal and newborn care. This includes the reduction of maternal and perinatal deaths within the health facility. The women who participated in this study, representing women in the postpartum units, stated that they preferred this health facility because of health care providers who were consistent in provision of health services, the presence of experienced doctors and nurses, and good customer satisfaction.

4.4.2.2.1. Consistence in care

Women who participated in this study stated that health care providers were consistent in ensuring that patients received the quality of maternal and newborn health care services expected. As a result, a 26-year-old woman appreciated the health services rendered, saying:

> *Maybe I am so lucky but even when I hear outside community, people appreciate services of this maternity. On my side, every time I visit this hospital to give birth, I receive similar experiences I got in previous visit of excellent services; it can be much more if they can have additional nurses. [W6].*

In a study conducted in 2014 in Nigeria with women as participants in a survey, it was explained that client satisfaction was an important indicator for assessment of the QOC provided and its excellence was seen through good patient experience of care (Changee, Irajpour, Simbar & Akbari 2015:398). However, detecting patients' dissatisfaction and trying to find the most effective and least costly services is the basic way for improving service quality (Che, Lu, Gupta & Xiaolin 2014:239).

4.4.2.2.2. Experienced doctors and nurses

Quality of maternal and newborn care is thus associated with competence, experience, commitment, and dedication. Therefore, having experienced doctors and nurses in maternal health reduces avoidable maternal-related incidents. A 29-year-old woman mentioned that:

> *I have been visiting this maternal health facility during my pregnancy, attending high risk clinic as a primigravida and have never experienced any irregular behaviour; doctors and nurses were consistent in carrying out their duties. [W8].*

Another 31-year-old woman also reported:

> *I attended antenatal clinic in this hospital for five times, meeting doctors and nurses who were always providing sufficient and appreciable services to me, they even assured me that they have been in the maternal health service for more than six years. However, I did not lose my baby because of their work experience and dedication. [W9].*

A study was conducted with female participants in Mozambique on mothers' satisfaction with care during facility-based childbirth. The study found that continuous interactions between women and health care providers across all labour stages was a vital measure to achieve patient satisfaction (Mocumbi et al 2019: 303). According to the WHO (2018:36), skilled and experienced doctors, midwives and other health care professionals are essential for delivering high-quality health care to individuals, families, and communities.

4.4.2.2.3. Good customer satisfaction

Women who participated in this study expressed different views about the MHS of the research site. Many participants had negative views whilst a few participants highly appreciated the MHS that were provided. These few women (i.e., participants) emphasised that during their time of delivery in the hospital there was huge customer satisfaction compared to complaints. High customer satisfaction is an indication of achieving the expected QOC. As a result, a 36-year-old woman who had previously received good customer care services here stated:

> *I was in this hospital for labour and the nurse who was helping me to deliver the baby was so kind and could explain every step she takes with me. Further,*

nurse made me to feel welcomed and I wrote in their suggestion box, acknowledging their services. [W12].

Health care providers who maintain good character, professional commitment, and display positive attitudes to patients are likely to receive high complements from patients (Changee et al 2015:404). Consistently, a study conducted in Nigeria explained that those women who experienced client satisfaction were likely to share their good experience with others (Changee et al 2015:340).

4.4.2.3. Service standards

Women who participated in this study indicated that to provide high QOC, there are service standards that have to be met. These standards are agreed-upon methods for connecting systems together. In this study, service standards helped to define what women in maternal and newborn care can expect from a service and how it should be delivered by the nurses and doctors. Many of these women (i.e., participants) highlighted that shortages of both material and human resources signified that the standard of service provided to women was continuously poor. Because of their previous visits as patients who had given birth in this hospital, they were able to describe their experience and the state of the services they had received.

4.4.2.3.1. State of the service received and experience in the facility

The status of the services rendered in this hospital were reported as poor and a contributing factor to maternal incidents. Women who participated in this study stated that many women who gave birth in this facility had lost their babies during labour in this hospital. One of the multigravidas, a 35-year-old woman, expressed her experience as follows:

In my first pregnancy I came here to give birth I had a macerated still birth (MSB) which I believed that if I was attended in the three days I spent in this hospital without any type of assessment they should have detected earlier the problem as I started seeing that my baby was not kicking in the day I shouted at them in order to get their attention. [W11].

A study conducted in SA in selected maternal health facilities where women were participants, it was found that despite declining trends maternal mortality remained an important public health issue in SA (Wabiri et al 2016: 8). The findings of this study revealed that the delays to reach appropriate care in maternity faced by woman with

pregnancy-related complications played an important role in the occurrence of macerated still births (MSB) (Wabiri et al 2016:10). A similar study conducted in a Malawian public health facility in which women were participating, it was found that women who experienced a delay in receiving care in maternity were more likely to develop obstetric complications such as MSB (Machira & Palamuleni 2017:5).

The researcher further highlighted that the patients' experiences could be described as either positive or negative, depending on the individual's perceptions of the services she had received. In this study, most participants reported negative experiences about the services that were rendered, citing limited or the absence of basic equipment such as cardiotocography (CTG) machines to monitor labour progress and a shortage of clinical staff to run the maternal and newborn heath care effectively to achieve QOC. Based on the shortage of staff, a 25-year-old woman narrated that:

> *I have been admitted in this hospital and find out that one nurse is attending many women in one time as a result she could not even do vital signs to all of us. [W5].*

She added:

> *The hospital had no CTG machine at that time I was here as a result the labour was not accurately monitored. The nurse and a doctor could not send me in theatre in time because they thought I could deliver via normal vertex yet it was not. This was based on poor labour monitoring because of the fact that there was no CTG machine. [W5].*

In a study conducted in Malawi health facilities where women were participants, it was found that a shortage of midwives contributed negatively to the expected quality of nursing care (Maluwa et al 2019:1362). The findings of this study also revealed that the increase in patient–nursing ratio in maternity facilities was associated with a shortage of midwives, where one midwife was expected to assess all women, which could compromise and lead to poor labour progress monitoring (Maluwa et al 2019:1363).

A similar study conducted in Germany by the German Society of Gynecology and Obstetrics (DSGO) (2014:722) found that a shortage of basic obstetric equipment such as CTGs compromised the detection of signs of foetal distress, including changes in foetal heart rate and movement. The DSGO (2014:723) also hypothesised that having adequate CTGs in health care facilities could help to detect these signs more accurately and allow for timely intervention.

The researcher believes that assessing women's perceptions about the provision of maternity services is a vital indicator to monitor QOC. Women who were among participants of this study emphasised that to improve their experiences in the public hospital, doctors and nurses should always involve them in all expected changes to improve their level of knowledge during their journey from entering the labour stages until the postpartum period. A 38-year-old woman who was a nurse by profession and was once a patient explained:

> *If they can give us an opportunity to suggest for better services, I would say they must describe their list [of] needs of equipment and procure it and have a check list where they will be able to evaluate how many are not yet purchased. However, when those needs are brought there could be no excuse. The CTG machine is among the priority needs list of the unit. [W14].*

A study conducted in SA where health care providers were participants, medical equipment was described as an essential health intervention tool used by midwives for the prevention, diagnosis and treatment of women and everyone had become painfully aware that acute shortages of equipment in maternity wards such as CTGs affected the heroic efforts of midwives around the world to monitor labour progress (Moyimane, Matlala & Kekana 2017: 23). The findings of this study recommended that equipment needs should be established, and procurement systems actioned (Moyimane et al 2017:25).

Women participants of this study also reported negative experiences such as being scared and feeling uncomfortable about the behaviour and attitudes of nurses who provided MHS. Based on the prevailing circumstances, these women participants pointed out that hospital health services were poor. A 24-year-old woman explained her feelings whilst she was attended to in this hospital:

> *Midwives and doctors are always shouting and do not want a patient who would ask questions and such situation makes us be scared as we believed that if we don't bother too much, our labour stages cannot be messed up and ehh… this compromise[s] [what] we are doing [and] is a true reflection of poor quality of care rendered in the public hospitals. [W4].*

A survey study that focused on stigma in health facilities conducted in the US reported that health care providers who avoided questions from the patients were likely to increase the number of complaints against the health facilities (Nyblade et al 2019:2). The findings

of this study revealed that this avoidance was associated with knowledge gaps and negative attitudes in health care providers and had a negative impact on women's beliefs about the nature of the services rendered in health facilities (Nyblade et al 2019:3).

Women participants of this study reported that the exchange of information in the maternal and newborn care was insufficient. This was based on numerous events where women being admitted were not orientated about the hospital wards. This lack of orientation could cause a woman to get lost as no orientation was provided during admission. A 36-year-old woman told her story as follows:

> *On a day I was admitted for labour, a nurse just instructed me that a bed is here and call a nurse when you want anything then I wanted to ask as I didn't know where is the toilet but she said she is done with me and move on to the next woman who was also admitted in the same period. [W13].*

A 38-year-old woman said:

> *I walk around several times looking for the toilet as there was no explanation where to get it or what to do when I need a toilet… I was found by another nurse who asked me what I am looking for and was shouting at me claiming that I should call a nurse for help. [W14].*

According to the National Department of Health (2015:23), the guidelines for maternity care in SA stipulate that during admission a woman should be given adequate information and afforded an opportunity to ask questions. Similar views were found by Kendall and Langer (2015:4) in a study conducted in Nigeria. It was recommended that full directive information should be supplied. Kendall and Langer (2015:5) revealed that a woman who had not been given the opportunity to ask questions could end up being disorientated about certain functional areas and health care providers were encouraged to strength their positive attitudes toward patients.

Women participants of this study also reported that the little information that was shared with them was not even understandable because health providers were using their preferred language. This created many accusations that these health care providers were not professional and should be reported. Participants could not understand everything that was said because of the language used by the health care providers. One of the women, a 32-year-old multigravida, explained:

A doctor was talking to me and gave instructions on how to take medication I was prescribed but because of the language she used I was not understanding and when I asked the nurse, she said why I didn't ask the doctor and I will see what I must do and [declared] that it is my problem I am old enough to read and see how often I should take medicines. [W10].

Though the midwife is not an interpreter, it was recommended in one study conducted in Brisbane, Australia, where health care providers were participants, that doctors who were unable to utilise the local language should be assisted by nurses to interpret instructions to the patient (Meuter, Gallois, Segalowitz, Ryder & Hocking 2015:34). In a study conducted by Salavati, Lindholm and Drevenhorn (2019:61), it was emphasised that despite using an interpreter to minimise language barriers, nurses did not achieve the same level of person-centred care as those who spoke the same language as their patients, but translation services remained a useful communication tool for patient care. Formal education was recommended to improve nurses' utilisation of these services (Salavati, Lindholm & Drevenhorn 2019:63).

4.4.2.3.2. Women's recommendations for improving the quality of care

Most women participants suggested availability of brochures that contain information about maternal and newborn care services. Having this information in the local language could make it easier for women to read with understanding. At the same time, participants believed that positive attitudes among the nurses should be encouraged to improve the QOC. Displaying warmth and positive attitudes would assist postpartum women to acquire awareness of their health and any potential problems, such as vaccination of babies against detected diseases. In addition, participants suggested that both the women's delivery service plan and their postpartum treatment plan should be checked by experts to avoid any side effects and drug-drug interaction. Another recommendation was that doctors and nurses should use a universal language, which is English, rather than the local language. Using English would accommodate many clients as their medium of communication. Finally, participants suggested that doctors be advised to explain women's diagnosis so that it is understandable. Table 4.4 below presents a summary of the themes and sub-themes.

Table 4.4: Themes and subthemes emerging from the interviews with midwives and doctors

Perceptions of Doctors and Midwives (Health care providers) on:	
Quality maternal and newborn care	Effects of poor service provision in antenatal and delivery unit.
	Good service provision associated with high client satisfaction in neonatal and postnatal units
Improving quality of maternal and newborn care	Ongoing in-service training
	Perinatal/child problem identification programme (PPIP & CHIPP) meetings
	Establishment of community engagement groups
	ESMOE establishment
	Establishment of monitoring response unit
	Provision of priority equipment
	Establishment of outreach services
Challenges facing the health care system to ensure quality of maternal and newborn care in the health care facility	Staff shortages
	Inadequate equipment
	High influx of patient admission Health care-associated infections
	Poor health care providers' relations among patients

Table 4.4 illustrates three (3) themes which emerged from the interviews regarding what midwives and doctors perceived as factors that affect maternal and newborn care. The three major themes are:

Perceptions of doctors and midwives (health care providers):

- Theme 4: Quality maternal and newborn care
- Theme 5: Improving the quality of maternal and newborn care
- Theme 6: Challenges facing the health care system to ensure quality of maternal and newborn care in the health care facility

4.4.2.4. Quality maternal and newborn care

All health care providers who participated in the study met the inclusion criteria and therefore they expressed their perceptions in relation with the current practice. The

current practice according to their work experiences varied and signified an inability to achieve quality care. The effects of poor service provision in antenatal and delivery units were identified as an indication of a high possibility of complaints and good service provision was associated with high client satisfaction in neonatal and postnatal units.

4.4.2.4.1. Effects of poor service provision in antenatal and delivery care units

The study findings showed that a shortage of skilled clinical staff was a contributory factor for poor services rendered, thus poor QOC was always observed. Continued compromising of QOC is a public concern as it leads to many deaths reported in clinics and delivery care units. A 34-year-old midwife who had a negative experience about shortage of staff explained:

> *My bad experiences were in 2010 during my community service period where I was allocated in this maternity with one qualified midwife and there were many patients who were about to deliver and their conditions required close monitoring and assessment for successful birth delivery. Due to shortage of nurses, I was working independently as a community service nurse whilst not even yet competent as a result one patient lost [her] baby due to my lack of skills and staff shortages in the unit. [M10].*

A study conducted in North West province on community service nurses' experiences regarding their clinical competence emphasised that, in SA, it is mandatory, according to Government Gazette Notice No. R425 of 22 February 1985, for nurses who have qualified as nurses (general, psychiatric and community) and in midwifery, leading to registration, to perform 12 months' compulsory community service after completion of training at a College of Nursing under the supervision of a qualified registered nurse (Matlhaba, Pienaar & Sehularo 2019:1). This community service affords new graduate nurses the opportunity to improve their clinical skills and knowledge while nurturing professional behavioural patterns and critical thinking consistent with the profession.

A study conducted in Tshwane district on perceptions of midwives on the shortage and retention of staff at a public hospital revealed that midwives contribute positively to ensuring that quality maternity services are rendered to patients (Matlala & Lumadi 2019:5). Therefore, a shortage could have potential multiple patient safety incidents in maternal health care units.

Another study in the United Republic of Tanzania where women were participants revealed that there is a huge shortage of clinical staff such as midwives and doctors as

well as a lack of required skills in the available midwives (Donaldson, Panesar & Darzi 2014:3). The findings of this study also revealed that the remaining shortages had impacted maternal health negatively, where prolonged waiting times and maternal deaths were reported (Donaldson et al 2014:8).

Midwives and doctors who participated in this study stated that a lack of resources such as scans and CTGs were also linked with existing deaths because these machines help detect survival of the unborn baby. Participants further emphasised that most PHC midwives and the absence of medical doctors in clinics were a contributing factor of many pregnant women without proper screening being sent or self-referred to the hospital either for delivery or the high risk clinic. However, the research findings revealed that a poor PHC approach was linked to high patient safety incidents such as deaths in public hospitals. A 32-year midwife stated her experience as follows:

> *As a midwife in this hospital, we have many patient safety incidences in maternity. I can count there were two maternal deaths. I also delivered my first born in the clinic and due to lack of scans and CTGs, I was unable to know the gender of my baby until I deliver and he [had] a cord around the neck which was a problem and only saw during labour and almost to lose baby and my life as I was cut and bled nonstop. [M9].*

A study conducted in selected United Kingdom health facilities where women were participating revealed that many patient safety incidents reported were indicators of poor quality care in the health care facilities emanating from various reasons such as lack of necessary basic equipment (i.e., scans and CTGs) in the maternal health facilities, with the likelihood that the labour monitoring progress and virtual scanning to know the gender and detect other abnormalities could be compromised (Donaldson et al 2014:3). A similar study conducted in Malawi revealed that a shortage of medical equipment such as scans and CTGs, including non-availability of essential drugs, were contributing factors in multiple deaths in maternity units (Mgawadere, Unkels, Kazembe & Van den Broek 2017:8).

4.4.2.4.2. Good service provision associated with high client satisfaction in neonatal and postnatal units

Good service provision is linked to high QOC. The minority of participants indicated that, despite public hospitals continuously experiencing huge shortages of staff and resources to deliver health services efficiently, neonatal and postnatal units had shown a high client

satisfaction rate often reported in the maternal health facility. Participants highlighted that, despite the shortages they experienced which caused poor QOC, the neonatal and postnatal units had been equipped and the staff ratio was better as backed with many enrolled nurses, in contrast to the delivery care unit where it required solely professional nurses with midwifery training. The participants argued that though women assumed that they came to the hospital because of its proximity, some of these women came because of the good service they received. A 28-year midwife narrated her observation in the following manner:

> *I remember one official who had a medical aid and affording to go to any health facility but she comes here every time she is pregnant to deliver and acknowledges how we treat her; she delivered babies four times in this hospital. [M4].*

A study conducted in Korean medicine facilities where women were participants explained that customer satisfaction was a sign of high QOC and contributed positively to patients' dependence on the health care facilities irrespective of their class or financial affordability (Kim et al 2017:3). Similarly, a study conducted in Lorestan province in Iran by Changee et al (2015:341) emphasised that client satisfaction was an important indicator for assessment of the QOC provided. Detecting patients' dissatisfaction and trying to find the most effective and costly services is the basic way for improvement of service quality.

4.4.2.5. Improving the quality of maternal and newborn care

Midwives and doctors who took part in the study suggested various interventions that could be utilised to improve the QOC in the maternal health facility and reduce maternal mortality among women. The following are key suggestions by participants.

4.4.2.5.1. Ongoing in-service training

Participants recommended that ongoing in-service training should be established to capacitate clinical staff, which would contribute to improving their skills in maternal health practices. These participants further emphasised that the reduction of multiple incidents was associated with competent, skilled clinical staff. Therefore, having these skills developments would indicate improvement in the quality of maternal and newborn care. A 31-year-old midwife commented:

I was not going to know how to conduct caesarean section procedure if I didn't do a refresher course during my internship as a doctor. [M8].

Another 32-year-old midwife said:

I cannot theorise on how to interpret CTG machine results, I have to get … in-service training so that I can practice confidently and independently. [M9].

The in-service training of midwives plays an indispensable role in improving the quality of inpatient care. Enhancing the effectiveness of in-service training of midwives is a crucial requirement and results in midwives being able to function independently (Chaghari, Saffari, Ebadi & Ameryoun (2017:26). In addition, a study conducted in Ghana by Dzomeku, Duodu and Okyere (2021:3) explained that the presence of highly skilled midwives and doctors was known to reduce maternal and neonatal mortality rates because of their ability to diagnose any early complications, and to intervene appropriately.

4.4.2.5.2. PPIP & CHIP meetings

In this study, participants suggested that the PPIP and CHIP meetings should be used as a strategy to improve maternal and new-born health care quality. The PPIP was designed and developed in SA as a facility audit tool for perinatal deaths. Participants also concurred that PPIP was used by all facilities conducting deliveries and caring for newborns so it was more relevant for their hospital. The CHIP is a mortality review process that assesses the QOC children receive in the South African health system (Rhodat et al 2014:172).

4.4.2.5.3. Establishment of community engagement groups

Research findings revealed that participants recommended that community engagement through meetings and task shifting could be utilised to improve maternal health care provision. Community engagement interventions sought to empower communities to modify power dynamics and form sustainable environments for better health. Thus, participants found that community participation appeared to increase equal access to health care services through individual capacity building skills, activism, and community behaviour.

4.4.2.5.4. Establishing essential steps in the management of obstetric emergencies (ESMOE)

Most participants in the study suggested that the essential steps in the management of obstetric emergencies (ESMOE) should be utilised as intervention strategy to capacitate midwives and doctors in managing maternal health conditions. The aim is to respond to the high rate of maternal deaths experienced in health facilities. Participants further indicated that ESMOE increased the affordability and standard of treatment for women suffering from obstetric emergencies by building the capacity and trust of health care professionals to function efficiently and effectively. Therefore, in the research site, participants suggested that efforts must be made to have ESMOE to ensure that doctors and midwives were competent in complicated labour delivery.

4.4.2.5.5. Establishment of a monitoring response unit (MRU)

Participants of this study suggested that a MRU should be used as a strategy to develop quality improvement plans in all maternal health issues and appoint officials accountable for implementation. An MRU is a strategic plan that unites both clinical and nonclinical staff, social partners such as non-governmental organisations, tribal authorities, and different departments at a meeting platform to establish a consolidated plan that addresses issues of maternal health. A 26-year-old midwife highlighted the following issue that was solved through an MRU meeting.

> *In this hospital we had a problem of birth registration certificates. Babies in this facility were going to home affairs for birth certificates and due to long queues in that department some end up delaying to get these birth certificates in time. This was discussed in MRU and the department of home affairs in local office was given a task to open the office on site and this was successful. Now, women who deliver in this hospital receive birth certificates immediately before they leave the hospital. [M2].*

A study conducted in SA on intergovernmental relations found that partnerships were important for joint solving of problems, resource exchange, cooperation, coordination, and coalition building to serve the needs of the patients (Martin & Osberg 2015:141). Programmes such as MRU help in strengthening these relations to deliver services that are interlinked between these departments.

A similar study conducted in Geneva on management and control of the coronavirus revealed that integration of health services and partnerships with other departments helped to improve health service delivery where there was a critical need (WHO 2019:4).

4.4.2.5.6. Provision of priority equipment

The research site is among the piloted NHI district public hospitals in the Eastern Cape province. Therefore, the prioritisation of equipment needs is always taken into consideration. The minority of participants who were also employed in this public hospital revealed that equipment was not adequate and the procurement was very slowly.

These participants, who were also employees of the research site, stated their concerns that part of the control measures causing the delay was that items costing more than R5,000 were procured in the province and there were many delays in the process. Items exceeding R5,000 were the ones required to execute procedures efficiently in the public hospital. A revision of these control measures was suggested where a district procurement plan for all items would be delegated to the district manager.

4.4.2.5.7. Establishment of outreach services

Participants of this study suggested that the implementation of domain 4 of the NCS be considered as a priority. This domain is about public health, and it encourages decentralisation of health services through outreach programmes. Participants also stated that having outreach services and home visits by health care workers could help women to access MHS at their households and designated areas in the communities.

In addition, the outreach services run by midwives would benefit a primary health approach, especially in tracing high-risk pregnant women and conducting health talks on ANC services. The research findings of this study revealed that since clinics did not have doctors, outreach programmes should be established to allow doctors to visit clinics and offer ANC services to reduce self-referral of pregnant women to public hospitals and reduce maternal deaths. A 40-year-old doctor explained her observations regarding outreach services as follows:

> *When I was working as medical practitioner in one of the rural public hospitals before I join this hospital, I have been conducting outreach programme with a scheduled plan to offer my services in three clinics which were always referring their patients to the hospital and moreover most of the self-referrals were from the same catchment areas. After three months offering the services in those*

clinics, I found that both self-referrals and referrals were reduced because of decentralisation of services and peer review learning I did with those midwives in the clinics. [D4].

In a study conducted in South African health facilities where health care providers were participating, it was explained that since the 1980s, decentralisation reforms had been adopted in many countries with significant impact on health system governance (Abimbola, Baatiema & Bigdeli 2019: 617). The findings of this study emphasised that while the drivers of decentralisation varied from one country to another, in SA outreach health programmes were conducted to alleviate referrals and self-referrals that would be experienced in the absence of outreach services (National Department of Health 2011:21).

4.4.2.6. Challenges facing the health care system to ensure the quality of maternal and newborn care in health care facilities

Although SA is well known for having a democratic constitution that strongly guarantees all its citizens' human rights, including access to quality health care delivery (RSA 1996:13), there are still challenges that affect the provision of high quality health care that require further interventions. Other challenges described by the health care providers include staff shortages, inadequate equipment, high influx of patient admissions and health care associated infections.

4.4.2.6.1. Staff shortages

During interviews, health care providers in this study revealed that staffing was a major factor that negatively affected the provision of quality maternal and newborn care. Most of these participants openly stated that government continuously failed to recruit according to staff requirements, resulting in most facilities being unable to operate effectively due to the high vacancy rate. A 30-year-old midwife participant expressed her previous experience of the huge shortage of staff as follows:

I was working in one of the public hospitals. There was a huge shortage of nurses not even linked to resignation but the fact was that the staff establishment was filled 50% of the total nurses. As I was an operational manager [in] nursing I went on to human resources to find out what to do, and the response was that since those positions were never filled they went on baseline. [M7].

A study conducted in SA on recruitment and selection revealed that the increased vacancy rate was associated with the inability of human resources to employ in the vacant positions based on delays in advertising, which led to baseline positions and centralisation of activation of positions, including their funding (Afenyandu, Adegoke & Findley 2017:1067).

Health care providers in this study further stated the major concern that the huge shortage of staff consequently led to an increased patient–staff ratio where one nurse had to attend from six to ten women expected to give birth. Due to the needs of women in the maternal health facility units, the midwives ended up utilising enrolled nursing assistants (skill mix) to attend patients. This contributed to poor assessment because nurses in lower categories are limited to certain procedures. A 26-year-old midwife expressed her feelings thus:

> *I was alone in maternity and have to attend 6 patients who were due to deliver, and I missed to conduct Pelvic Examination (PV) to 3 of those patients. [M3].*

A study conducted in selected South African health facilities where midwives were participants revealed that many procedures of maternal health were specifically performed by doctors and nurses and the shortage of professionals was a risk to pregnant women (Bannon, Alderdice & McNeill 2017:656). A pelvic examination is among those procedures that are conducted by doctors and nurses only to check for changes to the cervix and to determine whether labour is imminent (Chipeta, Bradley, Chimwaza-Manda & McAuliffe 2016:4). Failure to conduct a pelvic examination could lead to undetected cervix abnormalities and signs of infection. The findings of this study also reported that the increased nurse–patient ratio had the potential of exposing both women's lives and unborn babies to risk (Chipeta et al 2016:5).

4.4.2.6.2. Inadequate equipment

Health care providers as participants of this study agreed that the DOH was aware that enough equipment helped clinical staff to operate effectively and facilitated meeting the needs of the patients. Nevertheless, equipment needs were never met as per plan due to various reasons not yet attended to. Some of these reasons included centralisation of procuring equipment exceeding R5,000 and the continual massively insufficient budget. Health care providers in this study also agreed that whilst the department was not addressing the procurement of required equipment in public hospitals, the population

increase in the catchment areas required government to increase the capacity of the public hospitals, including the equipment needed.

Therefore, midwives and doctors stated that while there was still inadequate equipment, the maternal health facilities could not guarantee the expected high QOC. A 40-year-old doctor expressed her observation that most of the maternal health-related incidents were caused by the shortage of required equipment:

> *I am a doctor and failed to understand why this hospital does not have all required equipment in emergency trolley. I have found that the item is not available because someone in the province is delaying to procure for us and its price is more than five thousand, so we cannot buy it. [D4].*

In a study conducted in South Korea with health care providers as participants, it was explained that despite procurement systems adopted, an emergency trolley should be prioritised with all required equipment and checked every day to detect any outstanding equipment that had the potential to compromise the QOC which was indicate by the presence of patient safety incidents reported (Department of Health 2014:28). A study conducted in SA on procurement systems recommended that skills and delegations should be decentralised to functional areas for easy procuring (Department of Health 2014:31).

4.4.2.6.3. High influx of patient admissions

Midwives and doctors as participants of this study agreed that this public hospital had a high number of admissions to the maternity unit versus limited midwives attending to those mothers. This becomes an obstructing factor in QOC provision. Shortage of staff whilst experiencing a high influx of patients compromised the use of necessary labour monitoring tools which also led to failure to detect abnormalities. A 30-year-old midwife told her story as follows:

> *In February 2020, there is a day, I can remember the date, our bed capacity admits 30 pregnant women. This date we admitted and the whole unit was full and no patients were due to be referred. We were three midwives and all patients required full care, I guess no justice was done by us in terms of high quality care. Some patients were sympathising with us, not even bothering asking when they want assistance. On this day our matron requested additional nurses from other units especially those with midwifery, then we coped. [M7].*

In a study conducted in Uganda on health care staffing, it was found that there was less than 50% of the midwife staffing to provide delivery care in a busy unit and these staff issues impacted on the hospital's ability to provide continuity of care (Namaganda, Oketcho, Manipl & Viadro 2015:6). This study recommended that recruitment and retention of midwives were significant issues to be considered to cover the required standard of care (Namaganda et al 2015:7).

In a study conducted in SA, patients often expressed dissatisfaction with the quality of midwifery care (Hastings-Tolsma, Temane, Tagutanazvo, Lukhele & Nolte 2021:13). In this study midwives mentioned that their shortage was a potential cause of the compromised quality of health care, and recruitment and retention of midwives were recommended (Hastings-Tolsma et al 2021:19).

4.4.2.6.4. Health care-associated infections

Midwives and doctors as participants of this study affirmed that there were infections that were associated with the devices used in medical procedures such as catheters in maternal health facilities. These health-care-associated infections (HAIs) include central line-associated bloodstream infections, and catheter-associated urinary tract infections, and mostly occur in women during the process of care in the maternity unit or incubating at the time of admission. Midwives and doctors in this study emphasised that health care providers who could not maintain proper sterility while conducting procedures were highly prone to introducing infection or being infected. A 26-year-old midwife shared her experience as follows:

> *I was inserting a catheter to woman and on the middle of the procedure my gloves were contaminated and end up using my bare hand to insert it and no proper hand hygiene was done, I was panicking since the doctor wanted me to have inserted catheter. On the 6th day, the patient (woman) developed signs of urinary tract infection and I started to panic because I had in mind that I may have contributed in introducing infection to the patient. She was given antibiotics cautiously whilst in hospital and get cured. [M3].*

A study conducted in Canada in which the Manitoban university students were participating found that catheter-acquired urinary tract infection was one of the most common health-care-acquired infections (Nicolle 2014:3). The study also found that approximately 70–80% of these infections affecting patients were attributable to poor sterilisation standards produced during insertion of an indwelling urethral catheter (Nicolle

2014:3). A similar study conducted in the US found that bladder-inserted catheters promoted nosocomial urinary tract infection (UTI) by allowing direct inoculation of microorganisms into the bladder during their insertion (Bruch, Gondi & Song 2021:3). In addition, these devices promote colonisation by providing a biofilm surface for bacterial adhesion as well by producing mucosal irritation (Bruch et al 2021:4).

Research findings revealed that not all infections were caused by employees or patients, but by health care systems such as infrastructure dilapidation and inadequate equipment or consumables to conduct procedures. A 34-year-old midwife who participated in the study stated that:

> *To my experience, I was working on another day, I noticed that [there were] no gloves and cannulas for inserting drip to a woman who was going to theatre for birth delivery. I go up and down trying to get the items and help the patient, whilst busy organising I end up using unsterile gloves which compromise the standard of infection control and putting the patient at risk of infection. [M10].*

A study conducted in London on the misuse of non-sterile gloves found that the use of non-sterile gloves (NSG) had become routine in the delivery of health care, often for procedures for which they were not required. Their use might increase the risk of cross-contamination and was generally not integrated into the hand hygiene audit (Wilson et al 2015:26). In another study in the United Kingdom with midwives as participants, it was explained that the inappropriate use of non-sterile gloves (NSG) could affect hand hygiene compliance. The main risks were missing opportunities for hand hygiene and gloves being a vector for microbial transmission (Flores et al 2020:109).

Another 28-year-old midwife stated:

> *Yho, it is difficult to clean this maternity walls with cracks and the current paint is peeling. We are not complying, infection control specialist assessed the unit and the results were not favourable. The swabs taken to laboratory found us with high percentage of bacteria and viruses. [M8].*

According to the Guidelines for Environmental Infection Control in Health-Care Facilities (2019:3), the recommendations of the Centre for Disease Control (CDC) and the Healthcare Infection Control Practices Advisory Committee (HICPAC) found that some infection was associated with infrastructural building and maintaining these health care facility buildings could reduce compromising infection control standard precautions. Accordingly, part of infection control practices is to ensure that swabs are taken and sent

to the laboratory to detect the presence of bacteria and viruses in the environment (Nicolle 2014:21).

Health care providers as participants of this study argued that there were other factors that enhanced the spread of infection in maternal and newborn care, such as poor hand washing techniques, lack of isolation facilities, and inadequate disinfection of medical equipment. Furthermore, during the Covid-19 pandemic disease outbreak, poor hygiene has been seen as a contributing factor in the spread of the virus.

4.4.2.6.5. Health care providers' poor relations with patients

Researchers have reported that poor communication between women and health care providers contributed to numerous complaints against the hospital services. The researchers further state that for a health facility to achieve high QOC, ongoing consultation of patients about any required changes need to be seriously considered.

In this study, most midwives and doctors reported that some midwives displayed negative attitudes toward women in maternal health and postpartum care. These kinds of attitudes opened a wide range of unbearable gaps between women and midwives. As a result, a 26-year-old midwife who participated in the study stated the following:

> *I have been working in this hospital for more than six years now and throughout these years I have seen many colleagues (midwives) shouting or ignoring patients who need their care. I used to intervene, but it continues. Women admitted in maternity or postpartum care units are continuously believing that lodging complaints against these nurses could worsen their care. [M3].*

In a study conducted in the US with midwives participating, it was explained that negative attitudes of nurses frightened the women in maternity to further probe for more information (Desseauve, Fradet & Lacouture 2017:48). A similar study conducted in SA also focused mostly on the attitudes of midwives (Gaffka 2016:02). The study revealed negative attitudes and other unbearable behavioural manners on the side of the midwives that could harm patients as they could not ask any questions about their health conditions (Gaffka 2016:02).

4.5. CONCLUSION

In this chapter, six themes that emerged from the data analysis were discussed. The findings established that maternal and newborn health services offered in public health facilities lacked good health care standards. The provision of maternal and newborn

health care services to women were not meeting the high QOC expected due to various factors that required intervention.

From women's point of view, these factors included: absence of explanation on service provision, non-compliance of health care providers on full identification, lack of respect, negative attitudes and slow service provision, and inadequate sanitisers in all required functional levels. From health care providers' perceptions, factors were staff shortages, inadequate equipment, high influx of patient admission, health-care-associated infections, and poor health care providers' relations with patients.

While acknowledging these challenges, the presence of experienced doctors and nurses was linked with good outcomes of labour and high client satisfaction in neonatal and postnatal units. Suggestions from participants to improve the quality of maternal and newborn care were mentioned and discussed. These participants indicated that there were various forms of providing quality care as well as suggestions on how support could be improved to enhance the QOC.

In addition, making the required resources available could reinforce the capacity of the health care system to offer the full package of maternal and newborn health services to women in this public hospital in Libode in the Eastern Cape province. Hence, it is essential to propose appropriate interventions, in the form of a model to address the various factors that affect QOC in an effort to respond adequately in maternal health facilities situations in SA.

The next chapter presents a summary of the findings of the study, which inform the proposed model for improving the QOC in maternal health facilities in SA.

CHAPTER 5
PROPOSING A MODEL FOR IMPROVING QUALITY OF CARE IN MATERNAL HEALTH FACILITIES IN SOUTH AFRICA

5.1. INTRODUCTION

This last chapter provides a summary of the research findings with a focus on the quality of maternal and newborn care in a public hospital in Libode, Eastern Cape. The current interventions that aim at improving the quality of maternal and newborn care in this public hospital were investigated. The findings informed the development of a model for improving the QOC in maternal health facilities in SA.

This chapter reveals that reduction of maternal and newborn mortality requires actions to improve the QOC in maternal and newborn facilities. It is against this background that the researcher proposes a model for improving the QOC in maternal health facilities to reduce maternal and child mortality in SA.

The strengths, weaknesses, and the contribution of the study are further presented. In addition, the recommendations and limitations of the study are outlined and the entire research study is sealed with concluding remarks.

To reiterate, the objectives of the study were to:

- Explore and describe the views of women in postpartum care units on quality-related factors that affect maternal and newborn care in a public hospital in Libode, Eastern Cape.
- Describe the perceptions of midwives and doctors on QOC provided for women and newborns in a public hospital, in Libode, Eastern Cape.
- Describe the current interventions to improve quality of maternal and newborn care in the public hospital in Libode, Eastern Cape.
- Develop a model to improve quality of maternal and newborn care in the public hospital in Libode, Eastern Cape.

Based on the objectives above, the views of women in postpartum care units on the factors affecting the quality of maternal and newborn care in a public hospital in Libode, Eastern Cape, in line with objective 1 of the study, were explored and described in Chapter 4, under subheading 4.4.2.1 of this thesis. In response to objective 2, the

perceptions of midwives and doctors on the QOC provided for women and newborns at a public hospital, in Libode, Eastern Cape, were presented in Chapter 4 under subheading 4.4.2.4 of this thesis.

Objective 3, describing the current interventions to improve the quality of maternal and newborn care in the public hospital in Libode, Eastern Cape was addressed under subheading 2.6.2 in Chapter 2, and in Chapter 4 under subheading 4.4.2.5 of this thesis.

The last objective, that is, developing a model for improving QOC in maternal health facilities in SA, is addressed in this last chapter, Chapter 5. The researcher believes that all the study objectives have been achieved.

5.2. MAIN FINDINGS

Having conducted an inquiry into the quality of maternal and newborn care in the chosen hospital, the results revealed poor QOC and a need to develop a model for improving the QOC in SA.

Women participants pointed out that negative quality-related factors included a display of negative attitudes, lack of respect, and poor explanation about services provided. This is contrary to the applicable governmental prescripts of the Batho Pele principles which emphasise provision of information, treating people with courtesy, and promotion of transparency in all processes.

Women further identified that health care providers did not have full identification as required. Specifically, the findings revealed that health care providers did not have name tags. The findings exposed violation of patients' rights to be attended to and treated by health care providers who visibly show name tags for identification purposes. In addition, a lack of sanitisers in all required sites was a quality-related factor. The non-availability of sanitisers had the potential to prevent health care providers from practising infection prevention and control practices. Consequently, the findings indicated that many staff members were affected by the coronavirus during the pandemic.

Clearly, women believed that competent and committed health care providers and resource availability could improve the quality of health care and have a positive impact on the quality of maternal and newborn care.

Health care providers perceived the quality of service provided in maternal health institutions to be inadequate. This was based on both inadequate health care providers (midwives and doctors) and material resources (medical supplies, namely CTGs).

Inadequate resources such as CTGs make it impossible to monitor the foetal heartbeat and the uterine contractions during pregnancy and labour. Consequently, many patient safety incidents could not be prevented.

In line with findings of this study, the current interventions to improve the quality of maternal and newborn care in public hospitals include awareness and knowledge creation that all women should experience coordinated care, with clear, accurate information exchange between themselves (women) and health care providers (midwives and doctors). All women and newborns should have privacy at the time of labour and childbirth to ensure that their right to confidentiality is protected. The health facility should have 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.

The study found various challenges that affected the QOC in maternal health facilities that require intervention. Such challenges included staff shortages, inadequate equipment, high influx of patient admissions, health-care-associated infections, and poor health care providers' relations with patients.

In summary, the findings of this study identified that the health care system was compromised and could not meet the prerequisites of effective quality health care. The study identified a critical need for strengthening the health care system in SA, especially in rural areas.

The study further found that there was a poor involvement of women to participate during their journey of care. Shared decision-making affords women the autonomy to make difficult decisions after receiving comprehensive information about medical facts and treatment options.

The study further revealed that problems that the facility experienced were not solely the responsibility of the DOH delegation. For instance, infrastructure is the domain of the Department of Public Works and Infrastructure. The intergovernmental integration has its own challenges, and this leads to the inability of health facilities to deal with complex health problems. This analysis shows that the sectoral collaboration effort is inadequate.

The above analysis has identified the problematic issues in maternal health facilities and suggestions provided by the participants were used to develop a model to improve the QOC in such facilities. The next subsection describes the proposed model.

5.3. A PROPOSED MODEL FOR IMPROVING THE QUALITY OF CARE IN MATERNAL HEALTH FACILITIES IN SOUTH AFRICA

The findings identified various health issues that affect the provision of quality maternal and newborn care in a given context. In these findings, it is evident that the poor quality maternal and newborn care in SA arises mostly from the ruined health care system, which contributes to the poor QOC and subsequently the high maternal mortality ratio (MMR) and neonatal mortality ratio (NMR). The researcher believes that a model for improving the QOC in maternal health facilities informed by the findings will contribute to the reduction of MMR and NMR in SA. Figure 5.1 below depicts a model for improving the QOC in maternal health facilities in SA.

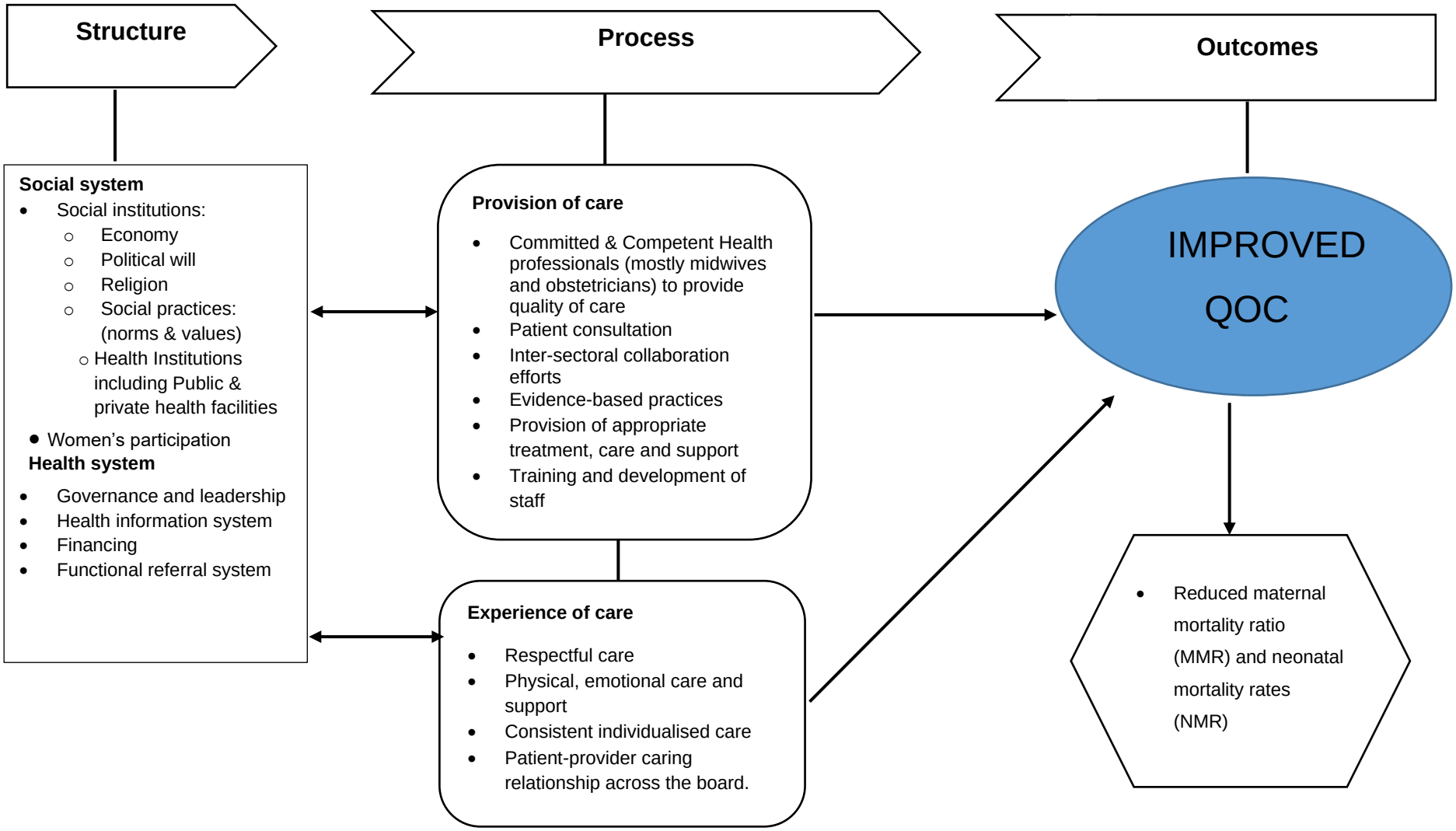


Figure 5.1: A model for improving the quality of care in maternal health facilities in South Africa

Taking the tune from Donabedian's theoretical framework, the developed model has three components; that is, structure, process, and outcomes. The outcomes have two parts: firstly, quality of care, which in this model is a prerequisite to reducing MMR and NMR; and secondly, the envisaged outcome, namely reduction of the maternal mortality and neonatal mortality rates.

5.3.1. Goal of the model

The developed model aims at improving the QOC in maternal health facilities to improve the health outcomes for the mothers and newborns in SA.

5.3.2. Background model

South Africa is committed to reducing the preventable MMR and NMR (Bomela 2020:2). In its Chapter 10, the South African NDP highlights that SA faces a quadruple burden of disease, one of which is maternal and child morbidity and mortality. Goal 3 of the NDP states that maternal, infant and child mortality could be reduced by, amongst others, improving the quality of antenatal and postnatal care.

It is against this background that the proposed model intends to improve the QOC in maternal health facilities in the Eastern Cape. Donabedian's theoretical framework was utilised to guide the development of the model. This theoretical framework stipulates that QOC can be established and provided from three categories, namely, structure, process, and outcomes. Each of these three components of the proposed model is discussed in the sections below.

5.3.2.1. Structure

In this model, the structure is composed of the social system and the health system. The social system provides the context within which health systems are located to provide institutional health care. The health system in this thesis is responsible for administrative, health service provision and regulatory services. At the heart of these structural arrangements is the provision of quality care.

The social system depicts two elements, namely, social institutions and women's participation. There are five social institutions: the economy, political will, religion, social practices, and institutions. The public and private health facilities are part of these institutions. Women's participation is an important constituent of the social system and stands on its own. The social system indirectly impacts on the QOC given to women and/ or mothers in the health care system.

The state of the economy directly affects the health system and the care given to the public. In this model, building high-quality health systems is affordable for countries with economic stability to contribute to the reduction of the unnecessary deaths of mothers and children. QOC does not come automatically; it requires planning and should be a clearly identified health system along with an adequate financial budget. This budget could be used to procure maternal and neonatal resources that could help in facilitation of high quality care to reduce mortality rates of mothers and infants.

Political support is essential to influence an enabled development and implementation of maternal and child health policies to improve the QOC and thus improve the health outcomes for women and their neonates. Political support also plays a role in attracting resources for the provision of high QOC to reduce maternal and child deaths.

Faith is essential for empowering mothers to believe in and adhere to the rules, procedures, and instructions of midwives and doctors. Spiritual empowerment occurs because of a wide range of spiritual and social values, and faith in health care providers. Believing or having faith in competent and committed midwives and obstetricians promotes a high QOC and has a significant potential to contribute to the reduction of maternal and infant mortality.

Social practices such as norms and values are important in society. Norms are particular guidelines, whereas values are broad guidelines (Whyle & Olivier 2020:735). Norms are expectations and standards for how health care providers and women should and should not behave in maternal health facilities. Values in this model comprise determining the best applicable practices required for the provision of quality care. Values also assist in identifying inapplicable practices that could compromise the reduction of maternal and infant mortality.

In this model, public health facilities include public hospitals in Libode in the Eastern Cape province which provide maternal and newborn care services. Health care providers, mostly midwives and obstetricians, set and implement national and provincial maternal and child health priorities, respond to national regulations, and develop physical capacity. Private institutions offer private health services as opposed to those offered by public institutions.

Women’s participation refers to women participating alongside the government in decision making in matters that concern them. This includes developing, implementation as well as monitoring and evaluating policies and or other interventions aimed at the

quality of health care provision. In this model and in the spirit expressed above, women's participation means shared participatory health care between the health care provider and women. Women's participation allows women to be given an opportunity to share their views about the care they receive, that is, being allowed to have a voice and not just being bystanders in their care. Indeed, in this thesis women's decision-making and autonomy were recognised and hence are part of the proposed model at structural level.

The health system, the second sub-structure, embraces governance and leadership, the health information system, financing, a functional referral system, as well as systems and facilities. These components are considered fundamental for improving the QOC in any health facility. A strengthened health system facilitates implementation of health intervention to improve the QOC provided. The anticipated outcome is the reduction of maternal and neonatal mortality.

Governance and leadership are broadly regarded as determining organisational culture. It is regarded as an entry point for strengthening the health system and provision of strategic leadership to advance the vision, mission, and the necessary strategies for enabling QOC provision. Furthermore, without effective governance and leadership at all levels of public health sectors, it is impossible to establish strategic framework policies for effective administration, accountability, and high provision of quality health care (Malakoane, Heunis, Chikobvu, Kigozi & Kruger 2020:2). As outlined in the model, strengthening governance and leadership, especially in maternal health facilities, has a significant bearing on political, social, and economic growth for improving the QOC and improve health outcomes of women and newborns.

This model demonstrates that strong and committed governance and leadership can promote an effective mobilisation of teams and create the conditions for good QOC in Libode in the Eastern Cape.

A health information system is fundamental for capturing and processing information about the health of patients and the activities of the health care system. In an effective health information system, data is reliably collected and used to improve the QOC, improve outcomes for women and newborn health, inform research, and influence policy making and decision making.

Financing, as outlined in the model, is also fundamental to the ability of health systems to maintain and improve both human and material resources. To strengthen the health system, the Public Finance Management Act 1 of 1999 (PFMA) is used to effectively

budget for, manage, and procure the required maternal health resources in public health institutions (Cashin et al 2017:4). Financing support has the potential to strengthen the health system for the provision of a high QOC and thus contribute to the reduction of maternal and child deaths.

A functional referral system is essential for transferring maternity patients from a health facility which does not have the capacity for a certain level of care to another health facility with a better level of service to improve QOC and thus improve health outcomes for women and their neonates. A functional referral system in this model aims to strengthen a close relationship between all levels of the health system to ensure that patients receive the best QOC.

The effectiveness of referral systems as outlined in the model will depend on multiple factors, which include committed and competent health care providers, mothers, public health facilities, and adequate transportation of patients. Both the functionality of the health care system and the voices of women about the QOC are influenced by the barriers and enablers of referral systems. Addressing common barriers to and strengthening the efficiency of referral systems have the potential to improve QOC at facility level. This would help to prevent avoidable maternal and child deaths.

5.3.2.2. Process

The process is composed of provision of care and experience of care components. The provision of care in this context is responsible for delivering maternal and newborn health services to improve the QOC so that positive health outcomes of mothers and neonates could be realised. In maternal health facilities, the experience of care demonstrates a range of interactions that mothers have with the health care professionals regarding the current health system. Experience of care also provides valuable insight into how to improve mothers' quality of life and meet their care needs, as well as how to better manage resources.

Provision of care consists of six elements that include committed and competent health professionals (mostly midwives and obstetricians) to provide QOC; patient consultation; inter-sectoral collaboration efforts; evidence-based practices; provision of appropriate treatment, care and support; and training and development of staff.

Committed and competent health professionals (mostly midwives and obstetricians) will enable the provision of high QOC that is fundamental for reducing or eliminating preventable maternal and child deaths. Furthermore, health care providers are expected

to manage labour and delivery as well as identify deviations from the norm, and collaboratively manage complications, and hence are critical for improving maternal and newborn health outcomes.

Patient consultation as outlined in Figure 5.1 is recognised as an important aspect for achieving a high QOC. It takes place between health care providers (mostly midwife obstetricians) and the women in maternal health facilities, aiming at reaching a fairly and confidentially informed decision about both the current situation and the next appropriate stage of care. The best patient consultation has the potential to reduce the possibility of misdiagnosis and improve the QOC of maternal and newborn health outcomes.

Inter-sectoral collaboration efforts help to identify maternal and child health issues and organise the required resources towards the common goal of improving the QOC and reduce the maternal and neonatal mortality ratio, respectively. Such efforts help to optimise the use of resources and prevent the duplication of inputs and activities which also improve the QOC.

Improving the QOC requires a concerted joint effort and does not occur automatically. Therefore, to achieve it, inter-sectoral collaboration efforts are the key, involving crucial input from sectors other than health. This could ensure availability of all needed resources and thus facilitate the reduction of maternal and infant deaths.

Evidence-based practice is critical to ensure that women in maternal health facilities receive safe, effective, and a high QOC tailored to their specific needs to improve maternal and newborn health outcomes. Evidence-based practice should also be informed by the best available evidence for improving the QOC.

Provision of appropriate treatment, care and support is guided by evidence-based practice and proper patient consultation. It comprises four elements, namely assessing patient needs; planning care; providing appropriate treatment; and support. These four elements ensure that women receive the best and safest available care, thus improving the QOC that contributes to the reduction of maternal and infant deaths.

Training and development of staff is identified as a priority to provide health professionals such as midwives and obstetricians with the required skills for ensuring good clinical practice aligned to a high QOC provision in maternal health facilities. The overall goal of training and development as outlined in this thesis is to reduce maternal and neonatal mortality by contributing to quality improvement efforts that strengthen the maternal health skills of midwives and obstetricians.

Experience of care has four elements: respectful care, physical and emotional care and support, consistent individualised care, and a caring patient-provider relationship across the board.

Respectful care is essential for health care providers, mostly midwives and obstetricians, which builds a positive environment and strong relationship among health care professionals and mothers. Respectful care is crucial for serving patients ethically and humanely and adhering to the professional oath. Furthermore, it enhances the QOC and better health-care-seeking behaviours.

Physical and emotional care and support as outlined in this model is provided by a health care provider or family member to women individually. It is important to note that physical sensations ranging from discomfort to severe pain are experienced by women in labour stages at maternal health facilities. Health care providers should reassure mothers that everything is well and that they are doing everything they can to ensure their baby's safe birth. Women are more receptive to words of encouragement and support. Good patient reassurance has a positive effect on the provision of QOC and good health outcomes.

Consistent individualised care as shown in this model refers to a type of care that is planned to meet the particular needs of a single patient. This type of care gives opportunities to each woman in a maternal health facility to contribute in the decision making for all stages of care which is essential in the delivery of quality health care. In addition, consistent individualised care is an important indicator for QOC provision in maternal health facilities because it increases women’s satisfaction and greater awareness about the status of the stages of labour, including alarming complications.

A caring patient–provider relationship across the board is based on trust between health care providers and mothers in maternal health facilities. In this relationship, mothers trust the health care professionals to perform certain duties in relation to their care. Furthermore, an effective patient-provider relationship fosters collaboration and allows for more opportunities to learn about a woman's specific health needs. This allows health-care professionals to provide the appropriate treatment, care, and other services to increase the QOC provision and thus improve maternal and newborn health outcomes.

5.3.2.3. Outcomes

The model has two main outcomes, namely improved QOC in maternal and newborn facilities which leads to a reduced MMR and ultimately in neonatal mortality rates (NMR).

Improved QOC in the model and in this thesis is evidence-based and will be sustained by professional knowledge and performance in maternal and newborn facilities. For this thesis, improved QOC in maternal and newborn facilities is a necessary condition for desired maternal and newborn health outcomes. The reduction of MMR and NMR is a significant sign of improved QOC in maternal health facilities.

5.4. IMPLICATIONS OF THE PROPOSED MODEL AT POLICY LEVEL

The findings revealed that the health system is dysfunctional and could not facilitate the provision of QOC in maternal and newborn facilities. The proposed model was established to improve the QOC through strengthening the health care system.

The model focuses on addressing the prerequisites of a complete health system to achieve a high QOC in maternal health facilities in SA. In the administrative role, the model embraces government to establish policies that would coordinate collaborative efforts to achieve organisational goals.

Financial support at policy level outlines that the legislative agenda should include advocacy for funding the model for maternal and child health services in response to the needs of the current health service. Addressing health service needs is crucial for improving the quality of maternal and newborn health outcomes.

At policy level, inter-sectoral efforts should be endorsed for agendas of improving quality health care. Based on service provision, the requisite public health resources are judged essential for establishing a modernised public health model to reduce the MMR and the neonatal mortality ratio (NMR).

5.5. RECOMMENDATIONS FOR FURTHER RESEARCH

The analysis of the findings of this study revealed that public health facilities are struggling to provide effective maternal and newborn services of good quality. Critical gaps that hinder the health system from providing QOC were identified. One such gap is the shortage of health care providers and therefore future research should be conducted focusing on skills audits to review the requisite capacity for quality of maternal health service delivery.

In addition, critical identified gaps included huge shortages of material resources such as medical equipment, and therefore further research should involve finance staff in health facilities. This type of study will help to identify challenges in budgeting processes and utilisation.

This model focused only on mothers and health care providers and limited the attention on men as primary participants in the pregnancy journey. Men play a vital role in pregnancy development and should be included in taking care of women during pregnancy and the birth process until they give birth. It is therefore recommended that further research be conducted and extended to include men as the researcher believes that their involvement would establish or strengthen the bond between themselves and women and ease the financial responsibility in certain instances. Future research could have the potential for developing a model that would enhance interactions between the partners (mother and father) and health care providers.

More research using mixed research methodology is recommended to generate health data that would ensure appropriate planning, implementation, monitoring and evaluation of MHS for improving health systems. Lastly, it is necessary to keep maternal and child programme owners informed about the current conditions.

5.6. WEAKNESSES, STRENGTHS AND CONTRIBUTION OF THE STUDY

5.6.1. Weaknesses of the study

The findings of the study regarding the QOC provision were based on the views of midwives, doctors, and mothers in a public hospital in Libode in the Eastern Cape. Therefore, the findings may not be applicable to midwives, doctors, and mothers in other regions of the country and abroad. This means that the study was conducted in Libode and does not represent the context of the entire country.

Within the public hospital in Libode in the Eastern Cape, the study was limited to midwives and doctors who were employed full-time in maternal health facilities, and their experiences could be different from those nurses who are working full-time in other areas of expertise in the same hospital.

Due to methodological approach applied, the study did not include data on the women's maternity case records in maternal health facilities. Reviewing maternity case records could help comparing the current issues identified during interviews and data information in maternity case records to make more sense of the data. However, reviewing maternity case records after the limited period of the interviews might have introduced a recall bias among interviewees due to sensitive information and confidentiality that would have to be ensured.

5.6.2. Strengths and contribution of the study

5.6.2.1. Strength of the study in relation to the proposed model

The strength of this study lies in the development and consistent use of the suggested inputs of the developed model. The researcher was able to discover gaps as a result of this investigation, which assisted in the development of a model based on the qualitative data. The necessary resources for a successful health system, as well as the contextual elements discussed during face-to-face interviews with the researcher helped to establish key areas that contributed to the development of the model.

5.6.2.2. Strength of the study in relation to the strengthening of the health system

The study has contributed to the identification of crucial issues including needed resources to strengthen the health system in maternal health facilities in SA. The focus areas of both the social system and the health system were crucial for the model's successful development. The model will be functional by ensuring that it adheres to the following:

- The social system should ensure that the participation of all social institutions and women is considered and monitored.
- The health system should have all its components as determined by the WHO.
- The health system has both human and other resources that would help in delivering health care services to meet the health needs of the target population.

5.6.2.3. Strength of the study in relation to the methodology

The study utilised a qualitative, exploratory, descriptive, and contextual research design, which was most suitable to explore the phenomena of interest. The researcher was able to collect and analyse qualitative data concurrently to gain an understanding of the provision of quality maternal and newborn care in the chosen hospital. The face-to-face interviews with health care providers (midwives and doctors) and women explored contextual facts that could affect the QOC and suggestions that could be used to improve the QOC. In the analysis of these findings, the researcher was able to determine resources needed to improve the QOC. Therefore, through utilisation of a qualitative approach, the researcher was able to identify critical elements from the findings that informed the development of a model for improving the quality of maternal and neonatal care.

5.6.2.4. Strengths of the study in relation to its contribution at policy level

In the critical analysis of the study findings, the developed model responds to the current issues in maternal health facilities. Improving the QOC will result in a more robust and comprehensive health system, which may help to minimise maternal and newborn mortality and morbidity. The model also outlines the resources required to ensure that the model is implemented and that the expected results are achieved. Therefore, at policy level inter-sectoral collaboration efforts are deemed necessary for the endorsement of health service integration. Accordingly, the study objectives have been reached.

5.6.2.5. The overall contribution of the study

The study aimed at developing a model for improving the QOC in maternal health facilities to improve maternal and newborn health outcomes. The model could be used as a benchmark for other maternal health facilities. The researcher believes that the proposed model can be used to conduct a risk assessment that would outline the status of the available resources for the health care system to operate fully. The study suggests the prioritisation of prerequisites for the social system and health system to reduce the maternal mortality and neonatal mortality ratios (NMRs).

5.7. CONCLUDING REMARKS

The study was conducted to develop a model for improving the QOC in maternal health facilities based on the current qualitative findings and a literature review. This study confirmed that there were various related factors that affect the provision of QOC in maternal and newborn care settings. The model for improving the QOC was therefore developed to alleviate such problems. The recommendations on how the model should be utilised were discussed in detail. The efforts and intervention of different custodians are needed to improve the QOC in maternal health facilities. This would have a significant impact in reducing maternal and newborn morbidity and mortality in the study area and maternal and neonatal care in the entire country.

Unsatisfactory human behavioural factors and lacking material resources were identified as the main elements in the study setting. Human behavioural factors included negative attitudes towards women attending MHS, and a lack of explanation about procedures applied by health care providers in the study setting. This created poor engagement between service users (women) and service providers (health care providers). Hence good decision making and QOC could not be achieved. Material resources included items such as insufficient sanitisers and staff having to improvise to maintain the standard

precautions of infection control practices. The study also identified a need for skills development training, specifically in clinical areas of concern. Attaining adequate knowledge and skills would benefit health care providers to master their clinical procedures in the study setting.

In conclusion, the current burden and contributing factors require immediate government efforts to prevent future maternal mortality and child deaths. These efforts could significantly assist in improving the QOC in maternal and newborn care settings.

In this respect, the research questions were addressed and the planned model to improve QOC in maternal health facilities was developed. This will result in benefits to pregnant women attending maternal health facilities throughout the three distinctly different phases of maternity – labour, birth, and the early postnatal period. Also, the present model for improving the QOC in maternal health facilities could assist as a reference point for maternal and newborn interventions at maternity care practice level.

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ANNEXURE A: UNISA ETHICAL CLEARANCE LETTER

UNISA university of south africa

RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES

REC-012714-039 (NHERC)

18 December 2019

Dear Sithembele Magqadiyane

HSHDC/944/2019

Student: Sithembele Magqadiyane

Student No: 46244883

Supervisor: Prof MMR Mmusi-Phetoe

Qualification: PhD

Decision: Approval

Name: Sithembele Magqadiyane

Proposal: A model for improving quality of care in maternal health facilities in South Africa

Qualification: PhD

Risk Level: Low risk

Thank you for the application for research ethics approval from the Research Ethics Committee: Department of Health Studies, for the above mentioned research. Final approval is granted from 18 December 2019 to 18 December 2024.

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on 12/12/2019.

The proposed research may now commence with the proviso that:

1) *The researcher/s will' ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*
2) *Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Research Ethics Review Committee, Department of Health Studies. An amended application could be requested if there are*

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150

substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.

3) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

4) *You are required to submit an annual report by 30 January of each year that indicates that the study is active. Reports should be submitted to the administrator HSRECOunisa.ac.za. Should the reports not be forthcoming the ethical permission might be revoked until such time as the reports are presented.*

5) *Ethical clearance certificate was awarded. However, the committee suggested that the researcher should consider contextualising the title of the study. Note:*

The reference numbers [top middle and right corner of this communiqué] should be clearly indicated on al/ forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well' as with the Research Ethics Committee: Department of Health Studies.

Kind regards,

Prof JM Mathibe-Neke
CHAIRPERSON
mathiim@unisa.ac.za

Prof A Phillips
DEAN OF COLLEGE OF HUMAN SCIENCES

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150

ANNEXURE B: PERMISSION LETTER TO CONDUT RESEARCH

S Magqadiyane
Po Box 54
Qumbu
5180
10th August 2020

The Eastern Cape Department of Health Research Ethic Committee (ECDHREC)

Dukumbana Building

Private Bag X0038

Bhisho

5605

Dear Sir/ Madam

REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY

I am currently a PhD student (std No. 46244883) in Nursing in the department of health studies at the University of South Africa under the supervision of Professor ROSE MMUSI- PHETOE.

The title of the research project is "A MODEL FOR IMPROVING QUALITY OF CARE IN MATERNAL HELTH FACILITIES IN SOUTH AFRICA". The main purpose of this study is to develop a model for improving quality of care in order to improve health outcomes in women and newborns in the maternal health facilities in South Africa.

To collect data, all in-depth individual face to face interviews of about 45 to 60 minutes' duration will be conducted during lunch breaks and after working hours. For those who meet criteria and not at work, a phone call recorder will be used in their agreed permission.

The research findings will be made available to management so that the best suitable strategies to improve the implementation of a model for improving quality of care in maternal health facility can be effected. To maintain confidentiality audio cassettes with recorded information and written notes will be safely stored by the researcher. A copy of the research proposal is attached I hope that this request will be approved.

I thank you in advance

Yours truly

Mr Sithembele Magqadiyane
PhD in Nursing (Unisa Student)
MPH (Unisa); PGDip PAD (Unisa); Adv Dip N Ed (NWU); BCur (UFH).

ANNEXURE C: APPROVAL LETTER TO CONDUCT RESEARCH

Province of the

EASTERN CAPE

HEALTH

Enquiries: Yvonne Gixela Tel no: 079 074 0859

Email: **Yvonne.Gixela@echealth.gov.za / ygixela@gmail.com**

Date: 27 July 2020

RE: A MODEL FOR IMPROVING QUALITY OF CARE IN MATERNAL HEALTH FACILITIES IN SOUTH AFRICA. **EC_202007_010**

Dear Mr S. Maqgadiyane

The department would like to inform you that your application for the abovementioned research topic has been approved based on the following conditions:

1. During your study, you will follow the submitted protocol with ethical approval and can only deviate from it after having a written approval from the Department of Health in writing.
2. You are advised to ensure, observe and respect the rights and culture of your research participants and maintain confidentiality of their identities and shall remove or not collect any information which can be used to link the participants.
3. The Department of Health expects you to provide a progress update on your study every 3 months (from date you received this letter) in writing.
4. At the end of your study, you will be expected to send a full written report with your findings and implementable recommendations to the Eastern Cape Health Research Committee secretariat. You may also be invited to the department to come and present your research findings with your implementable recommendations.
5. Your results on the Eastern Cape will not be presented anywhere unless you have shared them with the Department of Health as indicated above.

Your compliance in this regard will be highly appreciated.

SECRETARIAT: EASTERN CAPE HEALTH RESEARCH COMMITTEE

ANNEXURE D: RESEARCH PARTICIPANT INFORMATION SHEET

Ethics clearance reference number: HSHDC/944/2019
Research permission reference number: NEWINPROGRESSRP_1998

May 2020
Title: A model for improving quality of care in maternal health facilities in South Africa

Dear Prospective Participant
My name is Sithembele Magqadiyane and I am doing research with RM MMUSI-PHETOE, an Associate Professor in the Department of Health Studies towards a PhD at the University of South Africa. We are inviting you to participate in a study entitled "A model for improving quality of care in maternal health facilities in South Africa".

WHAT IS THE PURPOSE OF THE STUDY?
This study is expected to collect important information that could contribute to the understanding of factors that influence quality of obstetric and newborn care. This study particularly will explore the client provider interaction (respectful care) and provider's adherence to the service delivery guidelines (partograph use) in maternal and newborn care services delivery. It will also help in informing government initiative to improve quality of care and reduce maternal and perinatal mortality in the country. The study will develop a model to improve quality of maternal and newborn care.

WHY AM I BEING INVITED TO PARTICIPATE?
There are two groups who were chosen to participate in the study namely women and health care providers.

Women:
You are being invited to participate in this study due to the fact that you previously have given birth in the health facility, in the public hospital in Libode, Eastern Cape. There are 15 women expected to participate.

Midwives:
You are invited because you are amongst the midwives from maternal health care unit working in the same health facility will participate in the study. There are 20 midwives expected to participate.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?
The participants are expected to voluntarily participate in the study with no fear to express their uneasiness or unwillingness to proceed. The study involves in-depth individual interviews and audio tape using open ended questions. The length of the interviews is approximately 15 to 20 minutes for each participant.
CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?
Your participation in this study is entirely voluntary and no penalty or loss of benefit for non-participation. You may agree or refuse participation in his study; the choice you make will have no bearing on your job

or any work related evaluation or reports. You may even withdraw from the study at any stage, even if you agreed earlier.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

There are no compensation or other direct benefits to you as a participant, however, there will be an overall benefit of the research because the findings will give us more information on quality of care provision in the maternal health facilities.

In general, the study findings will be used to develop a model to improve quality of maternal and newborn care in the study setting. The study will benefit the society and the study community by identifying existing gaps of quality of maternal and newborn care as well as the strategies to improve quality.

ARE THEIR ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

There are no anticipated risks in the study. Any psychological discomfort will be managed through utilising of psychologist. The risk anticipated in this study is potential emotional adverse events for those women who had traumatic experience during labour and delivery

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

No personal information will be shared about the participants in this study; all information including your name, title and address will be treated and recorded anonymously. Your answers will be given a coder number in order to maintain confidentiality. Although the research findings will be published in a form of journal articles and/or conference proceedings, but the individual participants will not be identifiable in such report to maintain data anonymity. Personal information may be disclosed only if required by law and in such case, a confidentiality agreement will be signed and submitted to the Research Ethic Review Committee for consideration.

HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?

Hard copies of your answers will be stored by the researcher for a period of five years in a locked cupboard/filing cabinet at researchers' place. Electronic information will be stored on a password protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. Hard copies will be shredded and/or electronic copies will be permanently deleted from the hard drive of the computer through the use of a relevant software programme.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

No incentives are due to you for participating in this study. No reimbursements will be made to participants during and/ or after the study.

HAS THE STUDY RECEIVED ETHICS APPROVAL?

This study has received written approval from the Research Ethics Review Committee of the College of Human sciences, Unisa. A copy of the approval letter can be obtained from the researcher if you so wish.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

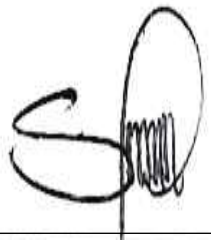
If you would like to be informed of the final research findings, please contact Sithembele Magqadiyane at mobile phone 0832385618 or fax: 0865818669, or email: smaggadiyane@gmail.com. The participants will be given pertinent information while involved in the study and after the results are available. The findings will be shared with public hospital and district and or province.

Should you require any further information or want to contact the researcher about any aspect of this study, please contact met at 0832385618, email: smaggadiyane@gmail.com, and fax number 0865818669.

Should you have concerns about the way in which the research has been conducted, you may contact my supervisor Professor RM MMUSI-PHETOE at 0124296021, or email at emphetrm@unisa.ac.za. Contact the research ethics chairperson of the HSREC, Prof J E Maritz at HSREC@unisa.ac.za; if you have any ethical concerns.

Thank you for taking time to read this information sheet and for participating in this study.

Thank you.



S Magqadiyane
PhD Student (Unisa)

ANNEXURE E: CONSENT TO PARTICIPATE IN THIS STUDY

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree to the recording of the In-depth face to face interviews.

I have received a signed copy of the informed consent agreement.

Participant Name and Surname…… (please print)

Participant Signature……..Date……

Researcher's Name and Surname……(please print)

Researcher's signature……..Date……

ANNEXURE F: INFORMED ASSENT FOR PARTICIPATION IN THE STUDY

(For the under 18 years)

Topic: A model for improving quality of care in maternal health facilities in South Africa

Researcher: Sithembele Magqadiyane

Introduction.

My name is Sithembele Magqadiyane, I am a Chief Executive Officer (CEO) at VW donated Field Hospital in Port Elizabeth in the Eastern Cape Province.

As part of my studies, I am conducting research among women who are pregnant or who have given birth in the last 5 years. Therefore, the study might include for women who are less than 18 year of age, but expecting a baby or have given birth already. I therefore would request your permission to have an interview your child as she has been selected as a possible participant in the study. She was selected as a possible participant because he/she has or might have or have not utilised a health facility to seek health services during her pregnancy period, or for giving birth and or after giving birth. Permission for participating in the study will be requested from her as well.

Purpose of the study

The purpose of this proposal is to develop a model for improving quality of care to improve health outcomes in women and newborns in the maternal health facilities in South Africa. The information will help us learn more about the care rendered to women who are pregnant and mothers who have already delivered their babies in maternal health care facilities. Women need to go through a healthy process of pregnancy, giving birth and taking care of themselves and their babies after birth. Hence the findings will help the government and other facilities to address women's concerns to improve the services so that they are friendly and helpful.

Description of the study procedures

If you decide to be involved in this study you will be asked to answer the questions in relation to quality of care provision in the maternal health facilities and women's health concerns. Some questions may be of a personal and/or sensitive nature. You may choose not to answer these questions without being punished. You may also refuse to take part in the study at any time without affecting the relationship with the researcher.

Confidentiality

The researcher will not include any information that you provide in any report that would make it possible to identify you. False names instead of real names will be used, should it be necessary to share some information. Therefore, your actual name or identity will not be known to anyone else related to the research.

Research records will be kept in a locked file. Published data will be shared with relevant staff at University of South Africa since this study is done for academic purposes.

Benefits

The interview will last approximately 15 to 20 minutes. I will not be recording your name anywhere on the questionnaire and no one will be able to link you to the answers you give. There are no compensation or other direct benefits to you as a participant, however, there will be an overall benefit of the research because the findings will give us more information on quality of care provision in the maternal health facilities.

Risks

There is no anticipated physical, social or mental harm. However, should you experience some distress from the discussion, the centre will provide appropriate some support to your child.

Contact information

If you have any questions or concerns about this study or if any problems arise, please contact the researcher (student) at 0832385618.

If you have any questions or concerns about your rights as a research participant, please contact the University of South Africa Ethical Committee as follows:

Prof JE Maritz
Chair of the University of South Africa,
Department of Health Studies, Research Ethics Committee
UNISA
Email address: maritje@unisa.ac.za.

The supervisor for this study is:
Dr RMM Mmusi-Phetoe
Room 7-168
Department of Health Studies
UNISA
Email address: **emphetrm@unisa.ac.za**

ASSENT

Your signature below indicates that you have decided to participate as a research subject of this study and that you have read and understood the information provided above.

SIGNATURE OF STUDY PARTICIPANT

I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

Signature of Participant	Date

SIGNATURE OF PERSON OBTAINING ASSENT

In my judgement the participant is voluntarily and knowingly agreeing to participate in this research study.

Name of Person Obtaining Assent	Contact Number
Signature of Person Obtaining Assent	Date

ANNEXURE G: IN-DEPTH INTERVIEW GUIDE
FOR MIDWIVES AND DOCTORS

SECTION -1: BACKGROUND INFORMATION

Background information				
1. District Name	_____			
2. Date of interviews				
3. Time of interviews	Start:		End:	
4. Sex	Male		Female	
5. Age	_____ years			
6. Relevant Educational Status	Basic Midwifery ☐ Advanced midwifery ☐ MBChB ☐ Specialist:O&G ☐			
7. Interviewee Category	Health care providers: Midwives ☐ Doctor ☐			
8. How long have you been working in this health facility?	_____ Years			

"Tell me about your experience of maternal health services you render in this public hospital, in Libode".

SECTION -2: QUALITY MATERNAL AND NEWBORN CARE

1. What does quality maternal and newborn care mean to you?
2. How do you describe quality of maternal and newborn care in this health facility?
3. What are areas of maternal and newborn care that have better quality?
4. What are areas of maternal and newborn care that have poor quality in line with your description of quality?
5. How do you describe impact of quality of maternal and newborn care on outcome of care and clients satisfaction?
6. What are the interventions that are being done to improve quality of maternal and newborn care?
7. What are the challenges to ensure quality of maternal and newborn care in the health facility?
8. What are the models/strategies/interventions that you know?
9. What models/strategies/interventions do you recommend to improve quality of obstetric and newborn care in this health facility?

Thank you for your participation

ANNEXURE H: IN-DEPTH INTERVIEW GUIDE FOR WOMEN

SECTION -1: BACKGROUND INFORMATION

Background information									
1. District name									
2. Date of interview									
3. Time of interview	Start:					End:			
4. Age									
5. Educational level	Junior school		High School		Tertiary		Other specify y		
6. Parity status	Premi-gravid						Multi-parity		
7. How many times have you been delivering in this facility?									
8. Marital status	Single		Married				Divorced		
9. Employment status	Employment						Unemployment		

Grand tour question:

"Tell me about your experience of maternal health services rendered on you in this public hospital, in Libode".

SECTION B: QUALITY MATERNAL AND NEWBORN CARE

Structure

1. What are the care gaps you have observed in the hospital? [Between your expectations and available services in the hospital]?

Process

2. Why did you prefer to deliver in the facility?
3. How is the care in this health facility? [Probe and find out the following]

3.1 Was the diagnosis, treatment and health education explained? Understandable? Addressed their question? Were able to express their views/opinions?

Outcome

4. How was the service you received and please share with us your experience in the facility?
5. How was the information exchange? [probe and see if it includes the following]

5.1 Was Sufficient? Understandable? Addressed their question? Were you able to express their views/opinions? With respect?

6. What are your recommendations for improving quality of care?

Thank you for your participation.

ANNEXURE I: EDITING DECLARATION FROM LANGUAGE EDITOR

DECLARATION

Leonie Viljoen (PhD)
Formerly Associate Professor
Department of English Studies, Unisa

Postnet Suite 416
Private Bag X15
Somerset West 7129
Tel : 0218513920
viljol@telkomsa.net

10 January 2022

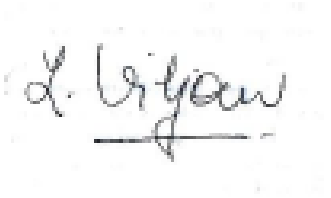
To Whom It May Concern

Language Editing of Doctoral Thesis

This is to certify that I have edited the language of the Doctoral thesis by **Sithembele Magqadiyane, in the subject Health Studies at the University of South Africa.**

Title: *A Model for Improving Quality of Care in Maternal Health Facilities in South Africa.*

Feedback about the work has been provided to the author, and to my knowledge, after corrections the text is free of language errors.



Leonie Viljoen, PhD (UCT)
Formerly Associate Professor in the Department of English Studies
University of South Africa

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by

SITHEMBELE MAGQADIYANE

Submitted in accordance with the requirements for the degree of

DOCTOR OF PHILOSOPHY IN NURSING

in the subject

HEALTH STUDIES

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: PROFESSOR RM MMUSI-PHETOE

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