MODEL TO STRENGTHEN MATERNAL HEALTHCARE SERVICE DELIVERY IN GAUTENG PROVINCE, SOUTH-AFRICA

by

NAOMI LORRAIN NKOANE

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DEDICATION

I dedicate this thesis to my ***Heavenly Father, Creator of Heaven and Earth*** *for* ***His*** *unconditional love, wisdom and guidance.*

Psalm 119: 105, "Your word is a lamp for my feet, a light on my path".

Thank You God, *sitting on Your throne in heaven, for your perfect timing and brightening the path towards the completion of this research.*

DECLARATION

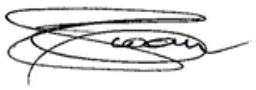
NAME: NAOMI LORRAIN NKOANE
STUDENT NUMBER: 48936944
DEGREE: DOCTOR OF PHILOSOPHY (NURSING)

MODEL TO STRENGTHEN MATERNAL HEALTHCARE SERVICE DELIVERY IN GAUTENG PROVINCE, SOUTH-AFRICA

I declare that the above thesis 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 dissertation 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.



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Naomi Lorrain Nkoane **Date**

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ABSTRACT

Maternal healthcare service delivery influences the obstetric outcomes of the women in their perinatal period, including six weeks after childbirth. It is in that regard that the purpose of this study was to determine the nature and extent of maternal healthcare service delivery in Gauteng Province, South Africa.

The research study adopted a three-phased sequential exploratory mixed-methods research (MMR) design approach, involving qualitative and quantitative data collection, and convergent data analysis respectively. The study population comprised midwives working at the four selected public hospitals in Gauteng Province, as well as the perinatal women accessing their maternal health at the self-same public hospitals. Due to the multiple data collection instruments applied, the study concomitantly adopted different sampling strategies involving purposive, maximum variation, stratified random, and convenience sampling. Finally, a sample size of 392 was obtained, consisting of 105 midwives and 287 perinatal women.

Qualitative data collection was implemented through focus group discussions (FGDs), in-depth interviews and documentary analysis. The quantitative data collection was facilitated through checklists and structured questionnaires. Both thematic and content data analysis were applied in the study's qualitative phase. For quantitative data analysis, the Statistical Package for Social Sciences (SPSS), Version 27 and STATA 16 computer programs were utilised.

The study findings revealed diverse assumptions, statements and beliefs that urge for a reconfiguration of current domination and authority practices over women and other vulnerable groups. Furthermore, the study found that five dominant literature-based themes were still observable in the practical environment of midwives and their patients in the maternity wards. These are: individual factors, interpersonal relations, organisational challenges; as well as community and policy and government factors.

The researcher's developed model was based on the actual findings in the current study and was subsequently evaluated by the midwifery experts. The purpose of the model was to contribute towards improvements in maternal healthcare service delivery for the reduction of maternal mortality.

Key concepts

Maternal healthcare service delivery; midwife; model; perinatal women.

SETSWANA ABSTRACT TRANSLATION
TSHOBOKANYO

Thebolelo ya ditirelo tsa pelegi e na le tlhotlheletso e kgolo mo dipholong tsa pelegi mo basading ka nako ya boimane le botsetse jwa bone go fitlha dikgwedi di le thataro. Mo ntlheng eno, maitlhomo a thuto e, ke go batlisisa gore ditirelo tsa pholo mo basading ba porofense ya Gauteng – Aferika Borwa ke tsa mofuta ofe le go leba kamano ya tsone

Dipatlisiso tsa thuto e, di di dirisitse magato a le mararo a sequential exploratory mixed-method, a akaretsang mekgwa ya kokoantsha tshedimosetso ka qualitative, le quantitative le go kopantsha tshedimosetso ka go latelana jalo.

Tshedimosetso e tswa mo setlhopheng sa baoki ba ba katiseditsweng pelegi e bile ba dira, le basadi ba ba leng mo nakong ya pelegi ba tlhoka tlhokomelo mo dipataleng tsa puso tse nne (04) mo porofenseng ya Gauteng.

Ka ntlha ya methale e e fapaneng ya go kokoanya tshedimosetso, mmatlisisi o ne a dirisa purposive, maximum variation, stratified random, le convenience sampling. Ka jalo, o ne a feleletsa ka palo ya bannaleseabe ba le 392, e e akaretsang ba belegisi ba le 105 and basadi ba le 287.

Kokoantsha tshedimosetso ya qualitative e ne ya dirisa dipuisano tsa ditlhopha le tsa bongwe le go le tlhatlhoba ditokumente. Mme, lenaane and foromo ya dipotso tsone di ne tsa dirisiwa mo tshobokanyo ya tshedimosetso ya quantitative. Go sekaseka ga di teng tsa qualitative go direlwe ka setshwantsho sa thematic le content, fa Statistical Package ya Social Sciences (SPSS), kgaolo ya 27 le STATA 16 porokeramo ya khomphuta di dirisitswe mo quantitative.

Dipholo tsa thuto di bontsha thulaganyo ya maatla a ditumelo tse di faroganeng mo ntlheng ya dipegelo tsa basadi. Go bonagala ditheme di le tlhano (05) go tswa mo dibukeng le mo dipuisanong le babelegisi le basadi mo dipateleng tsa bone. Ditheme tse, di bontsha mabaka a a latelang: mabaka a motho ka esi, tirisano mmogo, thulaganyo ya tsamaiso mo tirong, tsabosetshaba, taolo le tsamaiso.

Kwa bofelong, mmatlisisi o ne a tlhoma sekao se se tshegetsang babelegising le basadi mo leetong la pelegi, e bile sekao se se ne sa tlhotlhwafatswa ke baitsaanape

mo lefapheng la tsa boimana. Leano la sekao se, ke matlafatsa ditirelo tsa basadi le pelegi ka maitlhomo a fokotsa dintsho tse di amanang le pelegi.

Mafoko a botlhokwa

Boleng; botsetse; mmelegisi; mosadi mo nakong ya boimana le pelegi; sekao; thebolelo ya ditirelo; tlhokomelo ya kalafi.

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LIST OF ABBREVIATIONS

AU	African Union
BANC	Basic Antenatal Care
BRICS	Brazil, Russia, India, China and South Africa
CARMMA	Campaign on the Reduction of Maternal Mortality in Africa
CHWs	Community Health Workers
CPD	Continuous Professional Development
DHIS	District Health Information System
EMTCT	Elimination of Mother-to-Child Transmission
EPMM	Ending Preventable Maternal Mortality
ESMOE	Essential Steps in Managing Obstetric Emergencies
FGD	Focus Group Discussion
GDoH	Gauteng Department of Health
GDP	Gross Domestic Product
GPHD	Gauteng Provincial Health Department
GSMCHC	Global Strategy on Maternal and Child Healthcare
HST	Health Systems Trust
ICD-10	International Classification of Cisease 10th Edition
ICM	International Confederation of Midwives
IHRM-F	Ideal Hospital Realisation and Maintenance Framework
iMMR	Institutional Maternal Mortality Rate
MCH	Maternal and Child Health
MDR	Maternal Death Rate
MMR	Maternal Mortality Rate
MMR	Mixed-Methods Research
MMRatio	Maternal Mortality Ratio
NCCEMD	National Committee on Confidential Enquiries into Maternal Deaths
NDoH	National Department of Health
NDP	National Development Plan
NHI	National Health Insurance
NSDA	Negotiated Service Delivery Agreement
NSP	National Strategic Plan
OECD	Organisation for Economic Cooperation and Development
OHSC	Office of the Health Standards Compliance
OSD	Occupational Specific Dispensation
PHCR	Primary Healthcare Reform/Re-engineering
PIPP	Perinatal Problem Identification Programme
PMTCT	Prevention of Mother-to-Child Transmission
QMS	Quality Management System
RSA	Republic of South Africa
SADC	South African Development Community
SAE	Serious Adverse Events
SAHR	South African Health Review
SALGA	South African Local Government Associapion
SAMR	South African Maternal Report
SANC	South African Nursing Council
SDG	Sustainable Development Goal
SEM	Social Ecological Model

SERPERF	Service Performance
SERVQUAL	Service Quality
SET	Social Ecological Theory
SMR	Saving Mother's Report
SOPs	Standard Operating Procedures
SPSS	Statistical Package for Social Sciences
SQGM	Service Quality Gap Model
SRHS	Sexual and Reproductive Health Services
SSA	Sub-Saharan Africa/African
Stats SA	Statistics South Africa
STIs	Sexually Transmitted Infections
SWM	State of the World's Mothers
TQM	Total Quality Management
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations Children's Fund
UNISA	University of South Africa
USA	United States of America
WHO	World Health Organization
WHR	World Health Report

CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

This study focused largely on the extent of maternal healthcare service delivery, with particular emphasis on maternal mortality in public provincial, tertiary, and central hospitals in Gauteng Province. Accordingly, the focus of the study was directed at the exploration and interrogation of pertinently linked healthcare factors such as healthcare policy development and implementation; communication between healthcare providers and clients; healthcare access by its users; the number of available skilled healthcare providers; and use of information to monitor healthcare programmes. It is in the latter regard that a protracted scrutiny of the state of maternal healthcare was deemed necessary in this study.

For purposes of logical argumentation, thematic convergence and methodological coherence, the current chapter is structured to reflect the critical units of analysis that are further presented and discussed in varying levels of detail in the ensuing chapters of the study (Creswell & Plano-Clark, 2018; Harrits, 2011; Polit & Beck, 2017). Pivotal to the chapter's structure, is the essentialisation or centralisation of maternal healthcare service delivery linked to the background/context of the research problem; the research purpose and objectives; the definition of key terms and significance of the study; research design and methods; data management and analysis; the study's trustworthiness, validity and reliability; as well as the applicable ethical considerations.

Maternal healthcare constitutes a critical objective in public healthcare service delivery (Health Systems Trust [HST], 2011; National Department of Health [NDoH], 2014). The criticality and wellbeing of mothers has necessitated the reinforcement of maternal healthcare delivery prior to conception, during pregnancy, delivery and postpartum. Whereas maternal healthcare is an important indicator aimed at women's and mothers' advancement, women still remain marginalised and misunderstood due to the sparse attention to their issues (Nuamah, Agyei-Baffour, Mensah, Boateng, Yedu, Quansah,

Dobin & Addai-Donkor, 2019). Additionally, the HST (2010) upholds that measures of maternal mortality reflect the extent of women's use of, and access to healthcare services.

Maternal and child health (MCH) remains a priority for global public health (HST, 2010). Ironically, the commission on social determinants of health (CSDH) (WHO, 2008) sadly highlighted that the disproportionate healthcare service delivery between underprivileged and privileged regions was broadening. In fact, Lalthapersad-Pillay (2015) asserts further that the maternal maternity ratio (MMRatio) was still high at 99% (302 000) in developing countries by 2015. It is in this regard that healthcare systems that support universal healthcare contribute significantly to improvement of the health equity. Therefore, key factors in promoting people's quality of life include responsive policies to financing of the healthcare system, political will and robust actions by healthcare leaders (Bomela, 2020; WHO, 2015). Financial frameworks that imposed out-of-pocket payments (such as the private healthcare sector) are hindrance to maternal healthcare equity (access and utilisation).

Notwithstanding the challenges of obtaining standard and accurate measures of maternal deaths, the variation between developed and developing nations was estimated at 12 and 239 for every 100 000 livebirths respectively (WHO, 2015). In these developing countries, maternal mortality was found to be relatively higher among women in rural and poorer communities, which accounted for a maternal mortality rate (MMR) of about 830 women dying daily due to preventable pregnancy and complications linked to childbirth (WHO, 2015).

1.2 BACKGROUND/CONTEXT OF THE RESEARCH PROBLEM

Global trends and indications are that safe quality of care in health is considered extremely vital for public healthcare service delivery (Jonas, Crutzen, Van den Borne & Reddy, 2017; WHO, 2015). More so that populations demographics are changing, which requires concomitant planning to respond to increasing demands for healthcare services. Therefore, the need for strengthening of the healthcare workforce is even more compelling (Perry, Gallagher & Duffield, 2015). According to the WHO (2015), reducing global maternal mortality requires more than 6.9% of an annual rate decline in order to achieve the sustainable development goal (SDG) target of MMRatio of 70 per 100 000 livebirths by 2030.

The SDG 3.1: Ending preventable maternal mortality (EPMM) strategies are viewed as instrumental in achieving less maternal deaths, especially in countries experiencing high maternal mortality (Davaki, 2019; Perry et al., 2015). The “social determinants” are of vital significance in this regard, which the CSDH (WHO, 2008) described as “conditions in which people are born, grow, work, live and age, and a wider set of forces and systems shaping the conditions of daily life … include [ing] economic policies and systems, development agendas, social norms, social policies and political systems” (CSDH, 2008:26). The commission mentioned further that unequal distribution of power, goods and services, and household income were major contributors to existing health disparities within, and among countries. Women’s access to employment conditions, healthcare and education, homes and communities have become affected by these forces and systems. Wabiri, Chersich, Shisana, Blaauw, Rees and Ntabozuko (2016) corroborate the view that unequal social determinants of health have largely failed to reduce the socio-economic disparities that have collaboratively impacted negatively towards the attainment of equitable maternal healthcare. The WHO (2015) contends further that the SDG 3.1 target of reducing global maternal mortality by lower than 70 deaths per 100 00 (7.5%) livebirths by 2030 is at risk.

Nurses and midwives are at the forefront of the healthcare service delivery system, which fundamentally and irreversibly influences health outcomes (Ng’ang’a & Byme, 2015). However, factors such as being under-qualified, earning low salaries, ill-equipped and poorly supervised have inhibited the supply-demand ratio of the required skills and expertise; and also stunted innovations in the provision of efficient, cost effective and accessible healthcare to improve health outcomes. The fact that Sub-Saharan Africa (SSA) was found to experience about 66% (201 000) per 100 000 livebirths during the same period (WHO, 2015), immediately suggests the need for more skilled maternal healthcare workers; also considering the increasing MMRatio in eighteen Sub-Saharan SSA countries (Kyei-Nimakoh, Carolan-Olan & McCann, 2015).

According to Tanaka, Horiuchi, Shimpuku and Leshabari (2015), maternal healthcare services in several SSA countries were rendered by unskilled personnel, leading to about 85% of maternal deaths. A study conducted in Tanzania found severe shortages of skilled birth attendants, despite training provided to nurses and doctors in the effective management of pregnancy and childbirth (Tanaka et al., 2015). Such maternal healthcare

personnel shortages cohere with the findings of a study by Hanson, Cox, Mbaruku, Manzi, Gabrysch, Schellenberg, Tanner, Ronsmans and Schellenberg (2016), which found a high maternal mortality of 712 deaths per 100 000 livebirths, despite that 72% of Tanzanian women delivered their infants at health facilities, and 8% of those deaths were delivered by means of the caesarean section. The high mortality rates were attributed to the below-par maternal care provided by the poorly trained and equipped midwives (Hanson et al., 2016).

In their view of maternal mortality reduction, Jonas et al. (2017) proposed that availability, accessibility and utilisation of the sexual and reproductive health services (SRHS) in SSA could provide the panacea for significantly reducing maladies such as: maternal mortality and morbidity; unwanted/unplanned pregnancies; sexually transmitted infections (STIs) and HIV/AIDS; as well as unsafe termination of pregnancies causing infant and childhood illnesses and deaths. Thus, it is incumbent on nurses and midwives to contribute to improving health determinants and reducing the high rates of maternal death in their countries by taking the responsibility to provide quality maternal healthcare to all women of childbearing age despite their socio-economic and educational status (Harvey & Land, 2016; Moyimane, Matlala & Kekana, 2017).

Many studies have shown that there are discrepant trends in the maternal mortality estimates in developing countries, which has posed challenges of accurate, reliable and valid data, including South Africa (SA) (Damian, Njau, Lisasi, Msuya & Boulle, 2019). Notwithstanding such divergent data trends, some South African studies have shown the maternal mortality levels to be high in the country because of socio- demographic and healthcare delivery factors (Bomela, 2020). The WHO (2015) corroborates the latter situation, stating further that South Africa has not meaningfully shown progress in respect of improving the maternal mortality situation, whose ratio was an estimated 138 deaths per 100 000 livebirths; 32% of which were HIV/AIDS-related fatalities. Udjo and Lalthapersad-Pillay (2014) also confirm that South African MMRs (similar to other SSA countries) were high, while trends were in decline globally and in other African countries.

The Constitution of the Republic of South Africa (Act No. 108 of 1996) entails that all citizens have the right to free healthcare services (South Africa 1996). It is in this regard that MCH care has become a cornerstone of the post-apartheid primary healthcare (PHC) system and declared a free healthcare service for all, particularly for pregnant women

and children below the age of six years (NDoH, 2017a). Following the healthcare related Constitutional mandate, the NDoH has since developed and adopted a number of maternal health policies and programmes in direct response to the de-racialisation and broadening of quality healthcare services in the country (Pattinson, Bergh, Makin, Pillay, Moodley, Madaj, Ameh & Van den Broek, 2018).

Examples of such maternal health programmes include the prevention of mother-to-child transmission (PMTCT) of HIV/AIDS, now known as the eradication of mother-to-child transmission (EMTCT) of HIV/AIDS, the contraception, basic antenatal care (BANC), and essential steps in managing obstetric emergencies (ESMOE). Such programmatic interventions are further supported by regulatory mechanisms such as Regulation R.767 of SANC, which clearly stipulates the maternal healthcare roles of nurses and midwives in South Africa (SANC, 2005). This regulation enjoins nurses and midwives to promote, maintain, restore and support the health status of mothers during pregnancy, labour and puerperium. Other notable achievements include the National Health Insurance (NHI) and the involvement of community health workers (CHWs), whose fundamental purpose is to bring healthcare services nearer to the people at grassroots level (Conmy, 2018).

1.3 RESEARCH PROBLEM

The researcher makes a distinction between ‘problem statement’ and ‘research problem’. Such differentiation is influenced by similar argumentation (as opposed to ‘argument’) accorded to the conceptual variation between ‘research aim/goal/purpose’ and ‘research objective’ by authors such as Babbie and Mouton (2011), Grove, Burns and Gray (2013), Kumar (2014), and Matua and Van Der Wal (2015). According to the latter authors’ contention, the research aim and objectives are dissimilar but complementary nuances (discussed further in the relevant section of this chapter).

Similarly, the researcher upholds that the terms, ‘research statement’ and ‘research problem’ are not synonymous but complement each other. Therefore, the research statement is construed as the concise, but overarching declarative reference to the existence of the difficulty confronting the researcher in respect of a particular situation or state of affairs. In the context of the current study, an example of a problem statement would be: *Gauteng Province is experiencing high maternal mortality rates (MMRs).*

Contrastingly, the research problem is more focused, and expounds the relevant details (nature) of the identified difficulty confronting the researcher (i.e. high maternal mortality trends); the magnitude, effects, or implications of the difficulty; as well as measures undertaken to resolve the difficulty from the researcher's point of view (Kumar, 2014). It is against the researcher's differentiation perspective or logic that the term, 'research problem' was preferred in this study to describe a particular state of affairs observed and identified by the researcher as presenting disciplinary, socio-economic or other difficulties in society (Kumar, 2014; Maguire & Delahunt, 2017). The main purpose of identifying and articulating the research problem is to obtain more details about a particular issue or situation and to explain the extent of interrelatedness between its known or observable variables and facts (Abutabenjeh & Jaradat, 2018; Curtis & Curtis, 2011).

Evidently, the major problem being investigated in this study is pivotally centred on Gauteng Province's high institutional maternal maternity prevalence rates. On the one hand, the problem entails aetiological factors of maternal mortality itself, while nurses and midwives constitute another interrelated variable in the whole equation of maternal healthcare service delivery (Jonas et al., 2017). While nurses and midwives constitute a vital component of the healthcare workforce, human resources determinants such as poor knowledge and skills are directly associated with the extent of maternal healthcare service provision. According to Belemsaga, Kouanda, Goujon, Keindrebeogo, Duysburgh, Degomme and Temmerman (2015) and Zelellw and Tegegne (2018), the district and provincial maternal mortalities were attributable to factors such as healthcare workers, service users and system-related factors as impediments to the provision of quality maternal healthcare. System-related barriers included lack human resources deficiencies and infrastructural aspects.

Globally, a quarter of maternal deaths occurred during intrapartum, while one third of these deaths occurred in the first 24 hours to six weeks postpartum (Belemsaga et al., 2015). It is disconcerting that about 58% of 83 of the surveyed developing and low-income countries were unable to meet the universal healthcare coverage of at least 23 nurses, midwives and physicians required for 80% coverage of essential services. The latter state of affairs is most observable in SSA and East Asian countries (Bradley, McCourt, Rayment & Parmar, 2019).

In the South African context, the Saving Mother's Report (SMR) (2014-2016) indicates that the institutional maternal mortality rate (iMMR) in Gauteng provincial tertiary hospitals remains high, with Caesarean section deliveries, as well as other direct and indirect obstetric causes of pregnancy and childbirth contributing to the rise in these deaths (NDoH, 2018). This situation could change, provided that vulnerable women received access to basic maternal healthcare services during pregnancy and childbirth in time (Devkota, Murray, Kett & Grace, 2018; Jonas et al., 2017). According to the district health information system (DHIS) and the national committee for the confidential enquiries into maternal deaths (NCCEMD), between 237 and 311 institutional maternal mortalities were reported in Gauteng Province for the 2014 period (NDoH, 2018). Such figures are worrisome, especially in cases of litigations accruing from pregnancy or birth-related negligence on the part of the nurses or midwives. Furthermore, SANC conducted about hundred enquiries into public complaints and allegations of nurses' and midwives' unprofessional conduct in 2013, of which forty-seven cases culminated in convictions and sentencing (SANC, 2013).

Following its observation of a fair to poor understanding and utilisation of the partograph by obstetric care givers in some countries, the WHO has recommended a worldwide implementation of the partograph as a tool to reduce maternal and foetal complications during labour, in order to improve labour management and outcomes (Yisma, Dessalegn, Astatkie & Fesseha, 2013). In spite of several WHO's partograph trainings and modifications (WHO, 1994)., its use still remains low, especially in the resource-limited countries (Dalal & Purandare, 2018; Zelellw & Tegegne, 2018). The latter authors further motivate that the paperless partograph (mobile and e-Partograph) innovations by Dr AK Debdas should be supported. These electronic devices have the potential to provide maternal healthcare workers with timely responses in emergencies, which is critical for reducing labour complications and contributing to positive health outcomes.

Notwithstanding re-engineering of PHC and the development of a 10-point plan to strengthen healthcare services at the provincial level of care, preventable maternal fatalities still occur due to infections unrelated to pregnancy, such as HIV/AIDS, hypertension complications in pregnancy, and obstetric haemorrhage (NDoH, 2018). Such an environment calls for the competency of nurses and midwives as critical role players in the provision of quality care to mothers in both the public and private healthcare system (NDoH, 2015). The SMR (2014-2016) revealed that most maternal deaths

occurred at the district and provincial tertiary hospitals respectively, and about 57% of such deaths could have been prevented (NDoH, 2018). Such a scenario demands development frameworks should be institutionalised to empower the district hospital management teams in an effort to reduce perinatal deaths (Nkwanyana, Voce, Mnqayi, Sartorius & Schneider, 2019).

In addition to the systemic (policy related) maternal healthcare challenges and their attendant practice-related ramifications (e.g. healthcare personnel's qualifications, knowledge and skills), the reputational image of the nursing profession has undergone episodes of deleterious perceptions in the public domain (Ampah & Ali, 2019; Chadwick, Cooper & Harries, 2014; Hlafa, Sibanda & Hompashe, 2019). It is against such perceptions that the study has proposed a model for strengthening maternal healthcare services in order to reduce MMRs, particularly for Gauteng Province as the country's most densely populated province.

The problem statement concisely acknowledges the prevalence of a problematic state of affairs, the research problem articulates the problem itself and its interrelated variables. Accordingly, the problem identified by the researcher is concerning a rate of maternal deaths in the province as reported in (NDoH, 2018). Furthermore, the problem is situated in questions such as:

- What are the causal factors for Gauteng Province's high iMMRs, especially at tertiary/academic hospitals, given the viable health policies in place?
- What is the nature of these institutional mortality rates, and what possible effect do they pose on the healthcare system as a whole?

1.4 RESEARCH PURPOSE

The research purpose (goal or aim) basically relates to the researcher's overall or general intentions and rationale for undertaking the study (Denzil & Lincoln 2008; Matua & Van Der Wal, 2015). The articulation of the research problem in Section 1.3 above highlighted issues of policy, as well as the magnitude and implications of high maternal maternity rates on healthcare service delivery. To this effect, the main purpose of this research study was:

- To develop a model to strengthen maternal healthcare service delivery in Gauteng Province.

1.5 RESEARCH OBJECTIVES

The research objectives are basically the actual means or activities undertaken to narrow the research purpose to its most irreducible levels (Bryman & Bell, 2011; Grove et al., 2013). It is in this regard that research objectives are characterised by their specificity, measurability, attainability, and time bound. Therefore, the following action-oriented objectives were formulated to both dissemble the above-cited research purpose and to answer the ensuing research question:

- **Objective 1:** To explore and describe the participants' (midwives' and perinatal women's) experiences and perspectives regarding the provision of maternal healthcare services in Gauteng Province.
- **Objective 2:** To explore, describe and analyse factors affecting the provision of maternal healthcare services in Gauteng Province.
- **Objective 3:** To assess current maternal healthcare practices in the context of existing policies and protocols in Gauteng Province.
- **Objective 4:** To identify the corrective interventions and improvement measures related to the quality of maternal healthcare services in Gauteng Province.
- **Objective 5:** To develop a model for midwives and perinatal women to strengthen the provision of maternal healthcare services in Gauteng Province.

The research purpose, the research objectives above necessarily cohere with policy-related issues, as well as the practice related ramifications and implications for maternal mortality in particular, and healthcare generally.

1.5.1 Research questions

The research question mentioned below are basically an interrogative version of the research objectives and are also interstitially linked to both the research problem, as well as the research aim and its attendant objectives (Creswell & Plano-Clark, 2011; Gray, Grove & Sutherland, 2017; Polit & Beck, 2017). Accordingly, the following research

questions also premise on policy-related issues, as well as the practice related ramifications and implications for maternal mortality in Gauteng Province.

- What are the midwives' and perinatal women's experiences and perspectives concerning the provision of maternal healthcare services?
- Which are the factors that mostly affect the provision of maternal healthcare services?
- To what extent are the current maternal healthcare practices relate to, or link with existing policies and protocols?
- What corrective interventions can be applied to improve on maternal healthcare service delivery in this hospital?
- How should a maternal healthcare model be developed to strengthen the capacity of midwives in their provision of quality services to patients (perinatal women)?

1.6 DEFINITION OF KEY CONCEPTS

The definition of key concepts allocates meanings of terms deemed to be thematically associated with the core unit of analysis in the study (i.e. maternal mortality) (Bless, Higson-Smith & Sithole, 2014; Leedy & Ormrod, 2014). Such definition is necessary for clarifying the discipline-specific or scientific, contextual and practice related application of the identified key concepts, which provides semantic understanding and obviates terminological or conceptual ambiguities and misunderstanding. Therefore, and to a larger extent, the definition of key concepts in this section also signifies their conceptual and operational applications; that is, *what* they mean, and *how* they have been applied throughout the study (Kumar, 2014; Roller & Lavrakas, 2015) It is worth noting that all of the below-mentioned concepts are pivotally associated with the notion of 'maternal mortality' as the study's core unit of analysis or variable. Furthermore, the alphabetic sequencing of these concepts does not necessarily imply any chronological significance, conceptual or operational prioritisation of one term above the other in this study.

1.6.1 Central/academic hospital

A central hospital provides highly specialised services and is attached to a medical school as its teaching and research platform for excellence and innovation. Such a hospital usually has a maximum patient occupancy of 1200 beds, and accommodates interprovincial patient referrals (Regulation R185, paragraph 6(1)(a)-(f)) (NDoH, 2012a).

Irrespective of their geographical locations, central hospitals are national resources enabling establishment of cost centres for implementation of the international classification of disease 10th edition (ICD-10).

In this study, central/academic hospital refers to the maternity units of level-3 hospitals where specialised care is render for high-risk women, and in which the study sample was drawn from.

1.6.2 Health

The concept, 'health' is the subject of copious definitions and interpretations (Lundy & Janes, 2009). However, the definition by the WHO appears to hold sway as it is widely used in many literature sources. Accordingly, 'health' is viewed as a state in which complete mental, physical, and social wellbeing is displayed, and not merely the non-existence of an infirmity or a disease (WHO, 2013; 2018). The definition was reviewed in 1986 to indicate the extent to which an individual or groups of individuals are able to realise their aspirations, satisfy their needs, and cope with their environment (Lundy & Janes, 2009).

In the context of this study, 'health' refers to the extent to which perinatal women are able to access maternal healthcare services without any undue physical, emotional or psychological suffering.

1.6.3 Healthcare workers (HCWs)

Healthcare workers are trained individuals in the provision of health services in terms of any law, including the Allied Health Professionals Act (No. 63 of 1982); the Health Professions Act (No. 54 of 1974); the Nursing Act (No. 50 of 1978 as amended); the Pharmacy Act (No. 53 of 1974); and the Dental Technicians Act of 1979. Healthcare workers also includes physicians and registered nurses, the largest group of healthcare providers (Lundy & Janes, 2009:127). In this study, healthcare workers incorporate midwives working in the public facilities in the regional, provincial, tertiary and central hospitals in Gauteng Province.

1.6.4 Healthcare system

A healthcare system refers to the broader organisation of laws, policies, resources (human, infrastructural, and financial) and management of such resources to enable the delivery of health services to the population (Birn, Pillay & Holtz, 2017; WHO, 2015). The organisation of a country's healthcare system reflects its class dynamics, political will, as well as societal values and ideals (Birn et al., 2017; Yarimoglu, 2014).

In this study, the healthcare system incorporates any investigation, screening, diagnosis, referral and intervention provided to perinatal women seeking healthcare services in health facilities located in Gauteng Province.

1.6.5 Lifetime risk of maternal death

The lifetime risk of maternal death refers to the likelihood of becoming pregnant and dying due to pregnancy-related threats accumulated throughout a woman's reproductive years (Birn et al., 2017). On the other hand, Mathers, Zureick-Brown, Inoue and Chou (2012) categorically relates the lifetime risk of maternal death as the risk of dying a woman faces during a single pregnancy, or any number of times during subsequent pregnancies.

1.6.6 Maternal health

Maternal health refers to the health of women during pregnancy, childbirth and in puerperium (Mustafa, Yusof, Jeffree, Iiizam, Lukman & Husain, 2016). In a coordinated healthcare system, maternal health is provided to the perinatal women during pregnancy, intrapartum, and postpartum in a complete maternal healthcare cycle (Nuamah et al, 2019:2).

1.6.7 Maternal mortality/death

According to Birn et al. (2017), maternal death is defined as the death of a woman during pregnancy or within 42 days of termination of such pregnancy, notwithstanding the duration and place of the pregnancy, from any pregnancy-related cause or its management, but not from incidental or accidental causes. Maternal mortality ascribes to a dual definition: MMR and maternal mortality ratio (MMRatio). Furthermore, late maternal

mortality or death occurs is the event of a woman dying from direct or indirect obstetric causes between 42 days and one year post-delivery (WHO, 2014).

In the context of this study, it means any death that occurs to a pregnant, delivering and postnatal woman who dies during admission whilst seeking maternal health service.

1.6.8 Maternal mortality rate (MMR) and maternal mortality ratio (MMRatio)

MMR determines the number of deaths from maternal causes per 100 000 perinatal women of reproductive age range within a specific year on the basis of reliable census estimates (Birn et al., 2017; WHO, 2014). Meanwhile, MMRatio refers to the number of deaths in a given year from maternal causes per 100 000 live births in the same year, which effectively translates into measuring the obstetric risk per pregnancy (Damian et al., 2019). The latter authors add that MMRatio relates to the total number of female deaths per 100 000 live births as a result of pregnancy-related causes, including management and care of the pregnancy. According to Birn et al. (2017), the MMRatio provides a more accurate estimate.

The MMRatio is expressed per 100 000 deliveries, calculated as:

x 100000 (total number of maternal deaths divided by total number of live births multiplied by 100 000). If 20 perinatal women died in Gauteng Province during an annual delivery rate of 70 000, the MMR would then be: 20÷70 000 x 100 000=28.5.

MMRatio is a dependable measure for assessing the standard of health of pregnant perinatal women against the standard of care provided to pregnant women. It can be compared between the different settings or different periods in the same settings (NDoH, 2018). The higher mortality ratio is an indication that maternal healthcare is poor or inadequate.

In the current study, the above definition will be applied.

1.6.9 Perinatal period

The definition of the perinatal period is largely context-specific, that is, based on the particularities of a given environment and time (Gray, Smith & Homer, 2008). Basically, the perinatal period pertains to the commencement of gestation at 20 weeks of pregnancy to 4 weeks after birth (Freshwater & Masiln-Prothero, 2013). Meanwhile, Gray et al. (2008) define the perinatal period as relating to the time and process around birth, while Tiran (2017) defines the self-same period as the time around birth. It is noteworthy that some authors emphasise the duration/period in terms of weeks (e.g. Freshwater & Masiln-Prothero, 2013), while others accentuate both the period/time and processes as part of their definitions of the perinatal period.

In this study, the perinatal period refers to the period during which the perinatal women's pregnancies are viable from 24 weeks of gestation to less than four weeks postpartum.

1.6.10 Provincial tertiary hospital

A provincial tertiary hospital is a healthcare facility providing similar specialist services as regional hospitals, as well as intensive care and training services under supervision of a specialist (Jobson, 2015; NDoH, 2011). Such a facility has a maximum bed occupancy of 800 beds and receives referrals from both the regional and provincial boarders (Regulation R185, 2012, paragraph 5(a)-(f)) (NDoH, 2012a).

In the context of this study, provincial hospital refers to a level-2 hospital rendering intensive care, however, under supervision to high-risk women seeking maternal health services.

1.6.11 Quality healthcare system

A quality healthcare system is defined as the macro-organisational environment within which standards, norms, systems and processes have been developed to provide acceptable levels of healthcare services for individuals and populations (Human Rights Watch, 2011; Mitchell & Hughes, 2008;). In the case of this study, the healthcare system is a determinant of the extent to which the quality of care is provided to perinatal women for desired health outcomes (Ferlie, Lynn & Pollitt, 2005; Yarimoglu, 2014).

In this study, the issue of quality is acutely important. It provides the basis on which the standards and norms of the healthcare system in general, and maternal health could be viewed as efficacious or fit-for-purpose. In this regard, the study agrees with Demir, Eray and Erguvan's (2015) definition of ‘quality’ as the level of standards and the capacity at which clients’ needs and expectations are fulfilled by the healthcare service providers (midwives or healthcare facilities/institutions). Accordingly, the Service Quality Gap Model (SQGM) was deemed relevant in the study’s theoretical framework as depicted in Chapter 3.

1.6.12 Regional hospital

A regional hospital is a 24-hour health facility serving a defined patient population (service users) from provincial and district hospitals as their main referral hubs. A regional hospital also provides services to the residential areas in its proximity. In this regard, regional hospitals are viewed as easing the workload on specialist healthcare facilities such as provincial and tertiary hospitals. In addition, a regional hospital predominantly provides services in internal medicine, paediatrics, obstetrics and gynaecology, and general surgery with at least one specialty e.g. anaesthetics, radiology with approximately 800 beds (Regulation R185, paragraph 4(1)(a)(e)(f)(2)(3)) (NDoH, 2012a). In the context of this study, ‘service users’ refers to the perinatal women admitted at, or visiting the district, regional, provincial, tertiary or central hospitals seeking maternal healthcare and treatment.

It is worth noting that, in addition to providing conceptual and operational clarification of all the above-cited terms, it is the researcher’s considered view that reference to provincial, central, regional and district healthcare facilities is not coincidental. Rather, this is consonant with the research topic’s focus on the ***institutional*** context of maternal mortality.

1.7 SIGNIFICANCE OF THE STUDY

The degree or extent of the study’s significance underpins its value or worth insofar as its epistemological, institutional/organisational and/or socio-economic contributions are concerned (Walker & Avant, 2013; Yilmaz, 2013). It is on the basis of its significance that

the rationale for undertaking the study, in the first place, could be justified, motivated or even refuted. Since the current study was not underrtaken for either commercial purposes, its practical significance is then premised mostly on its epistemological or discipline-specifc and institutional or organisational contributions and merits (Vaismoradi, Turunen & Bonda, 2013; Yin, 2016.

1.7.1 Epistemological significance

The epistemological significance of the study largely premises on the extent to which the very study contributes to the accumulated body of knowledge in the field of institutional maternal mortality (Aliyu, Singhry, Adamu & Mu'awuya, 2015; Polit & Beck, 2017). Accordingly, both the findings of this study and its recommendations have the potential to contribute positively and meaningfully and qualitatively towards current literature and studies on nursing practice, midwifery and the medical profession in the improvement of maternal healthcare service delivery and reduction of maternal mortality in the public health sector, particularly in Gauteng Province.

Despite that the defined concepts have previously been explored in other studies and multiple scholarship perspectives, the current study has further explored and integrated both the providers of care and the recipients of maternal healthcare in a single study to provide a triangulated context against which a practical maternal healthcare improvement model was developed. It is in this regard that the researcher firmly upholds the view that the triangulation of both qualitative and quantitative approaches and strategies meaningfully contributed to the development of a credible and realistic/practical solution in terms of which midwives and perinatal women will be able to resolve the existing maternal mortality challenges they encounter daily.

The proposed model also highlighted the areas of lack in areas such as: monitoring and evaluation of policy implementation; service delivery, access and provider issues; as well as communication and messaging concerns between stakeholders despite the viable legislative frameworks that exist in South Africa. This range of findings and the resultant recommendations convinced the researcher of the study's relevance in the current climate of negative public perceptions on maternal healthcare due to incessant litigations accruing from some maternal healthcare workers' negligent or unprofessional conduct (Chadwick et al., 2014; NDoH, 2015; 2017a).

Furthermore, the application of two theoretical frameworks and constructions (i.e. the Social Ecological Theory (SET) and the Service Quality Gap Model) guided the study's exploration of the nexus of factors contributing negatively to maternal health and mortality; and to identify service quality gaps.

1.7.1.1 Identification of existing knowledge gaps

The researcher's synthesis and analysis of the available literature on maternal healthcare and maternal mortality enabled her critical observation and realisation of Gauteng Province's relatively high institutional maternal mortality in the provincial, regional, district and central hospitals. However, there was also an observation of the discrepant prevalence rates, with actual statistical data varying across literature sources and healthcare facilities. This information gap is possibly attributable to factors such as: policy implementation deficiencies; poor service delivery and equitable access of maternal healthcare by pregnant women; skill shortages; and communication and messaging disjuncture between midwives and perinatal women (Nakua, Sevugu, Dzomeku, Otupiri, Lipkovich & Owusu-Dabo, 2015; NDoH, 2018).

Based on the above-cited information gap, further research is then mooted in respect of maternal healthcare and reduction of maternal mortality in Gauteng Province. The identification of the gaps and ensuring fair distribution of resources and support of midwives and perinatal women is an absolute requirement for improving delivery of maternal healthcare services (Birn et al., 2017; Yarimoglu, 2014). The identification of discrepant maternal mortality prevalence rates will further assist midwives to implement policy guidelines and the developed model for provision of accessible quality maternal healthcare.

1.7.2 Organisational/institutional significance

The organisational or institutional significance of the study is underpinned by the extent of its contributions to the organisations/institutions with a direct or indirect benefit potential from the study (Tappen, 2016; Taylor, Bogdan & De Vault, 2016). In this regard, the Gauteng Provincial Health Department (GPHD) could benefit immensely from the study and its recommendations. In particular, maternal healthcare policymakers and

programme managers within GPHD could benefit from the approaches employed by the researcher to identify relevant information gaps.

Presently, there are poor streams of data on the model for midwives and perinatal women, which is inimical to improving maternal healthcare services in South Africa (WHO, 2013a; 2015). Therefore, the results of the study could assist the NDoH with evidence-based gathered factors that contribute to compromised midwifery care and its utilisation in the provincial tertiary hospitals. The study may provide the valuable information which can be used to improve maternal health and reduce MMR.

This research is conducted during an era of the piloting of the NHI. The study findings may be recommended for integration in the NHI's policy development and implementation for maternal healthcare service delivery in South Africa in order to reduce maternal deaths.

1.8 RESEARCH DESIGN OF THE STUDY

Whereas all of the preceding sections (1.1-1.7) largely reflect a concept-centred perspective of this study, the current section is more data-oriented in terms of outlining the pre-investigation mechanisms and framework by which the ultimate data collection methods and evidence of the study was accomplished. In this regard, the framework and mechanisms themselves constitute the various research design elements that directed and informed both the theoretical and practical aspects in the context of which the evidential base of the current study was established. Be it noted, however, that the research design of the study and its attendant methodologies are discussed in greater detail in Chapter 4 for purposes of both logical concatenation and thematic coherence.

1.8.1 Research design elements

In essence, the research design pertains to the procedures, strategies/plans, and data collection and analysis methods utilised by the researcher to manage or guide the process of achieving his/her research objectives, and answering the research questions in order to resolve the problem being investigated (Adom, Hussein & Agyem, 2018; Christ, 2012). The research design elements essentially relate to the philosophical perspective/s or paradigm/s adopted by the researcher; the research approach; research methods;

sampling; data management, collection and analysis; as well as the measures of ensuring the study's trustworthiness, validity and reliability.

1.8.1.1 Philosophical perspective/paradigm

The philosophical perspective or paradigm reflects the researcher's belief system or scientifically informed principles that guide his/her view/s of the world, reality/nature, knowledge or phenomena in a variety of situations or settings (Polit & Beck, 2017; Saks & Allsop, 2019:575). Positivism, constructivism, and pragmatism are three of the most well-known paradigmatic orientations adopted by researchers in many fields of the social sciences (Creswell & Plano-Clark, 2011; Walliman, 2015).

The positivist philosophical paradigm is premised on the belief that the scientific approach to knowledge generation is the most viable means to understanding reality, because science is viewed as objective (Creswell & Creswell, 2018). As such, positivism is viewed as most suitable for quantitatively oriented studies based on the researcher's perceived objectivity or detachment from the situation or phenomenon being studied. On the other hand, the constructivist paradigm/perspective posits that knowledge, truth and reality are best understood and explained (interpreted) by those with direct experience of such reality (Savin-Baden & Major, 2013).

Compared to the positivist perspective, the constructivist worldview is regarded as subjective, because those interpreting their own lived experiences were prone to do so with emotional attachment, more so that they relive the very experiences in their own ecological surroundings to which they are very familiar (McNiff, 2017). To the extent that constructivism is wholly reliant on a participant-centred construction of reality, it is then viewed as aptly suited for qualitative research, based largely on the need for researchers to actually obtain 'first-hand' information 'in the field'.

The pragmatic paradigm or worldview is a practicality-informed perspective arising from the realities of any given situation that do not necessarily 'subscribe' to either positivist (objective/quantitative) or constructivist (subjective/qualitative) (Mohajan, 2018). The integration of both the positivist and constructivist perspectives in a single study premises on the view that both perspectives have their disadvantages was well. As such, pragmatism is credited with flexibility and open-mindedness, as the researcher is not

necessarily fixated with any particular worldview, research approach, method or data collection orientation. For purposes of this study, the researcher opted for the pragmatic paradigm, based on the need to maximise (triangulate) the data acquisition process through both quantitative and qualitative means (Bazeley, 2016; Creswell & Plano-Clark, 2018; Guest & Fleming, 2015).

1.8.1.2 Research approach

Whereas the research paradigm focuses on particular worldviews adopted by the researcher, the research approach principally relates to a coordinated plan, procedures or strategies intended to integrate both the researcher's worldview and research methods for the purpose of eventually answering the research questions in respect of the designed data collection instruments (Schoonenboom & Johnson, 2017; Shannon-Baker, 2015). Consonant with the study's adopted pragmatic perspective both the quantitative and qualitative research design approaches were opted for, in this study.

To this effect, the exploratory sequential mixed-methods approach was adopted to triangulate the lived maternal health related experiences of midwives and perinatal women in Gauteng Province (Creswell & Plano-Clark, 2018; Polit & Beck, 2017; Tariq & Woodman, 2010). The exploratory sequential mixed-methods approach entailed three phases. Phase 1 was the data collection stage, with quantitative data collection undertaken in Phase 2; while Phase 3 was characterised by the integration of both qualitative and quantitative phases.

1.9 SAMPLING CONTEXT OF THE STUDY

To a greater extent, the sampling context of the study (which is presented and discussed in more detail in Chapter 4) is a representation of the pre-investigation processes and strategies applied in preparation for the actual participant-centric data collection in their naturalistic environment; that is, the research setting or geographical location of the place at which the study was conducted.

1.9.1 Study setting

This study was conducted with midwives and perinatal women (patients) at 4 (four) hospitals, namely: a regional, two provincial-tertiary, and a central healthcare facility in the north (City of Tshwane) and east (Ekurhuleni Metropolitan Municipality) of Gauteng Province. Figure 1.2 below shows Gauteng Province and its major five metropolitan municipalities.

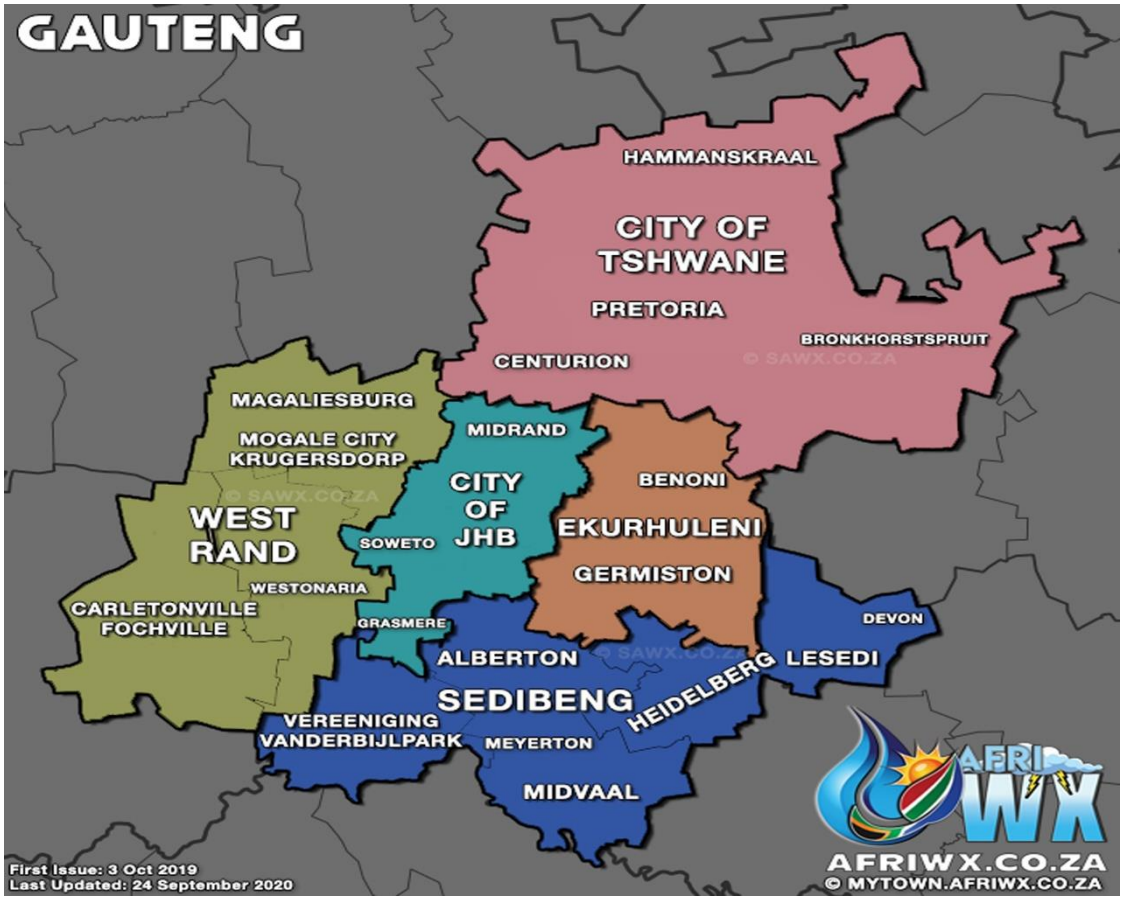

Figure 1.1 Map of Gauteng Province

(Source: https://sawx.co.za/province-district-municipality-maps/)

1.9.2 Study population

According to the South African Local Government Association (SALGA) (2021), Gauteng Province has five metropolitan municipalities, whose population for the 2020/2021 period is: City of Johannesburg (5.9 million); Ekurhuleni (3.1 million); City of Tshwane (2.6 million); Sedibeng (1.1 million); and West Rand (about 1 million). Evidently, undertaking

the study in the City of Tshwane and the Ekurhuleni Metropolitan Municipality portends a significant measure of credible and valid findings (Polgar & Thomas, 2013).

In addition to the population dynamics provided above, the population of the study itself was constituted predominantly by midwives and perinatal women. The foremost consideration (criteria) for the selection of the participant midwives was that they were employed at the four hospitals referred to in Sub-section 1.9.1 above. The perinatal women were only those receiving maternal healthcare services at the self-same selected four hospitals. Table 1.1 below is indicative of the actual number of the participants selected from the population of midwives and perinatal women in Gauteng Province, their categories (composition) and data collection method used for each category; as well as the sampling strategies by which they were selected.

Table 1.1 Participant categories, data collection and sampling methods used

Data collection method	**Participant category and sample size**	**Sampling method/strategy or technique**	**Total**
Qualitative			
Focus group discussions	48 perinatal women	Maximum variation sampling	**48**
Individual interviews	5 midwives	Purposive sampling	**5**
	2 perinatal women	Convenience sampling	**2**
Partograph	50 partographs/documents	Random sampling	**50**
Total			**105**
Quantitative			
Questionnaires	142 midwives	Stratified random sampling	**142**
Checklist	145 perinatal women	Convenience sampling	**145**
Total			**287**
Grand Total			**392**

Extrapolated from Table 1.1 above, is that there were more perinatal women (n=[48+2+145] 195; 49.7%), including partographs (n=50; 12.8%) and midwives (n=147;37.5%). Also noteworthy is that both the perinatal women (patients) and midwives participated in both the qualitative and quantitative data collection phases of the study as explained below.

1.10 DATA COLLECTION

Based on its exploratory sequential mixed-methods research design approach, the data collection processes of the current study entail both the positivist and constructivist approaches, congruent with the pragmatic paradigm adopted by the researcher. Figure 1.2 below depicts the three-phase exploratory sequential mixed-methods approach and its consequent data collection processes, all of which were deemed relevant and applicable to this study.

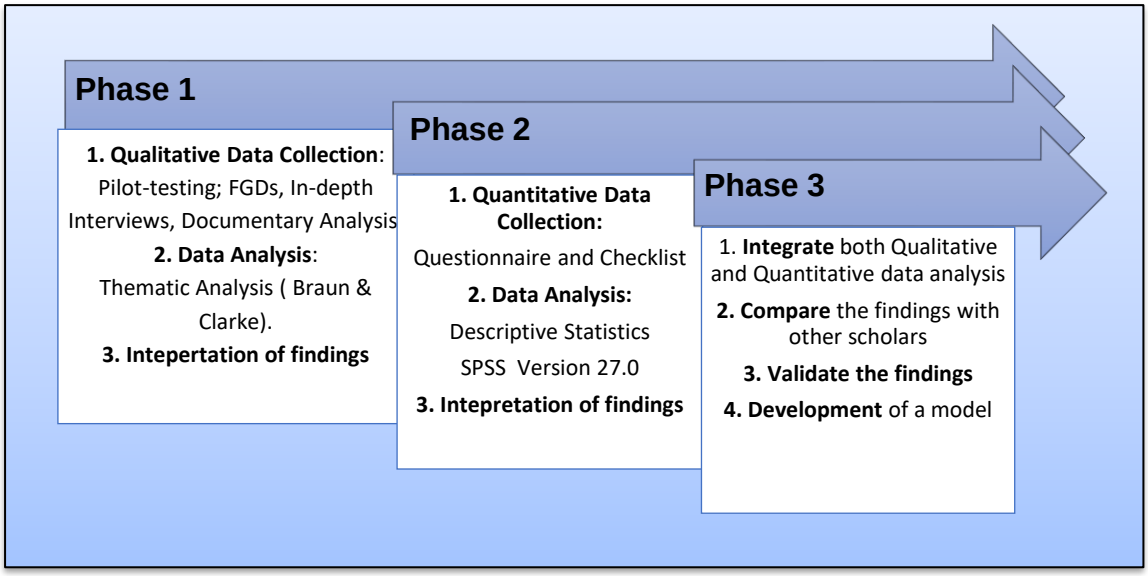

Figure 1.2 Exploratory sequential mixed-methods design

(Source: Adapted from Creswell & Plano-Clark, 2018:69)

1.10.1 Qualitative data collection (Phase 1)

The qualitative data collection phase (which preceded the quantitative stage) was applied by means of the FGDs, individual interviews and analysis of partograph files of perinatal women. In total, 105 participants were involved in the actual qualitative data collection phase; 50 of whom were perinatal women, and 5 (five) were midwives as well as 50 partographs.

1.10.1.1 Pre-testing of qualitative data instruments

Prior to the actual/ultimate administration of the qualitative data collection instruments, the researcher randomly sampled 10 partograph files at a regional hospital in order to

pre-determine a precise focus and articulation of the final questions to be asked based on the information of the randomly selected 10 partograph files (Polgar & Thomas, 2013). The perinatal women whose files were accessed (following due ethical protocols), were not involved in any of the subsequent and final (qualitative and quantitative) data collection processes (Shahin & Samea, 2010). Eventually, the researcher developed and articulated the final interview and FGDs according to the preliminary analysis of the information obtained from the initial 10 partograph files.

1.10.1.2 Administration of qualitative data instruments

Following the pre-testing phase through the partograph examination process, data were collected between January and March 2020 at pre-scheduled times during weekdays and weekends (Mason, 2018). As indicated in Table 1.1, 48 perinatal women and 5 midwives and 2 women were collectively involved in the individual in-depth interviews after they could not participate in the focus groups, while 50 other women were involved in partographs through documentary analysis. The most fundamental focus of these qualitative research instruments was to explore and determine the extent of maternal healthcare service provision in Gauteng Province.

Considering that the study was concluded just before the advent of the COVID-19 pandemic, governments and UNISA's risk-adjusted compliance regimes did not affect the study insofar as face-to-face contact was concerned between the researcher and her participants. Hence, the researcher-participant conversations and interviews were audio-recorded with the assistance of a research assistant who was full trained for a day on all aspects pertaining to empirical data collection in the field (McNiff, 2017; Parahoo, 2014).

1.10.2 Quantitative data collection (Phase 2)

It is worth reiterating that the quantitative data collection instruments (i.e. semi-structured questionnaire and checklist) are the products of the in-depth interviews, FGDs and the review of the partographs undertaken during the first (qualitative) phase when the researcher evaluated the partograph use in labour wards, using a checklist developed from the maternal guidelines followed in South Africa as articulated in sources such as the Human Rights Watch (2011), Lalthapersad-Pillay (2015), NDoH (2018), Taylor (2020), and Wabiri et al. (2016). Both the questionnaire and checklist were also tested at

a regional hospital for reliability purposes in order to preclude all possible problems that may arise, and to refine these instruments for comprehensive data collection during the post-preliminary phase (Creswell & Plano-Clark, 2018). The researcher ensured further that the structured checklists and semi-structured questionnaires were content validated with the engagement of a professional statistician.

Therefore, following this post-qualitative data review process, the researcher developed a checklist and questionnaire based on the results of the qualitative process as the build-up to the collection of the quantitative (Creswell & Plano-Clark, 2018). It is worth emphasising that, whereas the qualitative data collection phase focused on the extent of maternal healthcare service delivery, the quantitative aspect focused largely on the midwives' and perinatal women's understanding of, or familiarity with the phenomenon of 'maternal mortality'.

1.10.3 Integration of qualitative and quantitative data collection (Phase 3)

The quantitative data collection aspect of the current study (which was preceded by the qualitative phase) was principally advanced by means of semi-structured questionnaires and checklists. In total, 147 midwives (37.5% of sample size) 50 (12.8%) partographs and 195 perinatal women patients (49.7%) from various research sites (four public hospitals), participated in data collection. Refer to Table 1.1.

As indicated in Figure 1.1, the integration (convergence) of qualitative and quantitative data constitutes a validation of the three-phase sequential exploratory MMR design strands, which occurred immediately after both the qualitative and quantitative findings were analysed and interpreted (Polit & Beck, 2017; Tariq & Woodman, 2010). The merging/integration of the findings and results is discussed comprehensively in Chapter 4, especially in Sub-section 4.2.1 in terms of a merging matrix to highlight any new insights and improved service delivery in the maternity units of public hospitals in Gauteng Province.

1.11 DATA MANAGEMENT AND ANALYSIS

The management and analysis of data was executed in accordance with the sequential phases of the study's exploratory MMR. Consistent with the pragmatic perspective, both

inductive and deductive reasoning were applied to inform the logic according to which the findings were analysed and interpreted (Kumar, 2014; McCrudden & McTigue, 2019). The qualitative phase data was the first to be collected and analysed in accordance with the below-cited steps proposed by authors such as Braun and Clarke (2006), and Gray et al. (2017):

- Familiarisation with the collected data
- Generating codes
- Searching for themes
- Reviewing of theme
- Defining and naming themes
- Producing the research report

During the (Phase 2) quantitative stage, descriptive statistical analysis was employed, in terms of which various techniques were applied to interpret the meanings of data patterns emerging from the checklists and questionnaires (Bazeley, 2016; McClean, Bray, De Viggiani, Bird & Pilkington, 2020). The descriptive statistical analysis encompassed salient variables and constructs such as the mean, standard deviation, frequencies and percentages of variables.

Data was subsequently captured on Microsoft Excel 2016 and 'cleaned' using the STATA 16 and Statistical Package for Social Sciences (SPSS) version 27.0 computer software program for both the checklists and questionnaires. During the process, literature sources were referred to in order to correlate, validate or disprove the veracity or otherwise of the emerging patterns of statements and responses accrued from the participants (Berman, 2017). These results were also presented in tables, figures and statements and graphs to visualise the summarised statistical propositions (Creswell & Plano-Clark, 2018)

1.12 QUALITATIVE AND QUANTITATIVE MEASURES OF TRUSTWORTHINESS

Trustworthiness basically relates to the extent to which both the research instruments and findings of the study could be trusted and relied on, as having provided a truthful and genuine account of the study and its purposes (Cope, 2014; Nowell, Norris, White & Moules, 2017). The notion of trustworthiness is also viewed as allocating a degree of

quality, scientific rigour and methodological clarity and coherence to the study and its findings; while also (Bryman & Bell 2011; (Polit & Beck, 2017). Consonant with the research instruments employed in this study, the trustworthiness measures and criteria apply to both the qualitative and quantitative variants of the collected data in this research study. Accordingly, the following commonly used trustworthiness criteria or measures were adopted in this study as proposed by Guba and Lincoln (1985), cited in Kumar 2014); that is: credibility/authenticity; confirmability/objectivity; dependability/reliability; and transferability/external validity.

1.12.1 Credibility/authenticity (internal validity)

Credibility (which relates to authenticity or internal validity in quantitative research) premises on the believability of the findings from the perspective or validation of the participants, and not the researcher's (Kumar, 2014; Matua & Van Der Wal, 2015). In the context of this study, credibility/authenticity relates practically to the extent to which the researcher has fairly and faithfully demonstrated the lived realities of the midwives and perinatal women regarding provision of maternal healthcare services in Gauteng Province. This criterion was upheld in the study through the audio-recording of the participants' narrated responses.

Furthermore, the researcher engaged in prolonged discussions with the participants to obtain rich qualitative data and ensure that she understood their environments and lived experiences (Creswell & Creswell, 2018; Polit & Beck, 2017). The range of research instruments were first approved and validated by the researcher's academic supervisor, subsequent to which assistance of a professional statistician was sought for an effective scrutiny and validation of the content and appropriateness of the questions posed to the participants.

Additionally, peer review and debriefing were conducted with both collegiate researchers and independent experts in the field of maternal healthcare to ensure that the research processes unfolded in a logical manner and well reported. This self-monitoring aspect of trustworthiness ensured that the possibility of biased predilections was excluded significantly in the researcher's interpretation of the findings (Brink, Van der Walt & Van Rensburg, 2018; Polit & Beck, 2017).

1.12.2 Confirmability/objectivity

Confirmability (which relates to objectivity in quantitative research) is based on the degree of the study findings' independent corroboration by others (Maguire & Delahunt, 2017; Walker & Avant, 2013). In this study, opted for member checking by consulting some of the participants in each sampled participant category for them to verify whether or not the findings accurately reflected their input and views obtained during the two data collection phases (Brink et al., 2018). The statistician was also contacted to check the correlation between the findings and conclusions of the study.

1.12.3 Dependability/reliability

Dependability (which relates to reliability in quantitative research) premises on the extent of the study findings' stability and consistency (repeatability) over time and conditions in the event that it was to be conducted again using similar research instrumentation (Shahin & Samea, 2010; Walliman, 2015). In the context of this study, an audit trail was adhered to, in terms of which extensive documentation of the entire research process was kept for the benefit of other researchers interested in similar studies on maternal mortality (Polit & Beck, 2017). Quantitatively, the study also used Cronbach alpha for reliability.

1.12.4 Transferability/external validity/legitimation

According to Kumar (2014), transferability (which relates to external validity in quantitative research) is difficult to establish in qualitative studies, mainly due to contextual variations. In itself, transferability (external validity) refers to the extent to which the original study could be extended or transferable to other situations under similar conditions as those that prevailed in the original study itself (Kumar, 2014). The researcher adopted the exploratory sequential MMR approach to ensure triangulated findings from multiple-settings. The population from regional, provincial tertiary and central hospitals represented all maternity facilities of the same level within Gauteng Province.

However, specific questions were posed for each sampled participant category without conflating questions and participants. Such an orientation on the part of the researcher was intended to infuse a measure of consistency, should the same inquiry be conducted in another setting (Rossman & Rallis, 2012). It is the researcher's firm view that the study

findings provided other potential researchers with baseline data from which to draw conclusions and make judgements for future research on maternal healthcare services delivery in Gauteng Province for possible applicability in another research milieu (Harvey & Land, 2016). The study detailed the process and types of legitimation in the Chapter 4 of the study (Onwuegbuzie & Johnson 2012).

1.13 ETHICAL CONSIDERATIONS

Ethical considerations are intended to regulate the nature of relationship and conduct between researchers and their participants (Creswell & Creswell, 2018; Saks & Allsop, 2019). Researchers are obliged to protect their research participants and institutions in order to enhance the integrity of their research and obviate any form of unprofessional and unethical conduct (Brink et al., 2018; Parahoo, 2014). In this study, the applicable ethical considerations pertain to permission to conduct the study; beneficence; and respect for human dignity; all of which are outlined below.

1.13.1 Permission to conduct the research

The researcher sought and duly obtained permission from different institutions, as listed below:

- The University of South Africa's Research Ethics Committee in the Department of Health Studies. The permission was confirmed by the issuance of an ethical clearance certificate (HSHDC/654/2017) as appearing in Annexure B.
- Approval letters from the four hospitals, as verified in Annexures C, D, E and F.

1.13.2 Beneficence

Beneficence expresses the well-intentioned desire to do good (Jafari, Khatony, Abdi & Jafari, 2019). In the context of this study, beneficence is expressed as the right to freedom from harm and discomfort; protection from exploitation; as well as the respect for the human dignity of the selected research participants.

1.13.2.1 Right to freedom from harm and discomfort

The participants' right to freedom from harm and discomfort entails that participants should be protected from any foreseeable physical, emotional, and mental risk for the duration of their involvement in the study (Lindebaum, Geddes & Gabriel, 2017). In this regard, the researcher ensured that to the perinatal women had received their pregnancy related medication before the interview sessions. Furthermore, no questions were asked that had the deleterious effect of intruding in their personal lives.

1.13.2.2 Right to protection from exploitation

Protecting the participants from exploitation entails that no unequal power relations existed between the researcher and her participants (Lindebaum et al., 2017; Malesela, 2018). The study was purely for the development of a model to strengthen maternal healthcare service delivery. The researcher did not exploit the participants by making empty promises to them, such as inducing or luring them through financial or other forms of false incentive. Moreover, the researcher did not abuse her position of 'authority' during the various stages of investigation to cause the participants to perform any other functions unrelated to answering questions in accordance with the research instruments.

1.13.2.3 Informed consent

Informed consent entails that the participants' involvement in the study was by mutual agreement and concluded with the signing of the relevant informed consent form (Magelssen, Gjerberg, Lillemoen, Førde & Pedersen, 2018). As autonomous adults, the study participants were allowed to participate voluntarily on account of the full disclosure of the study made to them by the researcher. Annexures G, H, I, J and K are an illustration of the full disclosure of all relevant information and details about the study. It is on the basis of the information leaflet that the participants make informed decisions voluntarily and uncoerced.

1.13.2.4 Respect for human dignity

Respect for the participants' human dignity is manifestly an indication of the researcher's well-intentioned reasons for undertaking the study in the first place (Bryman & Bell, 2015).

It is in this regard that the researcher respected the participants' right to determine for themselves, whether or not they wished to participate in the study. For this reason, those who refused to take part in any of the study's data collection processes were not treated unfairly by, for instance, denying them treatment at any of the four hospitals utilised as research sites. The participants were also advised of their right to terminate or withdraw their participation at any time without any fear of discrimination.

1.13.3 Justice

The ethical principle of justice entails that the participants' legal status and recourse does not merely disappear by virtue of their involvement in the study (Peyman, Nayeri, Bandboni & Moghadam, 2019; Polit & Beck, 2017). In this study, the right to fair treatment, and the right to privacy, confidentiality and anonymity are cited as examples entailed in the principle of justice.

1.13.3.1 Right to fair treatment

The right to fair treatment entails that all participants are to be treated without any discrimination (Polit & Beck, 2017; Shannon-Baker, 2015). Accordingly, the study maintained fair treatment regarding selection of the participants. No participant was excluded on any other consideration not stated in the selection or inclusion criteria for sampled participants.

1.13.3.2 Right to privacy, confidentiality and anonymity

Privacy, confidentiality, and anonymity constitute the fundamental tenets of research (Peyman et al., 2019). Collectively, these three principles entail that the voluntary involvement of the participants in the study and their personal identities are not matters for public disclosure. In the study, the participants are referred to by monikers to protect their identity. At no stage was any of the participants required to disclose their names as a condition for participation. Neither were they asked to write their names on the questionnaires and checklists. Additionally, the researcher ensured that no third parties were granted any form of access to any documentation of the research, including the informed consent forms (Saldana & Omasta, 2018).

1.14 SCOPE OF THE STUDY

The scope of the study essentialises the boundaries, confines and domains of investigation beyond which the researcher did not venture based on her rationale (Flick, 2011; 2014). In its geographical context, the study was confined to only four hospitals in two of Gauteng Province's five metropolitan municipalities. For its preferred participants, only midwives were selected (and not any other category of healthcare practitioners), together with perinatal women (and not any other category of users of healthcare services).

1.15 ORGANISATION OF CHAPTERS

The organisation of chapters in this study is reflective of the logical and thematic sequencing of its core units of analysis, which are presented and discussed in the following seven chapters.

Table 1.2 Organisation of the study's chapters

Chapter 1	**Overview of the study** Outlines the main research variables in the form of the introduction and the background/context of the study; the research problem; the research aim, purpose, objectives and questions; definition of key concepts; the research design and methods; data collection and analysis; trustworthiness measures; as well as the ethical considerations.
Chapter 2	**Literature review** Presents the literature search and review that enhanced the critical appraisal of pertinent information from various international and local sources relevant to the subject of maternal healthcare and mortality. The chapter also presents the policy perspective and conceptualisation of maternal healthcare, as well as the relationship between the maternal healthcare and maternal mortality.
Chapter 3	**Theoretical framework** The Social Ecological Theory (SET) and Service Quality Gap Model (SQGM) are presented to allocate an inter-theory triangulation to the study in the context of maternal mortality.
Chapter 4	**Research methodology and nature of the study** Presents the overall research methodology, incorporating the data collection, management and analysis processes; as well as the sampling context of the study.
Chapter 5	**Qualitative and quantitative data presentation and analysis and discussion** Congruent with the sequential MMR design approach adopted in the study, both the qualitative and quantitative findings are presented, analysed and interpreted in an integrated manner in this chapter.

Chapter 6	**Proposed maternal healthcare service delivery model framework** Consistent with the research objectives, the major focus of the chapter is on the proposed model for strengthening maternal healthcare service delivery
Chapter 7	**Summary of main findings, conclusions, recommendations and contributions** The summary of main findings, recommendations, contributions, limitations, and concluding remarks are presented in this chapter.

1.16 SUMMARY

This chapter provided an orientation to the study's main units of analysis relating to the research topic, that is, the state of maternal healthcare service delivery in Gauteng Province. The main units of analysis or critical research variables refer to the introduction and the background/context of the study; the research problem; the research aim, purpose, objectives and questions; definition of key concepts; the research design and methods; data collection and analysis; trustworthiness measures; as well as the ethical considerations. All of these afore-mentioned units if analysis is presented and discussed to varying degrees in all of the ensuing chapters.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Literature review premises on the critical appraisal of research in a systematic, unbiased, careful examination of all aspects of the investigated phenomenon. Such an examination is undertaken with the aim of judging the merits, weaknesses, meaning, and significance based on existing research and knowledge on the topic (Brink et al., 2018; Polit & Beck, 2017). In this chapter, literature review constitutes the cornerstone of the broader understanding of the current study. A literature review is critical to the understanding of the existing research landscape and is carried out by finding, reading, understanding and concluding on published research and theory.

The literature review process gives context to the model proposed in this study, which aims to improve the provision of maternal healthcare services in Gauteng for midwives and pregnant women (Polit & Beck, 2017; Brink, Van der Walt & Van Rensburg, 2014). Aveyard (2010) described literature review as the holistic study and clarification of literature which, in this instance, will focus on maternal healthcare versa vis maternal mortality. According to Creswell and Plano-Clark (2018), and Gray et al. (2017), the aim of systematic reviews is to reduce literature deficiencies by exploring unknown variables and the extent to which new findings can be generalised to other settings.

The aim of investigating the sources is to allow the researcher to critically evaluate decisions taken through the study. The critical appraisal processes for both qualitative and quantitative research conducted in MMR yielded a systematic review of literature to identify or develop quality standards of reviews (Gray et al., 2017).

2.2 CONCEPTUALISATION OF LITERATURE REVIEW

The study focused on both theoretical and empirical sources as a departure for understanding the topic to be researched. This includes concept analysis, theory, models and conceptual frameworks, whether published or unpublished (Brink et al., 2018). Figure

2.1 below indicates the broader context of literature review insofar as acquisition of data is concerned.

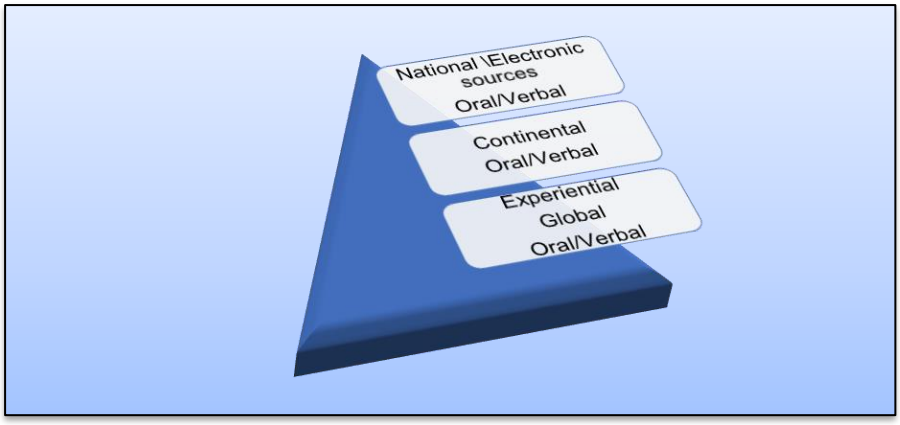

Figure 2.1 Literature coverage

The literature review covered all aspects of a critical appraisal of contemporary issues, challenges and ideologies revolving around the provision of maternal healthcare services in SA. The review sought to lay a sound foundation of knowledge and provide a complete context through which we can view the model for strengthening and improving the quality of the provision of maternal healthcare services within health institutions in Gauteng.

The search focused on research papers related to the provision of healthcare services in different contexts and countries. The search for literature started with a simple question: How is the provision of healthcare perceived? Booleans such as “and”, “or” and “not” were used to combine different words and produce a multitude of search terms. This led to a comprehensive literature search which aimed to retrieve any available researched topic on the same subject. Examples of wording used were as follows:

- Maternal healthcare
- Maternal mortality/deaths
- Facility deliveries
- Quality of maternal healthcare service
- Service quality and customer satisfaction
- Health Promotion theories
- Maternal healthcare models

2.2.1 Literature search strategy

Several databases were searched with the aid of the university librarian, who provided expert knowledge and assistance. Data was gathered from these databases using the question posed above, with some modification in cases where searches returned unfavourable results. The title, abstract, keywords and content of potential studies were used to determine whether they matched the criteria for inclusion, with the aim of further vetting by the researcher for critical appraisal. Most of the searched papers were on specific nursing or medical care rather than on general healthcare services. Papers viewed as irrelevant and unrelated to the provision of healthcare services were discarded and eliminated from the review process. Figure 2.2 below summarises the final process, and the databases to which the search was limited.

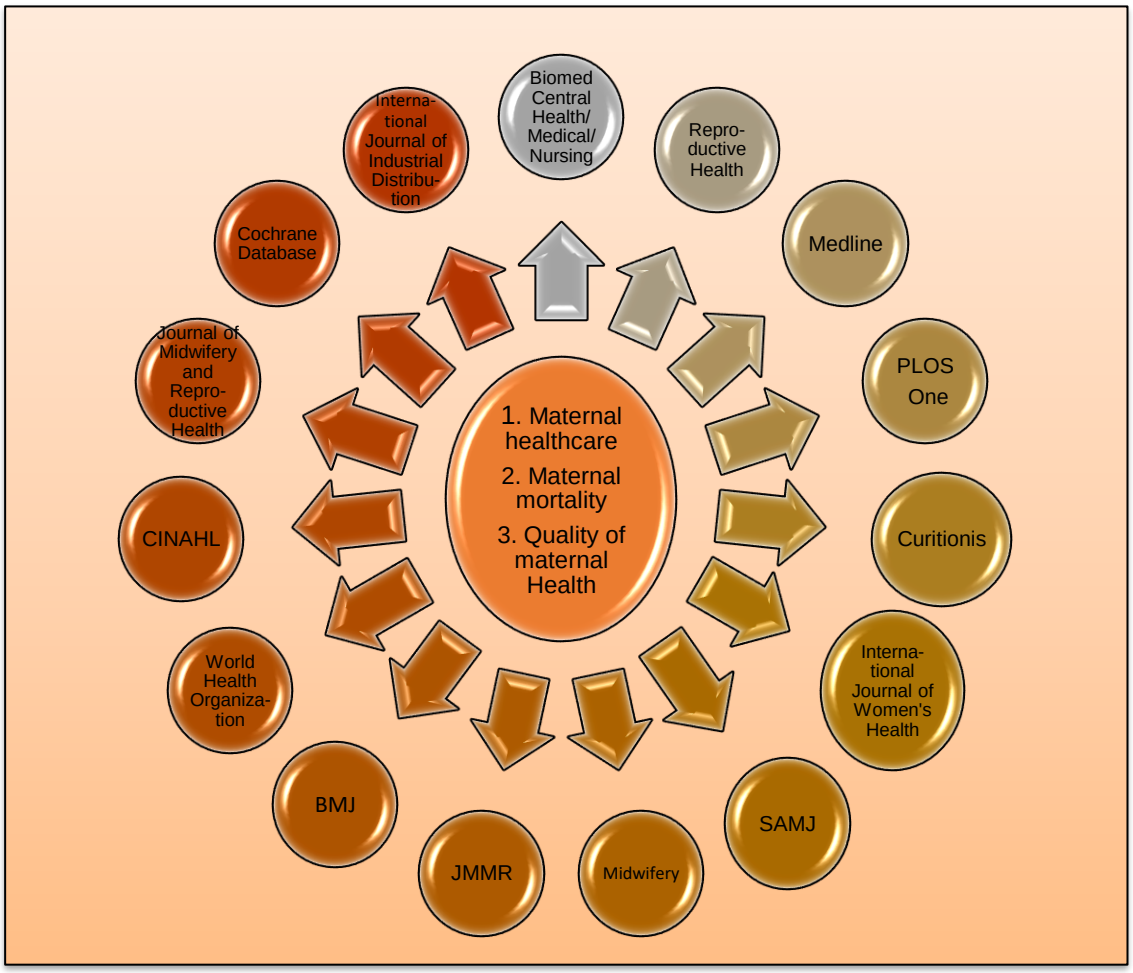

Figure 2.2 Summation of the search engines and sources

Figure 2.2 above shows the diverse range of local and international sources of secondary data and search engines, all of which were centrally directed by the search for “maternal health” and “maternal mortality”.

2.3 A GLOBAL PERSPECTIVE OF MATERNAL HEALTHCARE

Globally, maternal mortality has been the second leading cause of death amongst women of childbearing age, following HIV. Furthermore, about 303 000 women died of obstetric causes in 2015. The risk of women dying of maternal causes stands at 1 in 180 globally (WHO, 2015).

The MMR is 19 times higher in developing countries than it is in developed countries (WHO, 2015). In 2015, over 800 women were still dying every day from pregnancy and childbirth-related complications, despite the improvements made in the past 25 years (Davaki, 2019). It is obvious that women care deeply about the survival of their children, but they are also concerned about the effects of contraception, pregnancy and childbirth on their own health, a matter that has been made short shrift of in traditional MCH and family planning programmes. In recent years, however, the issue of women’s health has received more serious attention, although we still know surprisingly little about the incidence and prevalence of morbidity associated with pregnancy and childbirth. Mortality has been more carefully studied.

Globally, there is evidence of increased maternal mortality (WHO, 2018). Most of these deaths occurred in low-resourced regions and could have been avoided. This indicates that women have unequal access to healthcare services; inequalities which are associated with their socio-economic status. As such, the WHO (2015) advocates for improving maternal healthcare as a key priority. The rich are more likely to have access to healthcare services, as compared to their poor counterparts. The WHO (2015) indicates that almost 100% of maternal deaths occur in SSA, a fragile and humanitarian setting lacking ins skilled personnel.

The following sections describe the global prevalence, trends and practices of maternal health in countries such as the USA, Mexico, Sweden, Ukraine, Pakistan, Singapore and Bangladesh.

2.3.1 The United States of America (USA) and Mexican contexts

Among developed countries, the USA and Serbia have the highest MMRs. The USA experienced an increase in maternal mortality between the year 2000 and the year 2014, despite its government spending a substantial amount of money towards health. In other countries, however, maternal mortality has been declining at a rate of 14 per 100 000 live births (WHO, 2015).

Several literatures argue that the best healthcare systems do not necessarily belong to the highest spending countries. According to Davis (2019), medical centred childbirth in the USA is at almost 99% utilisation. Approximately 700 to 900 women in the USA lose their lives due to complications related to pregnancy and childbirth. About 60% of these deaths are believed to be preventable. MacDorman, Declercq, Cabral and Morton (2016) lamented the steep increase in maternal deaths in several states in the USA between 2000 and 2014, and that the USA failed to keep validated statistics on its own national maternal deaths. MacDorman et al. (2016) concluded that such a failure by the USA was an international embarrassment.

Maternal deaths among African-American women and in rural areas have been found to be alarming. The literature shows variations in the prevalence of maternal morbidity and mortality based on the race and ethnicity of the women seeking maternal healthcare services. Specifically, the Agency for Healthcare Research and Quality Report captured race as a key indicator of maternal morbidity and mortality, with black women found to have higher rates of maternal morbidity and mortality than their white counterparts. This has also been echoed by (Atanasova, Arevalo-Serrano, Alvarado & Larroca 2018).

In the USA, college-educated black women are more than twice as likely to die from complications related to childbirth than their white counterparts, who have no high school diploma (Association of Women's Health, Obstetric and Neonatal Nurses 2021). Meanwhile, Howell, Egorova, Janevic, Balbierz, Zeitlin and Hebert (2016) highlight that the difference in perinatal outcomes between non-Hispanic, black, perinatal women and non-Hispanic, white, perinatal women are influenced by the sociodemographic and clinical characteristics. The same is supported by (Novoa & Taylor, 2018). On the other hand, maternal mortality in Mexico has been found to be multifactorial in nature (Rodriguez-Aguilar, 2018). Mexican women are at a greater risk of dying due to

pregnancy-related causes, even more so younger women ranging between the ages of 20-34 years. The same author found that almost all these maternal deaths were due to a compromised quality of care, highlighting the challenges posed by existing inequalities and social determinants of health. Gamlin and Holmes (2018) concluded that inadequacies in service provision caused indigenous Mexican women to deliver at home.

Gamlin and Osrin (2018) reported that Mexican women living in rural conditions have higher mortality rates and more limited access to healthcare services than women in urban regions. To provide relief to those most affected, the Mexican government established the Seguro Popular social programme.

The *opportunidades* is another programme targeting low-income groups, with the aim of improving their utilisation of maternal healthcare facilities. On the contrary, Leyva-Flores, Servan-Mori, Infante-Xibille, Pelcastre-Villafuerte and Gonzalez (2014), reported that this very *opportunidade* programme had no impact on indigenous groups. These indigenous Mexican groups faced various socio-economic factors, such as poverty and unemployment, and were thus unable to make use of PHC facilities (Leyva-Flores et al., 2014). On the other hand, Sosa-Rubi, Galarraga and Harris (2007) proved that the "Seguro Popular Program" had a positive impact with regard to access to obstetric services.

In addition to the previously stated challenges, indigenous Mexican women also face many other challenges. For instance, they have to face long travelling distances, with no paved roads, and a lack of telecommunication or internet connectivity within regional hospitals. These challenges have led to women giving birth in isolation, without any support during the process (Gamlin & Osrin, 2018).

2.3.2 The Swedish, Ukrainian and Pakistanian contexts

Sweden and Ukraine are high-income countries and performing well, and are on par, in terms of reducing and curbing maternal mortality. In Sweden, almost all deliveries are conducted in hospital settings and the outcomes of maternal health are excellent. Hence, they have a MMRatio of 4 per 100 000 live births (WHO, 2018). Furthermore, the facilities are luxurious; they offer a comfortable, intimate setting and may include the services of a doula during childbirth (Davis, 2019). Swedish women have a choice on the

pharmacological interventions used during their delivery and have a team of specialist attendants, including the doula, a midwife and an assistant midwife.

This norm contributes to a positive birthing environment for women and curbs poor maternal outcomes, since an insecure environment breeds fear of birthing (Lyberg, Dahl, Haruna, Takegata & Severinsson, 2018). The same, positive, birthing environment is experienced by Ukrainian women. Thus, their MMRatio is also reasonably lower than (13 per 100 000 live births) than of most other countries of the same standard of living.

The WHO (2015) reports that every year, an estimate of 85 000 Asian women die due to pregnancy and childbirth-related causes. Poverty, conflict, poor infrastructure and inadequate health systems are negatively affecting the level of maternal healthcare received by these women. This is supported by Abbasi and Younas (2015), who provide reports of the escalating MMR.

These deaths are related to biological, socio-economic and cultural issues as well as substandard reproductive health services. The strategies employed to reduce maternal mortality in Pakistan have been very slow in yielding results (Nisar, Abbasi, Chana, Rizwan & Badar, 2017). Pasha, Saleem, Ali, Goudar, Garces et al. (2015) also confirmed the above statement when they concluded that Pakistan is less than effective in saving the lives of mother-baby pairs.

2.3.3 The Singaporean and Bangladeshi contexts

Bangladesh has one of the highest MMRs in the world, with MMR of 176 per 100 000 live births. Singapore, on the other hand, has an MMR of 10 per 100 000 live births (WHO, 2015).

Singaporean women are more advantaged in accessing maternal health than their counterparts in Bangladesh, who do not have access to skilled reproductive healthcare. As a result, the utilization of such services in Bangladesh is impacted negatively. Eighty percent of deliveries in Bangladesh were conducted by traditional birth attendants (Tobe, Haque, Ikegami & Mori, 2018). Thus, in such resource-limited settings, mobile-health tools and handbooks were used to improve maternal health outcomes.

2.4 MATERNAL HEALTHCARE IN THE AFRICAN CONTINENT

Countries on the African continent generally have a high MMRatio. SSA has a ratio of 547, while low-income countries have a ratio of 496 per 100 000 live births (WHO, 2015). Developed countries have better access to healthcare services than underdeveloped countries. The Millennium Developmental Goals were aimed at improving maternal health by the end of 2015. This milestone has been met in low- and middle-income countries, particularly in SSA (Kyei-Nimakoh et al., 2015). Further, the authors echoed that SSA countries have the same barriers, with the difference being the nature and extent of these barriers.

The maternal health outcomes of SSA countries remain the worst supported (African Union 2017). There is also evidence of significant disparities in maternal health indicators in this region. Namely: environmental determinants, inequities in access to healthcare and socio-economic status (Kyei-Nimakoh et al., 2015). Beyond the most reported barriers to maternal healthcare, such as a lack of facilities, trained and competent staff, and the availability of equipment and drugs; there are also social and cultural dynamics to consider in this region. These include racial and gender inequalities, poverty and lack of education. African girls are forced into child marriages which expose them to issues of patriarchy, potentially resulting in the death of these girls at an early age due to pregnancy and childbirth-related complications.

Shapiro and Hinde (2017) warned about the fast growth rate of the African population and indicated that the birth rate is alarming and worrisome. Improvements in reproductive health for women of childbearing age have led to reduced and delayed pregnancies and an overall improvement in quality of life (Bongaarts, 2017; Finlay & Lee, 2018). The latter authors agree that access to family planning can transform the lives of women by reducing unwanted pregnancies and deaths related to pregnancy and childbirth. In the past decade, the continent has not been able to fully adopt modern contraceptive methods, despite the growing numbers of women of child-bearing age. This has thus led to the high fertility rates observed on the continent (Van Rie, West, Schwartz, Mutunga, Hanrahan, Ncayiyana & Bassett, 2018). The same sentiments are shared by (Rimon & Tsui, 2018).

The birth rate in Africa is currently at an average of 4.8 children and is aggravated by the lack of access to reproductive healthcare services (Shapiro & Hinde, 2017). The escalating population growth in this region impacts negatively on healthcare services, with maternal healthcare being one of the key priorities. From the researcher's perspective, it is disheartening that women and children are the most affected by the effects of poverty and illnesses.

The WHO (2015) estimated that the maternal death rate (MDR) was at 303,000, leading to a MMRatio of 216 deaths per 100,000 live births. Of these deaths, 99% occurred in SSA. Despite endeavours to improve health services in SSA, specifically those related to maternal and childcare, the rates of maternal and child mortality are still exceedingly high. At the same time, maternal health is seen as a basic right to life for all pregnant women and is an absolute requirement for safe motherhood. Abegaz (2017) encouraged women to demand that their right to life and their right to health be upheld by holding stakeholders accountable.

2.5 MATERNAL HEALTHCARE IN THE SOUTH AFRICAN CONTEXT

South Africa is still experiencing a high number of deaths among women of childbearing age, despite having one of the highest per capita health expenditures in Africa. The SMR (2014-2016) indicated that, despite a reduction in maternal mortality in the previous two triennium reports, there is a marked increase in institutional maternal mortality (NDoH, 2018). This is especially true for provincial hospitals. Lathapersad-Pillay (2015) agrees with these sentiments and goes on to place great emphasis on sexual reproductive health and rights, further stating that the number of deaths observed during the perinatal period are daunting. As a result, South Africa had great difficulty in reaching its MDR target of 38 per 100 00 live births, hence the move towards the targets stated in the SDG's 2030.

Several SRH frameworks and bills were passed in parliament in response to the challenges that women are facing. The Choice on Termination of Pregnancy Act 92 of 1996 is one such legislation, which allowed the woman to terminate pregnancy in the first twelve weeks. The NDoH (2012b) stressed the importance of the provision of quality reproductive healthcare services, and the availability of different methods of contraception to all groups for both women and men. Healthcare services should always be available and accessible. As such, most SRH facilities open after hours to cater for

working women and men who may otherwise not have access to these services during weekdays. These services are rendered by qualified staff.

In the past twenty-five years, South Africa has enacted several bylaws and policies with the aim of promoting maternal healthcare. Pregnant women as well as children under the age of five were given free healthcare services in 1994. Maternal deaths first came into prominence in the year 1977, with deaths occurring both at home and in private institutions (National Committee on Confidential Enquiries into Maternal Deaths [NCCEMD]). Uzabakiriko and Moswime (2019) reported that MMR is very high in Gauteng Province. In many of these cases, the deaths could be attributed to the patients themselves and could also have been avoided. For example, there were un-booked cases and most of the deaths occurred when staff numbers were low. In a study conducted in 2013 in the Gert Sibande district of Mpumalanga, it was found that the cause of maternal mortality was non-pregnancy related infections (Bac, Pattison & Bergh 2019).

SA has an all-encompassing surveillance system in place for the assessment of maternal and perinatal mortality. This system emerged as a result of the collaboration between the National Committee for Confidential Enquiries into Maternal Deaths (NCCEMD), the Perinatal Problem Identification Programme (PIPP) and the district health information system (DHIS). Combined, these systems aim to provide continuous monitoring and evaluation of health data with the goal of improving maternal and perinatal health and rolling out planned interventions (Bac et al., 2019). With this in mind, the researcher then poses the question Why is SA still experiencing high maternal deaths despite all these programmes and policies from the Ministry of Health?

2.5.1 Centrality of the midwife in maternal healthcare

The International Confederation of Midwives (ICM) defines midwives as professionals who work in partnership with women with the aim of providing support, care and advice during perinatal period (Sellers, 2012). In the South African context, midwives are classified as professional nurse-midwife and enrolled midwife. This means that these categories of nurses can either be trained under Registration of Nurse (General, Community and Psychiatry) and Midwifery (R425) and the Registration as a Midwife (R.254) respectively. South Africa has about 57 000 midwives on the register, most of whom are employed in various levels of the national healthcare system (Sellers, 2012).

This cohort was chosen to identity the challenges experienced by the midwives and the women in Gauteng Province during perinatal period. Women were requested to share their experiences during their pregnancy until postpartum period and rate the services they have received. The knowledge, skills and attitudes of the midwives were also examined with regards to provision of healthcare services. The level of knowledge and skills is critical in improving maternal health (Kendall & Langer, 2015).

2.6 MATERNAL MORTALITY IN THE CONTEXT OF MATERNAL HEALTH POLICY

2.6.1 Public health policy factors

2.6.1.1 Global health policies

The WHO (2003) adopted its mandate of "health for all" as a means of allowing all persons to lead socially and economically productive lives. It further urges all governments to collaborate and show commitment towards the advancement and promotion of quality of life, particularly for the poor and disadvantaged. Similarly, the Declaration of Alma-Ata on PHC strives to radically address health inequalities between and within countries. In this era, people across the world should be reaping the outcomes of this declaration.

The World Health Report (WHR) (2008) is clear on the promotion of PHC as the foundation of an effective healthcare system. It also states that PHC is the best approach in ensuring universal health coverage, seen as instrumental to achieving the Sustainable Developmental Goals (SDG's) in 2030. WHR also emphasised the significance of health equity through sound and strong leadership, through PHC-based capacity building for health personnel, and through governance in service delivery (Mash, Almeida, Wong, Kumar & Von Pressentin, 2015).

The Universal Declaration of Human Rights by the United Nations recommended access to public services in one's birth country. Furthermore, it proposed a standard of living which catered for the adequate health and well-being of individuals and families, such as medical care and social services in the event of unemployment, sickness, disability and old age. This declaration indicated that health ministries across the world have a great role to play in ensuring that the latter is achieved without bias.

In 2000, the United Nations Summit put forth the millennium development goals (MDGs) as a strategy to curb the disease burden faced by countries around the world. MDG 4, which aims to reduce child mortality and MDG 5, which aims to improve maternal health, have been the focus area for the discussions in the study. However, this study will only be directed to maternal health policy in SA. The realisation of the targets contained in the MDGs did not proceed as anticipated. In 2013, the review process for these targets resulted in the formation of the sustained development goals (SDGs) 2030, the hope being that such targets will be achieved, subsequently improving the health of generations still to come. USAID (2014) placed emphasis on strengthening the social contract between government and its citizens in order to reduce the MMRatio to less than 70 per 100 000 live births in 2030. The figure has been supported by several authors in the field of maternal health.

2.6.1.2 Universal maternal health coverage (WHO, 2005)

There is global agreement that improvement is required on the coverage of maternal healthcare to reduce the global maternal mortality (Qingyue & Shenglan, 2013). There are, however, countries that are showing good progress on maternal health and are thus reducing maternal deaths. The global strategy on maternal and child healthcare (GSMCHC) (2010) emphasised the significance of improving sexual and reproductive health as a means to reduce maternal mortality. It also placed emphasis on the use of partnerships between various stakeholders to support national plans (GSMCHC, 2010).

The state of the health systems used in a country has a pivotal role to play towards the achievement of maternal healthcare coverage (WHO, 2017). In most low-income countries, access to healthcare is a challenge due to their weakened economies. On the other hand, Atella, Brugiavini and Pace (2015) diverge from the views above, stating that it is possible to achieve health coverage with health insurance. China, for instance, has managed to improve healthcare access and equity through a nationalised health scheme, though it has been noted that this health insurance only benefited well-off groups.

2.6.1.3 Continental health policies

The African continent remains the poorest and most underdeveloped region, despite its great abundance of natural and mineral resources. The continent is affected by a variety of issues, such as poverty, illiteracy, malnutrition, inadequate access to clean water, improper sanitation and poor health. Developing African countries can achieve improved quality of healthcare services delivery. This would require that they strengthen accountability in their health systems by instituting appropriate measures in place. No African woman should die while giving life. Such incidents can be avoided through the provision of universal healthcare services for citizens of the continent (African Union (AU), 2017).

The world population has reached the more than 7.7 billion mark. The African continent constitutes approximately 17% of this number, with just above 40% of that 17% living in urban environments. The African continent is the second largest and second heavily populated continent on earth, with estimates placing the number of citizens at 1, 308 064 (United Nations, 2015). It consists of about 54 countries and 9 territories, with 2 de facto independent states. The populations within African countries are growing at an alarming rate because women have no access to reproductive health services.

2.6.1.4 National (South African) health policies

The Constitution of the Republic of South Africa (Act 108 of 1996) further emphasises the right of access to healthcare (South Africa 1996). SA, as a democratic country, has centred its values around human dignity, anti-racism and anti-sexism, equality and human rights as well as freedom. Chapter 2, Section 27(1) (a) and (3) of RSA (1996) explicitly states that everyone must have access to healthcare services, which includes reproductive healthcare, and that no one should be denied emergency medical treatment. In reality, it is questionable whether these rights are respected and whether the government has sufficiently upheld the values outlined in the bill of rights.

The above-mentioned legislative background underpins the broader parameters of the National Health Act (No. 61 of 2003). Among others, the Act mentions that the Health Ministry is required to render such healthcare services as improve the health status of the population. Furthermore, it also speaks on the eligibility criteria for free healthcare

services in public health facilities. The National Health Act also outlines the scope, duties, responsibilities and practices of the nursing profession. It explicitly states that a professional nurse or midwife must be qualified and competent enough to render comprehensive nursing and midwifery care. They must additionally have a complete sense of accountability and responsibility. Similarly, both the South African Nursing Council's (SANC's) Regulation 687 and the Public Service Act highlight a comprehensive set of responsibilities for all categories of nurses in SA, of which South African nurses are expected to follow as well. Combined, these policies should be enablers for the improvement of the maternal health status of South Africans. However, this can occur only if those who implement the policies ensure that the mandate is carried out as originally intended.

2.7 THE SOCIAL ECOLOGICAL AND SERVICE QUALITY CONTEXTS OF MATERNAL HEALTH

This researcher's highlighting of both the social and service quality frameworks in this section is aimed at sharing the multiple reviews and the perspectives of various scholars about the frameworks in a literature context, rather than in their specific theoretical categorisation. The latter has been addressed in Chapter 3. Furthermore, the integration total quality management (TQM) in this study was induced by the factors that directly and indirectly impact on the delivery of maternal healthcare services. Quality is crucial in enhancing customers satisfaction; hence, incorporation of TQM as a sub-component of service quality.

TQM is a concept which has existed since the 1930's. TQM is seen as a programme aimed at optimising the supply of resources, reducing inefficiencies, restructuring cost and curbing customer complaints (Alshatnawi & Ghani, 2018). In this regard, hospitals, with complex service models and unsatisfactory levels of quality, have been found wanting. Chakravarty, Parmar and Ranyal (2001) found that TQM has been widely used in the health sector. They further concluded that it has brought about successful outcomes in the health sector and that it is seen as a long-term strategy for the improvement of quality. The theorists most commonly associated with TQM are Deming, Crosby and Juran (1986) by (Garvin 1990), whose interest lay in the cost of attaining quality. These theorists shared the belief that commitment and responsibility on the side of management is crucial. They also believed that a customer centric approach will ultimately lead to an

improvement in quality and a reduction in challenges faced, although this would require a change in culture and in the current *status quo*.

TQM is an overarching concept which encompasses quality control, quality assurance and quality improvement, in terms of which quality management system (QMS) is a subset of quality assurance (Roller & Lavrakas, 2015). QMS consists of a structured set of requirements, it helps institutions develop working systems as well as the processes and controls forming part of that system. Quality is defined as “conforming to the requirements” while service quality is seen as “a measure of how good or well the service or level of a product tallies with the customer expectations” (Parasuraman, Zeithaml & Berry,1985). Service quality is the cornerstone of consumer satisfaction and is a critical dimension for competition in most firms in the service industry (Shahin & Samea, 2010).

Parasuraman et al. (1985) echoed the concern that it is difficult to measure quality, hence the limited number of researchers in the field at the time. Parasuraman et al. (1985) subsequently investigated the concept of service quality, which led to the development of the Service Quality Gaps Model (SQGM). Their model was later incorporated into the Social Ecological Theory (SET) to investigate maternal health and maternal mortality in Gauteng health facilities.

2.7.1 Health reform

2.7.1.1 Universal health coverage (UHC) (WHO, 2013a)

The WHO (2013a) defined universal health coverage (UHC) as a strategy that can be used to provide communities in need with effective, quality healthcare services without exposing them to financial hardships. The concepts of UHC and health financing are inseparable. The World Bank and World Health Organization Report highlighted, that despite the strides achieved on UHC, about half of the global population still has no access to essential health services. This includes maternal health services. Kominski, Nomzee and Sorensen (2017) echoed the same sentiments on healthcare coverage.

Compared to other countries, China has been found to have exemplary universal health coverage and an equally accomplished healthcare system. The population of China is one of the largest in the world, yet the country has been able to position its resources so

as to allow it to improve the health of its people (Wei, 2015). The Chinese government prioritised and redirected its budget towards the building and revitalisation of health-related infrastructure, the training of personnel for primary health services and subsidising their three medical schemes. The most outstanding achievement for China was the enrolment of approximately 95% of the population onto health insurance cover. This enhanced access to healthcare for both urban and rural segments of the population; nevertheless, there are still challenges to be addressed (Wei, 2015).

Universal health coverage should be supported by massive action and participation from the government (Yu, 2015). The government has the responsibility of providing the highest level of leadership, making bold decisions when required and forming partnerships with relevant stakeholders to ensure the health and well-being of all (WHO, 2018). There is substantial evidence that developed countries are still unable to provide access to healthcare services. Cylus and Papanicolas (2015) report that several European countries have failed to provide sufficient access to healthcare services for their residents.

2.7.2 South African reforms

Prior to 1994, the apartheid regime in South African ensured that the white minority had a much higher standard of living than any other racial group. From 1994 onwards, the democratically elected South African government strived to have all South Africans benefit equally from system and this required the transformation and reformation of the existing health system. The healthcare system in SA was legislated by a single framework, the National Health Act, 61 of 2003, as amended for the provision of basic health rights. Being a democratic country, South Africa has an obligation to provide uniformity and equality with regards to healthcare services for all of its citizens. The current health system is, therefore, divided into two-tiers; affordable and accessible public healthcare as well as private healthcare for those of financial means.

2.7.2.1 The National Development Plan (NDP): Vision 2030

The NDP highlighted the fact that the health system in SA has not improved. This is despite good policies and high government spending, as compared to other African countries. Indeed, the two afore-mentioned tiers in the health sector have subsequently

led to health inequalities (NDP, 2013). The NDP also acknowledges that the South African public health system requires overhauling, with hospitals that provide quality primary, secondary and tertiary healthcare that is efficient and effective for those in need of it (NDP, 2013). On the other hand, the NDP very clearly defines health goals that are aimed at improving the health and wellness of South Africans and strengthening the country's health systems based on the following goals outlined in its strategic plan:

- Increase the life span of South Africans to at least 70 years
- Improve Tuberculosis treatment and care
- Respond to mother and child morbidity and mortality rates
- Curb the incidences of injuries, accidents and domestic violence
- Reduce the prevalence of non-communicable diseases
- Improve the care provided by primary healthcare teams
- Support the introduction of the NHI
- Ensure that posts are filled with skilled and competent staff
- Reform the health system

However, the position of the researcher is that this can only be achieved by improving management and leadership at the facility level, providing capacity building opportunities for healthcare professionals, resolving clinical and administrative issues as well as improving maternal and childcare.

2.7.2.2 The National Health Insurance (NHI)

The NHI introduction has the potential to improve biological outcomes significantly. Implementation of NHI should improve the maternal healthcare services if the reproductive health services receive the attention they deserve".

There is evidence to the effect that the National Health Department in SA is moving with greater speed towards the radical transformation of the current state of health affairs. The department is fast tracking the implementation of NHI, which will cover a larger number of the South African population and achieve universal health coverage (NDoH, 2017b). NHI is the means by which a single, compulsory, medical aid scheme will be established for all South Africans. The aim of this project is to improve service provision and

healthcare delivery in a manner that will promote equitable, efficient and affordable healthcare to South Africans. The NHI will bridge the health inequalities currently observed in the South African population. However, it remains to be seen whether SA is ready or prepared to take up this initiative. The infrastructure required to carry it out needs maintenance or renovation, and the necessary equipment is not yet available.

Hospitals and clinics in Gauteng Province are dilapidated due to lack of proper maintenance and there is a need to direct money toward infrastructural development. The 1997 White Paper on the Transformation of the Health System sought to improve the quality of health service delivery, including maternal health services, to all South Africans, regardless of their socio-economic status (NDoH, 2015; 2018). It has been stated that NHI will be phased in gradually over a period of 14 years, which has already begun. As part of the process, a pilot has been conducted to assess the feasibility of the project. The former South African Minister of Health, Dr Aaron Motsoaledi, has adamantly put forth his view that the NHI project is the only option capable of resolving the disparities present in the health sector.

NHI is perceived as a tool that will transform the South African health system. Its aim is to reduce the exorbitant and ever spiralling cost of private healthcare, mitigate the number of fraudulent claims, put an end to the unethical practices carried out by some medical aid schemes and, finally, improve the quality of care in the public health sector (NDoH, 2012b; 2017b). The need for the SA government to review the state of health is more imminent, considering the growing population and cross boarder influxes. The application of the NHI pilot has been the cornerstone of a strategy to improve South African health facilities to meet international standards. As emerging economies, BRICS countries (Brazil, Russia, India, China and South Africa) are similarly on a mission to develop their respective health systems to improve service delivery.

Benatar, Sullivan and Brown (2017) suggest that the NHI, on its own, may not be enough to solve all the current healthcare inequalities faced by SA. There are many aspects of coverage that still needed to be investigated prior to the implementation of this project. These include governance and leadership issues, infrastructural development, the recruitment and allocation of human and material resources, policy implementation, skill capacitation and, lastly, the prioritisation of social, economic and political policies. James (2016a) alluded to their doubts about the success, feasibility and pragmatism of NHI and

has looked to an alternative plan, the “Our Health Plan”, proposed by the opposition party-the Democratic Alliance. The opposition argue that this alternative plan would be an affordable and cost-effective measure, able to provide quality healthcare to South Africans (Kgosana, 2019).

2.7.2.3 Primary healthcare reform/re-engineering (PHCR)

The National Health Council (NHC) provide clear guidance on a health system to re-engineer the PHC. The objective is to realise the vision of a long and healthy life for all South Africans within the context of three specific streams. These streams are, namely: ward-based outreach teams, school health services and district-based clinical specialist teams looking at MCH. This model places great importance on improving the universal accessibility and quality of healthcare services in SA through community participation and engagement (Grant, Wilford, Haskins, Phakathi, Mntambo & Horwood, 2017).

2.7.2.4 Negotiated service delivery agreement (NSDA)

The MMRatio in SA has shown a remarkable decrease of approximately 84 deaths per 100 000 live births from 2008 to 2011 (NSP, 2015) as compared to SMR (2014-2016), where the MMR has been reported as high. Similarly, the NSDA shared concerns of a MMRatio that was considerably high when compared to other developing countries (NDoH, 2018). The envisaged reduction in maternal mortality will be achieved through implementing the principles of PHC and having a functional referral system to avoid delays. The lack of emergency in obstetric care and poor quality are major factors which have contributed to the high rate of maternal deaths (WHO, 2010b).

However, the health ministry is clear on how it intends to reduce maternal deaths and these plans were endorsed by the ministerial committees on maternal mortality as well as the campaign on the reduction of maternal mortality in Africa (CARMMA). These committees outlined structural development initiatives to improve the adoption of contraceptives, increase the number of maternity waiting homes and obstetric ambulances as well as to build staff capacity (NSP, 2015). Harris, Goudge, Ataguba, McIntyre, Nxumalo, Jikwana and Chersich (2011) further argued that even though the health ministry put efforts into a programme to upgrade facilities and buildings, it was in fact transport and distance came out as key hindrances to accessibility when the

geographical settings of the health facilities were taken into account. They also highlighted the fact that policymakers should challenge the negative perceptions, concerns and stereotypes that exist regarding quality healthcare provision. The question, however, is how they will manage to do so.

2.7.2.5 Office of the Health Standards Compliance (OHSC)

The OHSC was established in 2013 with the view of having it become an accreditation body for the evaluation and monitoring of the quality of healthcare, providing management and oversight as well as rectifying errors from the past. The main purpose of the OHSC is to ensure that health facilities are complaint and follow all applicable norms and standards. The OHSC also has the goal of protecting users from harm and ensuring that they receive an acceptable standard of healthcare (OHSC, 2019). The matter of compliance prompted the researcher to investigate the current gaps in the implementation of health policies.

2.8 HEALTH POLICY IMPLEMENTATION AS A SERVICE QUALITY

The researcher portrays the background of the above model in this section with the intention to highlight the broader parameters of the Service Quality Gap Model, whose specific theoretical relevance and aspects are presented in Chapter 3. The latter chapter also specifies the principles and characteristics as articulated by the SQGM proponents in more details. In the current chapter, the researcher mainly presents different perspectives of various scholars regarding Service Quality Gap Model in healthcare systems.

Policy implementation is a complex, continuous process and is often incoherent, rather fragmented, labour-intensive and episodic (Mthethwa, 2012). Mukanu, Zulu, Mweemba and Mutale (2017) postulated that the content of the policy, the formulation process and the use of the policy are key to an effective implementation while government is expected to strengthen the linkages with the relevant partners.

Policy implementation is based on stakeholder buy-in, involvement and collaboration, and stakeholders must be able to afford the resources necessary to ensure a successful roll out the policy (Faraji, Etemad, Sari & Ravaghi, 2015). Health System Trust (2011) found

that the South African health system was not client-oriented and was not trusted by end-users and communities. This meant that the health system was not aligned to the broader development goals. Policy implementation may fail for a number of reasons. Mukanu et al. (2017) highlight the impact of government reshuffles on policy implementation, since these can lead to major delays in the process and possibly cause the implementation to fail. Financial constraints may also result in failure, whereby stakeholders are no longer able to fund the rollout of programmes or the compilation of the required content. On the other hand, it is necessary to build capacity for the policy formulation and implementation process, to enhance accountability and to ensure knowledge is disseminated to maternity units in Gauteng Province (El-Jardali, Bou-Karroum, Ataya, El-Ghali & Hammoud, 2014).

The researcher's view is that the Ministry of Health does not seem to know and understand the expectations that South African women of childbearing age have of the quality of service received. Thus, the ministry finds it difficult to improve on maternal health and reduce maternal mortality even when these women deliver in healthcare facilities and under skilled birth attendants.

2.8.1 Community factors

2.8.1.1 Gross domestic product (GDP)

The WHO (2010b) emphasised that countries with a health expenditure of 5% or more of their GPD can produce improved health outcomes. Statistics SA measures the expenditure of GDP as an indicator of the total spending in the economy. The economy of SA grew by 2.2% in the third quarter of the 2018 financial year, post the technical recession (Stats SA, 2016). The GDP of SA has been almost stagnant since 2012, with 8.8 % of the GDP being spent on healthcare services. About half of that is directed to the private health sector, while the other half of spending goes towards the public sector. This essentially means that half of spending goes towards private health, which serves approximately 11 million people, and the other is directed towards public health, which serves approximately 47 million people.

The private healthcare sector is benefitting only less than 20% of the SA population, a distribution which seems to be skewed towards the minority. Should a comparative analysis be made between SA and other BRICS countries, such as Russia, China or

India, their health expenditures, relative to their GDPs, are far less than that of SA. However, the healthcare outcomes of Russia are much more improved than those of SA. To date, there has not been much difference in South Africa's expenditure on health. Further, this expenditure is still below the average of 9.3%, given by the Organization for Economic Cooperation and Development (OECD) (2014).

According to the Quarterly Labour Force Survey (QLFS), SA has a high rate of unemployment, currently standing at 27.6% (Stats SA, 2020). This has resulted in many South Africans living under poor socio-economic conditions and being forced to depend on the government for their basic needs. It has been noted the poor are the most affected by the burden of disease. As they cannot afford the expenses associated with private healthcare, the only option left to them is making use of public healthcare facilities. The OECD is a forum where democratic countries can discuss and develop economic and social policies aimed at fighting poverty, maintain economic stability and improving the standard of living for their citizens. SA budgeted an estimated R1.67 trillion in fiscal year 2018-2019 and about 48 % of spending was on healthcare in SA.

The budget allocated to health increased by more than 8%, as compared to the previous financial year 2017/18. The total amount allocated was approximately R187,5 billion and was aimed at hospital revitalisation and NHI. Of this, R32,3 billion was set aside for provincial hospital services (NDoH, 2017b). Despite such spending, South Africa still experiences worse health outcomes than other developing countries with significantly less GDP spending on health.

2.8.1.2 Socio-economic inequalities

Social and economic inequalities, although different, are interrelated. Social inequalities may include access to education, healthcare, housing and services. Legislation and by-laws may also cause further discrimination and exacerbate disparities amongst people based on gender, race and wealth (Ampah & Ali 2019). Khowaja, Mitton, Qureshi, Bryan, Magee, Von Dadelszzen and Bhutta (2018) echo the same sentiments, stating that an individual's ability to access healthcare depends on whether they have the means to pay for this healthcare, their proximity to healthcare facilities and the means of transportation available to them.

A high income is generally associated with an improved level of health. Educational circumstances, however, also play a major role in health and it is a major indicator of a country's socio-economic state. Education provides the working class with the skills necessary to potentially find employment. South Africa, however, has high unemployment rates, with the number at 26.5 % in 2016 (Stats SA, 2016). This will further compromise endeavours to bridge the gaps between the rich and the poor, gaps which including access to healthcare. This would inevitably lead to an escalation in poverty and, subsequently, health-related issues.

Social and economic inequalities still exist, with the skewed imbalances still overwhelmingly in favour of the white minority. In the labour market, males constitute 54.7 % of the workforce and females constitute the remaining 45.3%. Further, white South Africans occupy the majority of top managerial positions, at 67.7%. According to the Commission for Employment Equity Annual Report 2018/19, this essentially means that the white minority group occupies more of positions than all other racial groups in the country (Department of Labour, 2018). The sentiments presented above are not limited to the corporate sector, they are reflective of the environment generally found in many other sectors as well. It has been noted that "white male doctors are occupying most of high management positions in most levels of care within the Department of Health" (Shung-King, Gilson, Mbachu, Moleneux, Murara, Uguru & Govender, 2018).

2.8.1.3 Political aspects

More than 80% of land in SA is owned by white families and businesses. It has been noted, however, that there are many racial, financial, health-related, and other inequalities and disparities present in various countries and SA is no exception. The administration of a government has the responsibility of providing legislation that develops, monitors and controls healthcare services. In this respect, the constitution of a country is seen as supreme and it guides how people are governed. Political parties are therefore engaging on the matter of land redistribution without compensation and are specifically looking at whether to amend Section 25 of the Constitution of RSA, where it specifically addresses issues related to land (South Africa, 1996).

Many view this ideology as a strategy to bridge the gaps between the rich and the poor and share the wealth of the country equally between all South Africans who live in it. The

current political and socio-economic climate have led to corruption and the looting of public funds, which have negatively impacted the delivery of healthcare services in SA. Unfortunately, it is ultimately the poorest who suffer most. Van Lerberghe, Matthews, Achadi, Ancona, Campbell, Channon et al (2014) cite the lack of sufficient political support as a hindrance to providing maternal healthcare. Citizens have a right to hold politicians and health leaders accountable for access to healthcare, or lack thereof.

2.8.1.4 Cultural aspects

According to Aluko-Arowolo and Ademiluyi (2015), some cultural practices are responsible for the high rate of maternal deaths in some parts of SSA. The causes of maternal deaths are well known and have been categorised broadly as clinical and socio-cultural. Identification of the cause of maternal mortality is key in comprehensively responding to maternal health issues.

Understanding the determinants of maternal mortality and their interrelatedness may be the first step in reducing the number of women dying during pregnancy and childbirth (Yarney, 2019). However, there is little progress in research conducted on the sociocultural suggestions of maternal deaths (Ariyo, Ozodiegwu & Doctor, 2017).

Exploring cultural factors and their influence on women during childbirth will assist in the provision of culture-sensitive care, improve maternal health and reduce maternal mortality (Evans, 2012).

2.8.1.4.1 Patriarchal predisposition

In some African regions, women are stripped of the right to make any decisions regarding their health during their delivery. Lowe, Chen and Huang (2016) stated that women have limited choice in seeking maternal healthcare. Instead, it is their husbands who have the power to make such decisions, hence they are often forced to deliver under traditional birth attendants.

In such instances, elders also hold great influence regarding a women's healthcare decisions and hold on to traditional values much more firmly that younger family members (Morris, Short, Robson & Andriatsihosena, 2014). Also, women are still expected to carry

the workload of house chores and field work, even in their pregnant state, leading to pregnancy-related complications (Lowe et al., 2016). Exaggerated activity, especially in the later terms of pregnancy, can be detrimental (M'soka, Mabuza & Pretorius, 2015).

2.8.1.4.2 Beliefs and practices of the women

Indigenous knowledge forms an integral part of the lives of rural communities globally. This knowledge greatly influences their perceptions of health and illness, such as the causes of diseases and attitudes towards seeking healthcare (Riang'a, Nangulu & Broerse, 2018). Mesele (2018) concluded that socio-cultural beliefs and practices carried out by pregnant, such as abdominal massages and the use of herbs and Zarr spirits to speed up labour, have negative outcomes for women and are directly linked to mortality. These beliefs and ritual practices impede on the utilisation of maternal health services (Mesele 2018). The same findings are shared by (Sumankuuro, Crockett & Wang, 2017).

2.8.1.5 Technological aspects

There is evidence of escalating healthcare expectations as a result of the emergence of the fourth industrial revolution (4IR). Complexities in healthcare, the burden of disease and demographics are forever evolving and, in order to respond to this ever-changing world, significant leaps in fields such as technology, education and research will be required. It includes several technological measures to improve the accessibility and quality of healthcare, including maternal health. The Gauteng provincial government has a very clear mandate with regards to all services provided to the people. For example, one of the objectives of the NDoH, which policy makers and leaders must follow, is to promote the use of technology to improve on the provision of quality healthcare.

Mom-Connect is another technology which was introduced specifically to improve maternal care during pregnancy as well as the health of the baby post childbirth. Mom-Connect is a software application allows pregnant women to report any problems regarding their pregnancy on their cell-phones and communicate with a designated midwife (Barron, Peter, LeFevre, Sebidi, Bekker, Allen, Parsons, Benjamin & Pillay, 2017). The service is very cost effective and is available in all of South Africa's official languages. Nurse-Connect is an extension of Mom-Connect (Fischer, Sebidi, Barron & Lalla-Edward, 2019) in the sense that this technology functions very similarly to Mom-

Connect. However, this software application instead seeks to support nurses and midwives stationed in maternity units by providing them with relevant information on the health of the women and babies in their care. The programme has been found to have imparted valuable knowledge on healthcare providers and improved the quality of care within the maternity units. It also provides professional and psycho-social support to the staff. In 2017, just less than twenty-thousand nurses and midwives were registered under the programme (RSA).

This process will transform the healthcare system whereby safety, efficacy, efficiency, timeliness and equity become central to the user's health needs. Therefore, government should focus on strengthening the partnership between technological companies and healthcare (South African Health Review [SAHR] 2011).

2.9 DISCORDANT HEALTH SERVICE QUALITY STANDARD AS A SERVICE GAP

2.9.1 Role of government

The WHO (2010a) emphasised that governments have an obligation to provide affordable, accessible, effective, efficient and quality healthcare services to the people. The same applies to SA. Chapter 2(27) (1) (a) of the Constitution of South Africa (Act No. 108 of 1996) states that access to healthcare services is a right for all (South Africa 1996).

The NDoH (2015-2020) has a vision for "A long and healthy life for all'. Based on these working statements, government is not only liable for providing healthcare services to the South African population, but it must also commit to doing so in resource limited resources settings. Every government has the responsibility of stewarding the health system within its own borders and this applies to both public and private healthcare. The best means of improving the provision of healthcare services is for governments to develop the core standards necessary to attain behavioural change of organisations and individuals. Phiri and Ataguba (2014) support the view that government has the responsibility of ensuring that the plight of the poor and disadvantaged is alleviated.

Removing the barriers to access and improvement of the healthcare services provided at primary care level for those who cannot afford healthcare based on their socio-economic background. SA faces several challenges which have led to inadequate levels of service

delivery, these include poor governance and leadership, a lack of accounting and corruption. These challenges cut across departments and affect multiple areas of government, this is evidenced by regular community protests occurring on an almost daily basis. Corruption is emblematic of the abuse of the power entrusted to an individual or group of individuals for personal gain. It has been shown that, as a result of corruption, much needed resources have been diverted away from their intended use. This has led to the destabilisation of the healthcare systems. SDG target 16.5 is targeted at reducing corruption and bribery, in its all forms, through strict measures of accountability and transparency (United Nations, 2015).

2.9.2 Reducing poverty and improving socio-economic status

According to NDoH (2018), those socially derived factors with an effect on the health of communities do also affect health facilities and poor people. A considerable segment of South Africans is indigent due to high unemployment rates, which are continuing to escalate with concerning speed. Currently, the state of health in SA does not align with the potential, positive outcomes envisaged.

2.9.3 Financial implications

Barriers to accessing healthcare services may emerge due to several reasons. Financial and socio-economic factors were found to be contributors to the lack of access to healthcare services. Khojawa et al. (2018) mentioned that the ability to access healthcare services depends on an individuals' economic status, proximity to healthcare facilities and the available means of transportation.

In many instances, people are forced to pay out of pocket to cover pharmaceutical expenses or co-payments for prescriptions, this has had a great impact on access to care (Doshi, Pengxiang, Vrushabb, Ladage, Petit & Taylor, 2016). Other factors affecting access to healthcare were long queues and waiting times. Such issues are present mainly in public healthcare facilities serving low-income communities, where many individuals are unable to seek care from private providers (Dahab & Sakellariou, 2020; WHO, 2012). All these challenges lead to poor health outcomes.

2.10 ORGANISATIONAL FACTORS

2.10.1 Health environment

James, Villacis, Calderon and Cook (2017) reported that patients were much more impressed by aspects such as cleanliness and staff attitude when visiting medical facilities than they were with the more technical part of the facilities. It is further echoed that personnel who displayed attributes such as empathy, patience, friendliness, helpfulness and trustworthiness made service users feel more at ease and relaxed, leading to better health outcomes.

Aiken, Sloane, Clarke, Poghosyan, Cho, You, Finlayson, Kanai-Pak and Aungsuroch (2011) concluded that poor hospital conditions and job dissatisfaction are associated with negative outcomes for nurses and a lower quality of care. Similarly, improving working conditions yields better retention rates for the nursing staff and leads to better patient care.

Many studies have reported on the burnout of nurses in their workplaces, which negatively impacted the quality of healthcare provision. Absenteeism is also reported to have hindered the efficient provision of services to users. In most cases, the absenteeism is a result of ill health manifested through physical and psychological symptoms. Nurses are the point of contact for clients and patients at all levels of care and Aiken et al. (2011) echoed that a better work environment is associated with lower levels of burnout.

2.10.2 Maternal healthcare

Healthcare services should always be accessible, affordable, available and acceptable to the end users, especially to vulnerable groups such as pregnant women and new-born babies (Kyei- Nimakoh et al., 2017). It has been noted that, in some parts of the African continent, a plan to increase antenatal service use and improvement of quality is dire (Kanyangarara, Munos & Walker, 2017).

Convergently, it has been acknowledged by several scholars that access to maternal health services influences maternal outcomes. Kuupiel, Tlou, Bawontuo and Mashamba-Thompson (2019) have revealed a lack of accessibility and availability for services such

as diagnostic tests for maternal health in rural areas. Blank, Prytherch, Kaltschmidt, Krings, Sukums, Mensah, Zakane, Loukanova, Gustafsson, Sauerborn and Haefeli (2013) conducted a study in three South African development community (SADC) countries on the “quality of prenatal and maternal care: bridging the know-do gap”, an electronic clinical decision support system for rural SSA. The authors found, in these three countries, that there was poor accessibility to guidelines. It has further highlighted the fact that routine midwifery care is not carried out, hence complications may be missed or identified late into the process of delivery. It has also been noted that such complications may arise as result of a lack of knowledge, insufficient training or low motivation brought on by a non-conducive working environment.

In comparison with other developing countries, South Africa has excellent healthcare policies. It is the implementation thereof that is far removed from what is written (Coovadia, Jewkes, Barron, Sanders & McIntyre, 2009). The divide between the rich and poor, for example, must be narrowed, as is stipulated in the Constitution. The question then becomes: Is healthcare service in SA truly accessible, affordable, effective and efficient? On the 25th of July 2019, the President of SA (Mr Ramaphosa) signed a health compact aimed at correcting the current gaps within the NDoH, ensuring universal health coverage, and improving the quality of healthcare services. In view of such developments, the researcher confirms that the government acknowledges the many shortcomings of the public health sector. In the researcher’s opinion, further evidence of the failing healthcare system was given during the proceedings of commission into the Esidimeni Marathon Project in 2017, led by retired judge Dikgang Moseneke.

2.10.3 Lack of access to maternal care and facilities

Abaerei, Ncayiyana and Levin (2017) reported that 95.7% of the sample size drawn utilised the healthcare services in the Gauteng province. Phiri and Ataguba (2014) suggested that equitable access to healthcare services should focus on the needy and poor. This includes the strengthening of PHC facilities to serve the poor and to reduce the barriers to optimum healthcare utilisation as well as to promote universal health coverage.

Socio-economic status has been found to also be a contributing factor to a lack of access to healthcare services. Surprisingly, the results of a study by Chinkhumba, De Allegri,

Muula and Robberstad (2014) showed that women delivering in healthcare facilities have a higher likelihood of dying due to high-risk complications, as compared to women labouring at home. These results correlate with SMR which reported high institutional maternal mortality, especially in South African provincial hospitals (NDoH, 2018).

In Africa, 85% of perinatal women still give birth outside the hospitals (Davis, 2019). When women delay seeking out maternal health, that is seen as one of the predisposing factors of maternal mortality and morbidity. Even the choice of not visiting public healthcare facilities is often due to a reduced level of quality at these facilities as a result of overcrowding (Abaerei et al., 2017).

A referral system is used to refer women to the next level of care based on their midwifery assessment outcomes. Pregnant women, however, have had a tendency of overruling referrals given through this system. They instead opt to access the facilities of their choosing, thereby defeating the purpose of the referral system. This problem, in the researcher's opinion, is associated with a lack of understanding on the part of pregnant women, especially those in labour, of how the referral system works and the importance of triaging the women. Moodley, Fawcus and Pattinson (2018) suggested that the DOH establish maternity waiting areas to add some relief from the burden of overflowing maternity units. These areas will also respond to the challenges faced by women reside long distances away from the facilities, as they will monitored and taken care of while awaiting active labour.

A substantial number of scholars supports the use of interventions led by community healthcare workers. These were found to be effective in improving maternal health in under resourced areas and they contributed to an upsurge in the adoption of essential maternal care services during the antenatal and postnatal period (Kikuchi, Ansah, Okawa, Enuameh, Yasuoka et al., 2015). According to the findings of a study by Geldsetzer, Mboggo, Larson, Lema, Magesa et al., 2019), CHW-led interventions had a satisfaction rating of 71%. In this regard, South Africa has ward-based outreach teams (WBOTs), which have been found to the best strategy for promoting access of healthcare services (NDoH, 2017b).

2.10.4 Antenatal care

Antenatal care prepares women for labour, when they need enough information to be able to address any eventualities that may arise (Gottfredsdottir, Steingrimsdottir, Bjornsdottir, Guðmundsdóttir & Kristjansdottir, 2016). In addition, parents-to-be appreciated the information received from antenatal classes. Most authors agree on the effectiveness of antenatal care, as it brings about positive outcomes for women in labour (Barimani, Frykeldal, Rosander & Berlin 2017; Ferguson, Davis & Browne, 2012).

African countries have an extremely high rate of maternal deaths due to a lack of access to quality antenatal and obstetric care. The Gauteng Department of Health (GDoH) (2016) Annual Report indicated that 58.4% of women, who were not more than 20 weeks into their gestation, received antenatal care. The report goes on to state, however, that the target has been set for 70%. This clearly shows that there is still room for improvement with regards to these services. In addition, there still exist several contributing factors to poor maternal health outcomes such as gender-based violence, hard labour and ignorance of the warning signs in obstetric health (Cockcroft, Omer, Gidado, Baba & Andersson 2019).

Cockcroft et al. (2019) conclude that by increasing the number of home visits by healthcare workers yielded the reduction of maternal complications and decreased the burden on health facilities, even though these visits extended to only 30%of pregnant women. Also, 97% of pregnant women at least visit antenatal facilities, reducing mortalities related to pregnancy (NDP 2013). There is, however, still a high rate of maternal deaths in these facilities, especially at the provincial level (NDoH, 2018).

2.10.5 Equipment and Infrastructure

The draft of the Ideal Hospital Realisation and Maintenance Framework (IHRM-F) aims to facilitate the improvement of healthcare delivery and a more effective health system through capacitating hospitals and providing increased responsiveness to challenges experienced (Republic of South Africa 2018). Figueiredo, Goncalves, Batista, Ackerman, Pinheiro and Nascimento (2018) assert that some of the barriers to reducing maternal mortality are the lack of the necessary infrastructure and the lack of resources such as medicines, routine tests and supplies. A Ghanaian study revealed similar gaps in

maternal healthcare which were linked to equipment and infrastructure, including inadequate supplies of basic drugs and a lack of privacy during childbirth (Dalinjong, Wang & Homer 2018).

Since 1994, South Africa has performed outstandingly with regards to the building and upgrading of infrastructure. Approximately 1600 clinics, providing free healthcare services for children under six and pregnant and lactating mothers, have been built or upgraded (IHRM-F, 2018). On the other hand, the private health sector finds itself in a better position in terms of funding and infrastructure, government subsidies and the management of substantial human resources (Dookie & Singh, 2012).

2.10.6 Human resources

There is a deficit of approximately 80 000 healthcare workers in SA, with a large number of that being professional nurses (James, 2016a). Similar to other country, SA is faced with a shortage of nursing personnel because of the withering interest in the profession, a declining level of empathy and ethics, coupled with the impact of the burden of disease (Armstrong & Rispel, 2015). The shortage of nurses and midwives in SSA has repercussions on patient care as well as the cost of healthcare.

Contrary to the above statements, literature has shown that human resources in South Africa have been unevenly distributed between across urban and rural settings, the public and private health sectors and the different levels of care, namely primary care and hospital-based care (Coovadia et al., 2009). The researchers' view is that this is as a result of the legacy of apartheid, which had a negative effect on the delivery of healthcare services due to unjust policies.

Matlala and Lumadi (2019) also conceded that there is a staffing crisis. In their study, they highlighted that some midwives reported that they had a very large preference towards working in maternity units. They were particularly drawn to the technology and equipment available to them and, hence, would not consider leaving the maternity units for other posts. The opinion of the researcher is that, once healthcare workers identify particular preferences or establish a certain amount of familiarity and affinity for a specific environment, they rarely stray from that environment or explore other situations. However, these tendencies may affect the quality of the rendered maternal healthcare services.

The availability of adequately trained human resources can influence the success of maternal healthcare (Katoba, Kuupiel & Mashamba-Thompson, 2019). Incidentally, personnel shortages and poor leadership have crippled the healthcare system (NdoH, 2018). The quality of the maternal health can be bettered by increasing the number of midwives, through the modification of existing legal frameworks (Bremnes, Wiig, Abeid & Darj, 2018).

In South Africa, the staffing crisis was aggravated by the migration of nurses and doctors to other countries, as well as nurses and doctors moving from the public sector to the private sector in search of better working conditions and higher salaries. The government intervened by introducing occupational specific dispensation (OSD), the implementation of which in turn created a lot of dissatisfaction (NDoH, 2006). OSD was implemented in 2007 with the aim of attracting healthcare workers to public health and retaining them. The implementation of the OSD policy has been flawed, as reported by many health workers, hence the Department of Health is still faced with a high turnover of workers.

2.10.7 Non-utilisation of maternity guidelines and tools

The role of facility directors is to ensure that relevant policies or guidelines are enforced (Bedwell, Levin, Pett & Lavender, 2017). The failure of healthcare providers, healthcare systems and policy makers in following evidence-based practices results in negative outcomes and consequences. Globally, many women are faced with life threatening complications mainly because valid recommendations were not followed when responding to maternal health problems.

There is substantial evidence that covers various interventions for preventing maternal morbidity and mortality. For example, the close observation of women who are at risk of hypertensive and haemorrhagic disorders. Nevertheless, failure to follow existing guidelines and protocols in the management of possible complications may lead to substandard maternal care (Shennan, Green & Chappell, 2017). The same sentiments are supported by (Ahmed, Saada, Jones & Al-Hamid, 2019).

Midwives and obstetricians are aware of the existing problems. Across the world, however, there are still alarming levels of mortality. These deaths are caused by

compromised maternal healthcare, which can partially be attributed to high nurse to patient ratios (Aiken, Sermeus, Van Den Heede, Sloane, Busse, McKee & Kutney-Lee, 2012). Mian, Alvi, Malik, Iqbal, Zakar, Zakar and Fischer (2018) assert that the quality of care remains core in achieving expected outcomes and that the proper approaches should be followed. However, Mukisa, Grant, Magala, Ssemata, Lumala and Byamugisha (2019) found that the use and completion of the partograph was very low, thus predisposing women to obstetric complications.

The WHO (1994) recommended the global use of a partograph as a standard tool for monitoring the progress of labour. In the study conducted by Bazirete, Mbombo and Adejumo (2017), it is highlighted that most of the study participants knew that the use of a partograph is included as one of the tools for Safe Motherhood programme and that it is known to reduce maternal mortality. However, Zelellw and Tegegne (2018), in their study, concluded that the actual utilisation of the partograph was actually lower amongst healthcare workers who had good knowledge of this tool. Tayade and Jadhao (2012) state that the partograph has been designed for use in any maternal setting, at any level of care, and that midwives should incorporate maternity guidelines for the benefit of the baby-mother pair. In addition, the partograph has been found to be under-utilised in low- and middle-income regions (Ollerhead & Osrin, 2014).

Furthermore, Ollerhead and Osrin (2014) called for supportive organisational policy on partograph use. In most SSA regions, studies show that some healthcare providers believe that partographs should be used by physicians and that the training of nurses in the use of the partograph is not necessary (Melese & Bekiru, 2018). Comparatively, a study in South Africa showed that obstetricians rarely use a partograph during labour in private health settings, despite the fact not doing so is linked to poor maternal outcomes and that its use is mandatory (Yasbek & Jomeen, 2019). Several studies show that most low and middle- income countries seldom make use of the partograph, if ever. Factors such as the age and gender of the nurses and obstetric care providers have been identified as having an impact on the knowledge and utilisation of the partograph. Younger nurses and midwives have been found to be consistent in the use of the monitoring tool as compared to older groups.

Also, it has been noted that female obstetric care providers use the partograph more often than their male counterparts (Hailu, Nigus, Gidey, Hailu & Moges 2018). The gender

variable with regard to partograph recording is consistent with study conducted by (Bekele, Bayene, Hinkosa & Shemsu, 2017). The researcher is of the view that the gender variable is insignificant, as all midwives (both sexes) either do not enter recordings into the partograph or do so inaccurately.

Mukisa et al. (2019) stated, in their Ugandan study, that healthcare workers are unable to complete the partograph as it is lengthy and time-consuming to complete and this is compounded by other factors in the health such as overcrowding and high workloads. This is supported by (Bedwell et al., 2017), who allude to inconsistent and inaccurate partograph recordings during labour. Contrarily, Lavender, Cuthbert and Smyth (2018) was ambiguous about the use of the partograph to improve labour outcomes.

2.11 SERVICE PERFORMANCE (SERPERF)

SEFPERF translates into gaps in the realm of governance and leadership as a measure of service quality.

2.11.1 Governance and leadership

Leadership is key to the provision of maternal healthcare services. There is a direct correlation between factors such as corruption, which lead to degraded levels of leadership, and the level of health coverage, especially in developing countries (Mann, Worth, Kelly, Wilson & Siba, 2014). It is imperative that those in leadership positions be conscious of available leadership frameworks. The application of the principles of contingency leadership in the analysis of the environment, both internally and externally, is imperative in ensuring the adoption of the most suitable outcomes and decision making in the provision of quality healthcare services. The position of the researcher on the issue of leadership, is argued on the basis that resources are not limited. Corruption in government is the only inhibitive factor to satisfactory healthcare service provision.

African Agenda 2063, adopted in 2001, has been structured as a blueprint to deliver inclusive and sustainable development. Aspiration Number 3, listed in the agenda, discusses good governance, self-governing values, equality, respect for human rights and the rule of law. One of the critical outcomes brought about by this framework was the

commitment by the leadership to refocus and reprioritise the interest of the people (African Union (AU) Anniversary Solemn Declaration, 2013).

It has been noted that capacity building is also needed at the managerial level, as has been echoed by (Coovadia et al., 2009). The authors state that the lack of experience, expertise and competency amongst managers has a negative impacting negatively toward on service delivery. The same authors also highlight the fact that a lack of stewardship and leadership is associated with poor service delivery in healthcare. Berhan and Berhan (2014), out of their systematic review of 53 articles, found that SSA countries with low standards of antenatal care or incompetent health workers are associated with high maternal deaths.

Agosti, Andersson, Ejlertsson and Janlöv (2015) were concerned about the high levels of absenteeism observed among Swedish nurses due to illness. Many nurses had also been found to have taken early retirements. The reason behind these phenomena was found to be the inability of managers to support these nurses and ensure that they maintained a healthy work-life balance.

Aiken et al. (2011) found that it is important that leaders and policymakers provide staff with more support, improve relations between nurses and physician, involve them in the decision-making process and ensure better levels of quality and safety in patient care. Cunningham, Ferguson, Matthews and Bailie (2016) state that, in order to improve quality, commitment from managers is absolutely key. This is supported by Doran, Maurer and Ryan (2017) who, in their study, highlight the impact of provider incentives on the quality and value of healthcare.

The Gauteng Department of Health (GDoH) is currently facing intensive litigation claims because of the Life Esidimeni Marathon Project, which is largely a factor lack of expertise in the senior clinical management and leadership; as well as corruption (Man et al., 2014). The lack of sound ethical and legal stands led to the heart-breaking outcome where more hundred and forty-three (143) mental health users demised in an inhumane and undignified manner from the project.

2.11.1.1 Type of leadership

The type of leadership plays an important role in strengthening performance within the healthcare system (Musinguzi, Namele, Rutebemberwa, Dahal, Nahirya-Ntege & Kekitiinwa, 2018). De Zulueta (2016) deliberated on the concept of developing the compassionate leadership within the healthcare settings to achieve adaptive, shared and distributed type of servanthood leadership. The author further articulated that leaders should be able to defend the values and vision of the healthcare services, so that they support and enable the healthcare providers and their clients in a meaningful manner.

Healthcare facilities face a serious challenge of providing services with the limited resources, which leads to compromised service delivery (McSherry & Pearce, 2016). The same authors also highlighted the importance of effective front liners as leaders who provide quality, safe and compassionate healthcare services. The latter view is supported by Thumm and Flynn (2018), who alluded further that effective leadership should also provide a supportive maternity climate for the midwives to take good care of the pregnant women.

2.12 INTERPERSONAL FACTORS

2.12.1 Nurses' and midwives' training/teamwork

The researcher upholds that the importance of the field of midwifery cannot be overstated. It requires teamwork from individuals across many disciplines and its influence bridges the divide between healthcare facilities and communities. It has been found that the continuous training of health staff and the constant supervision of resources are the cornerstones to achieving improved access to healthcare (Nxumalo, Goudge & Thomas, 2013). Envisaged health projects and proposed goals sometimes fail because of a lack of sufficient skills, a shortage of support for personnel and substandard reporting and accounting from managers. Armstrong and Rispel (2015) highlighted the significance of transformation in nursing education, specifically in the student selection processes during recruitment and the curriculum for nurses and midwives. The authors further concluded that these aspects will promote universal healthcare coverage.

2.12.2 Mistreatment of women

Women are often disrespected, underestimated and taken for granted; they have their rights violated and are exposed to abuse at the hands of healthcare professionals (Burrowes, Holcombe, Jara, Carter & Smith, 2017). Azhar, Oyebode and Masud (2018) further stated that women, especially those of low socio-economic status, admitted to being mistreated during their time in labour. Such acts are seldom reported. Furthermore, literature shows that the abuse may be physical, sexual or verbal and that women may have to face discrimination and inadequate standards of care from healthcare workers (Bohren, Vogel, Hunter, Lutsiv, Makh, Souza, Aguiar, Saraiva Coneglian, Diniz, Tuncalp, Javadi, Oladapo, Khosia, Hindin & Guilmezoglu, 2015).

Ndwiga, Warren, Ritter, Sripad and Abuya (2017) emphasise the importance of the healthcare provider's emotional wellbeing. The authors argued that there is a link between the emotional state of the provider and the treatment of women. The time has indeed come for healthcare professionals to reconsider and re-examine how they engage and interact with service users. These are human beings who, ultimately, have the right to be included in any decisions made regarding their health. Ndwiga et al., (2017) allude further that providers understand users' rights but choose not to respect those rights during the treatment process. At the same time, the authors have data which shows improvements how healthcare providers interact with their clients.

The negative treatment experienced by women during childbirth leads to a breakdown in the relationship between these women and healthcare providers. This eventually compromises the delivery of healthcare services, regardless of how skilled the providers may be (Ishola, Owolabi & Fillippi, 2017). Nakua et al. (2015) revealed that verbal abuse and poor behaviour from personnel have contributed to the decision of many women to not make use of perinatal services.

2.13 PROMISES NOT MATCHING ACTUAL SERVICE DELIVERY

Mosadeghrad (2014), in his definition, focused on the relationship between a patient's level of satisfaction and the effectiveness, efficiency and efficacy of healthcare services. Furthermore, quality is defined as the progressive and consistent satisfaction of a

patient's need for effective and efficient healthcare services, with respect to set guidelines and standards.

The latter author concluded that "quality in healthcare is a cooperation between the patient and the healthcare provider in a supportive environment". Meanwhile, Bobocea, Spiridon, Petrescu, Gheorghe and Purcarea, (2016) defined quality in healthcare services as the ability to achieve desired objectives through the use of legitimate means.

2.13.1 Perinatal women as recipients of midwifery care

Childbirth has been the biggest killer of women of childbearing age worldwide (McConville & Lavender 2014). Abegaz (2017) stated that maternal mortality is aggravated by, amongst other things, the lack of personnel qualified enough to initiate midwifery care and treatment as this leads to delays in providing maternal healthcare. Women giving birth in public facilities may not be aware of their rights and consequently have their rights violated. It is shocking to realised that women are still disrespected and mistreated during childbirth, in an era where Human Rights are deeply ingrained into most constitutions around the world (Downe, Lawrie, Finlayson, & Oladapo, 2018).

Safe motherhood can be described as an extension of the right to life, the right to equality and non-discrimination, the right to social security, the right to access to public health and education; information regarding maternal health and access to obstetric services can also be defined as part of women's rights. The current study focused on the fact that it is important for healthcare providers to also acquaint themselves with the rights of those to whom they are providing care.

In the past two decades, South Africa has endorsed the Patients Right Charter and the Batho-Pele Principles (1996) as working documents. Specifically, they are displayed prominently in public health institutions with the aim of familiarising healthcare users with their content. Regrettably, these pieces of legislation are not respected or upheld in most instances. Chadwick et al. (2014) revealed that South African women suffered disrespect and lack of support during labour, where they were left unattended for long periods of long time. This subsequently contributes to poor maternal outcomes and mortality.

The technical and functional competencies of a physician are important factors in measuring the quality with which the healthcare is rendered. Technical competency refers to the accuracy with which medical conditions are diagnosed and treated, whereas functional competency focuses on the way in which service is provided to clients (Lu & Wu, 2016). In many cases, based on the type of care and treatment required, patients will repeatedly visit a physician. There are several studies that highlight the relationship between the quality of the product or service and customer satisfaction.

Sub-optimal healthcare is a global challenge. Mosadeghrad (2014) mentions that the difficulty of producing consistent healthcare services is occasioned by the different care between providers, clients and settings. In addition to these complexities, the care provided by different practitioners is “heterogenous”, whereby care will differ based on experience, abilities and personality. Meanwhile, Moyakhe (2014) avers that the provision of quality healthcare is difficult because of the growing numbers of patients and the high demand for health services. Service is determined by three factors; namely, the healthcare systems used, the processes followed and the outcomes of care.

Magelssen et al. (2018) postulated that ethical considerations lead to increased service quality, relations, cooperation and an overall better experience for many patients and clients. Current statistics in South Africa indicate that claims from litigations are sky rocking. A significant portion of budget is redirected to the compensation of victims when it could instead be directed to the improvement of healthcare infrastructure and pharmaceutical supplies.

However, contrary to the latter statements, the annual report by the GDoH (2016) shows an improvement in quality of service in all categories of hospitals in the past three years (i.e. 2014-2016). Quality is complex in nature and hard to measure. This study believes that quality should encompass factors such as credibility, competence, professionalism and reliability in order meet the anticipated needs of users. The use of the standardised quality assessment tool should be extended to healthcare services.

Healthcare which is of poor quality is costly to governments. This is especially true when considering the burden of disease, particularly on uninsured population groups. Harris et al. (2011) stated that the overall perception in SA on the quality of healthcare was negative, a connotation linked to the time taken to receive services and issues around

cleanliness, confidentiality and privacy. The author highlighted the need to address issues impacting the quality of maternal healthcare rendered. For instance, staff and management issues such as long waiting times, the environment, location and healthcare costs were found to have a negative impact on patient satisfaction and the quality of healthcare services rendered (Maphumulo & Bhengu, 2019).

2.13.2 Sexual and reproductive health

In the past decade (2010-2020), 214 million women around the world have had no access to modern contraceptive methods. About 137 million women were at risk of falling prey to unintended pregnancies and about 64 million women used less effective traditional methods. However, contraceptive coverage has increased globally by 3.7% between 1990 and 2015.

Contraceptive coverage in Africa has risen by just below 5%. A rise of 1.1% has been noted in Asia, while in some parts of the Caribbean it remained stagnant (WHO, 2018). Several studies confirmed that family planning can reduce the risk of maternal and perinatal mortality (UNFPA, 2008). Lalthapersad-Pillay (2015) concluded that maternal deaths in South Africa can be avoided through the improvement of women's health. SA has good legislation on reproductive health. However, South African women are still exposed to challenges of access to family planning services and were found to be terminating their pregnancies illegally. Habib, Raynes-Greenow, Nausheen, Soofi, Sajid, Bhutta and Black (2017) reported that unplanned pregnancies also contributed to maternal deaths and morbidity.

In South Africa, the rate of teenage pregnancy is alarming (Seutlwadi, Peltzer, Mchunu, & Tutshana, 2012). Though the study by Agu, Rae and Pitter (2017) revealed tolerance and positive support by midwives towards teenage pregnancy, there still exist judgemental attitudes towards teenagers seeking reproductive services. This then tends to result in these teenagers seeking out unaccredited and unsafe services to terminate their pregnancies. This then begs the question: If nurses and midwives in reproductive health services were indeed supportive of teenagers, would the incidence of teenage pregnancy still be this high?

2.13.3 Communication

Ndwiga et al. (2017) reported evidence of improved communication and teamwork which led to better relationships amongst the providers and clients. Conversely, Chang, Coxon, Portela, Furuta and Bick (2018), in their mixed-methods studies, could not sufficiently prove that communication interventions improved communication between staff and in women labour.

It is the view of the researcher that many healthcare professionals lack communication skills, hence there is a need for communication intercessions through training and development. Communication skills are incorporated into the nursing curriculum. However, nursing education institutions (NEIs) need to develop strategies aimed at intensifying learning outcomes and assessment strategies in this regard.

2.13.4 Medical adverse events

Professional error is described as compromised healthcare offered to service users which may cause unintended harm that is unrelated to the underlying medical condition. Karimi, Ebrahimipour, Hooshmand, Bayrami, Pourshirazi and Vafaee-Najar (2016) concluded that poor reporting of medical errors has been associated with overcrowding in maternity units and a fear of confronting authority. In the USA, serious adverse events (SAE) are the major causes of death healthcare, as confirmed by (Kalish 2015 & Wananani et al., 2015).

Approximately 8% to 12% of patients in European countries have experienced harm while in hospital as a result of professional error. In the Eastern Mediterranean and in Africa, the rate is concerning. Incidents in these regions occur mainly from therapeutic errors, and result in the demise or permanent disability of patients (NDoH, 2017a). In SA, the prevalence has been found to be high in medical malpractice litigation (Oosthuizen & Carstens, 2015).

It has also been established that such incidences occur because of existing challenges and faulty systems within healthcare. Human error is also a contributing factor, which even competent and experienced healthcare workers are prone to. Unfortunately, there are also instances where shortcuts were taken, or routines and procedures were not

followed. Dimova, Doykov and Dimov (2018) emphasised that patient safety is a key factor for quality healthcare. The latter authors further assert that medical errors have a direct association with incompetence, workload, neglect and staff shortages. In their study, Leyshon, Listyowarodojo, Bach, Turk, Orr, Ray-Sannerud and Barach (2017) emphasise the need for healthcare providers to acknowledge their clinical errors and poor practices, and to empathise with the patients and their families.

The viewpoint of the researcher is that not all errors are purely to be blamed on the healthcare practitioner. Some errors maybe due to lack of support from management they may be system-induced errors. In the researcher's experience, some providers tend to be harsh on healthcare workers in the event of clinical errors and show no empathy. Such a response from managers leads to a lack of reporting or documentation of such events in future.

It is important to develop safety and quality indicators to evaluate surgical care since better educated and more demanding patients, as well as discerning regulatory agencies, push for transparency. Providers are requested to document so that patients can use this documentation to select the practitioners and hospitals that they deem fit.

2.13.5 Client satisfaction

In a study conducted in Nigeria, it was shown that word of mouth from past patients regarding quality of health services has an impact on prospective customers. It appeared that the quality of healthcare was below the expected standard (Potluri & Angiating, 2018). Chakravarty et al. (2001) declare that the time has come for an integrated effort towards continuous quality improvement in hospitals, so that they may be able to better respond to the needs of clients. Though, the researcher cannot discuss client satisfaction without referring to quality of service, as there is a difference between expected service and perceived service.

In a similar study conducted in the same region, it was further stated that governments need to upgrade health infrastructure so as to improve service quality and, subsequently, customer satisfaction (Boadi, Wenxin & Bentum-Micah, 2019). Ampah and Ali (2019) concluded that there is a reasonable and acceptable relationship between service quality and patient satisfaction.

Based on their study conducted in Malaysia, Tan, Ojo, Cheah and Ramayah (2019) strongly highlighted the importance of using institutional outlook and safety, amongst other variables, as indicators for patient satisfaction. A certain level of patient satisfaction was noted in a South African study, but this was hampered by the shortage of staff, a challenge which led to long periods of time spent by patients in primary health facilities (Steyl, 2020).

2.14 INDIVIDUAL FACTORS

2.14.1 Midwife attributes

Tabbassam and Menhas (2014), in their peer-reviewed editorial letter, highlighted the multiple roles assumed by midwives, especially in a community setting. These roles are taken on with the aim of providing an improved level of healthcare for the mother-child pair. Feijen-de Jong, Kool and Jansen (2017) raised the concept of promoting physiological reproductive processes in the science of midwifery. Borrelli (2013) described a good midwife as an individual in possession of the necessary theoretical knowledge, professional competencies, personal qualities, communication skills and moral and ethical fibre required to execute their duties. Borrelli, Spiby and Walsh (2016) referred to the cadre as a “Kaleidoscopic midwife”, meaning she/he is physically present, knowledgeable and relates easily with those in their charge.

A midwife should portray professional wisdom through the interplay of knowledge and experience, they should be able to apply professional guidelines in their daily duties. It is also important that they do work be in line with evidence-based research, practices and medicines within the field of midwifery (Feijen-de Jong et al., 2017).

A midwife should also be able to provide support and be present for those in their care, as this eventually builds trusting between them (Chadwick, 2019). Midwives should be able to take care of the women during childbirth and provide them with appropriate, effective and efficient information. A good midwife is also receptive to the health needs of the pregnant women (Feijen-de Jong et al., 2017). Ironically, some women highlighted some dissatisfaction with their midwives, as they did not receive the warm reception they

expected, which led to a poor perceived quality of maternal health (Mgawadere, Smith, Asfaw, Lambert & Van den Broek, 2019).

2.14.2 Knowledge and skills

Bazirete et al. (2017) contend that the professional experience and training of nurses and midwives working in maternity units was determining factor for their proper use of the partograph. Likewise, Ahmed et al. (2019), in their study on medical errors, found that one of the contributory factors of errors was related to inadequate training of the health professionals. Abegaz (2017) is also in accord with the authors above, adding that well-trained healthcare providers are insufficient and many (especially in rural communities) still demonstrated poor diagnostic skills. Doctors were not an exception in this regard. The same was shared by Ba'Saleem, Ba'amer, Al-Sakkaf, Bin Briek and Saeed (2017), and Tenaw, Yohannes & Amano (2017) in relation to the active management of third stage of labour.

Nyamtema, Urassa and Van Roosmalen (2011) conducted a study in which they found that the integration of maternal health intervention programmes led to improved maternal health outcomes. Similarly, Pattinson et al. (2018) concluded that ESMOE training improved the knowledge of not only nurses and midwives, but doctors as well.

Contrarily, Okonofua, Ntoimo, Ugu, Galdanci, Gana et al. (2019) conclude that knowledge and skills on emergency obstetrics care (EMOC) for Nigerian healthcare providers is below average. This suggests that the knowledge of healthcare professionals regarding maternal healthcare is generally below the standard. It is against the backdrop of these many examples that many scholars highlighted the importance of on-the-job training and seminars to be abreast of current trends and practices in maternal health.

2.14.3 Expected behaviour and attitudes of midwives

Several studies have revealed that support during childbirth can advance positive health outcomes and behaviour, while improving the experience (Diamond-Smith, Sudhinaraset & Murthy, 2016). Shields (2014) acknowledged that threats in the Australian healthcare system do exist, despite Australia having one the best health systems in the world. Phillips, Cooper, Rosser, Scammell, Heaslip, White, Donaldson, Jack, Hemingway and

Harding (2015) raised a vital point in their study. Their participants were unable to clearly state the attributes they believe to be linked to positive care but were able to do so for unsatisfactory care. This, in the view of the researcher, might mean that the participants failed to describe attributes linked to positive healthcare as they may possibly have never seen nor experienced it.

Edvardsson, Watt and Pearce (2016) found that a perception exists in which patient-centredness is associated with nursing quality. Furthermore, expected nursing quality is also linked to how knowledgeable, communicative and responsive nurses are found to be. Meanwhile, Chokwe and Wrights (2013) concluded that midwives demonstrated unsatisfactory levels of caring in their work as there was evidence of lack of commitment, appreciation and support. The lack or absence of caring from Jordanian midwives solicited negative responses from labouring women and eventually led to emotional distress (Khresheh, Barclay & Shoqirat, 2019).

2.15 INCONSISTENT MATERNAL HEALTH PERCEPTIONS

The Institutional Maternal Mortality Ratio (iMMR) is still found to be high in some SSA countries, despite the coverage of institutional childbirth deliveries (Bailey, Andualem, Brun, Freedman, Gbangbade & Singh, 2017). These findings are supported by (Abeje, Azage & Setegn 2014).

Meanwhile, a study conducted by Hagos, Shaweno, Assegid, Mekonnen, Afework and Ahmed (2014) in Ethiopia revealed that most women delivered in their homes. African women are found to utilise ANC services at least once in their pregnancy, this has been concluded in another Ethiopian study (Sadik, Bayray, Debbie & Gebremedhin, 2019). The findings of 74 studies conducted in SSA identified that several factors impacted on the uptake of antenatal care services, which compromised the health universal antenatal care coverage (Okedo-Alex, Akamike, Ezeanosike & Uneke 2019). The non-utilisation of the health facilities by women implies that the issue of perceived maternal health is not even applicable.

Reducing maternal mortality can be very complex since complications can still arise, despite carefully planned pregnancies and childbirths. Tekelab, Yadecha and Melka (2015) found an association in the utilisation of ANC and institutional child-birthing. The

latter supports the perspective that attendance of antenatal care empowers women to make informed decisions on the place of delivery, thus, reducing maternal mortality. Furthermore, the distance women have to travel to health facilities is an indicator for the likelihood of institutional delivery amongst pregnant women (Kedebe, Hassen & Teklehaymanot, 2016).

In South Africa, iMMR in provincial, tertiary hospitals was found to be 160% higher than in regional and national hospitals (NDoH, 2018). In a comparison of two triennial reports, iMMR was captured at approximately 149.32%. In Gauteng Province alone, iMMR in 2014 was estimated at 146.13%, as compared to 135.24% in the previous triennia (GDoH, 2016). These percentages have been found to be lower in other hospitals, except in tertiary institutions. This is quite a clear indication that South African women are not receiving the maternal care they expected to receive during pregnancy. Secondly, the expected maternal healthcare is not received as it was communicated to them through set health policies.

There are still gaps that exist in this era. The inadequate availability of resources, such as essential equipment and supplies, skilled and trained healthcare workers and support services, are challenges that contribute to poor maternal health outcomes. This report further alludes to the attitudes of healthcare workers, described as often ill-disposed, uncaring and incapable or unwilling to provide maternal healthcare. This behaviour by staff in hospitals is incorrect and of concern globally (NDoH, 2017b). The creation of a professional, tolerant and caring environment is key to the provision of maternal healthcare (NDoH, 2018).

The above-mentioned gaps are a cause for concern because they are also linked to the poor quality of maternal healthcare, which eventually contributes to the high prevalence of maternal mortality. Radical responsiveness on ethical programmes and resource planning from all role players is required in order to address the issues of incompetent doctors and midwives (NDoH, 2018).

2.16 SUMMARY

In this literature review chapter, various scholarly perspectives and schools of thought were presented and discussed in respect of maternal health and maternal mortality as

the core variables. Such an appraisal encompassed the theoretical domains, policy inclinations, as well as practice related trends and contestations both globally and locally (South African context). From the researcher's viewpoint, the literature review was most beneficial in locating the current research study within a discussion framework that translates the study's significance into a universal theme affecting various communities globally, especially in the developing countries.

Emanating from the literature review, is the fact that while the central issues pertain to healthcare, issues of quality, customer satisfaction and competitive service delivery necessitate that broader issues of human rights, socio-economics and political-cultural considerations could not be overlooked. These considerations are unpacked in their various individual, organisational and other expressions in the ensuing chapters to varying extents of detail.

CHAPTER 3

THEORETICAL FRAMEWORK

3.1 INTRODUCTION

The previous chapter addressed the review of literature from multiple stakeholder and scholarship perspectives, which enabled the researcher's better understanding of the various concepts relating to the correlation of maternal health and maternal mortality. It is on the basis of such understanding that the researcher was further able to advance a reasonable degree of correlation between these concepts and the theories (philosophical principles, perspectives, or domains) from which they (concepts) were cognate. It is against this backdrop that the current chapter locates the study's fundamental variables (maternal health and maternal mortality) within a theoretical framework whose seminal base derives largely from the key concepts referred to I the study. Such an affinity between the identified theories and the key concepts is logical, precisely because concepts are viewed as foundational to the development of theories. In fact, Ulin et al. (2005:12) state categorically that theories are the organisation and symbolic representation of reality by specifying forms of associations among concepts, ideas and phenomena of interest. LoBiondo-Wood and Haber (2010:118): add further that "A theory is a set of interrelated concepts that structure a systematic view of phenomena for the purpose of explaining or predicting". It is then axiomatic that theories are not peripheral to their conceptual base, and vice versa.

The structure of the current chapter accentuates the pivotal role of the research topic within the specific 'confines' or parameters of two conceptually driven theories. However, it is not the theories and concepts themselves that are of paramount significance. Rather, the significance, relevance or applicability of these concepts and theories to the research topic is the more profound concern of the current chapter.

3.2 CONCEPTUALISING THE META-THEORY CONTEXT

Allana and Clark (2018:1) proffer that meta-theory pertains to "broad perspectives, which make claims regarding the nature of reality". In this regard, the meta-theory context of the

study “makes claims” regarding “the nature of” maternal health and the healthcare system in Gauteng Province within a broader domain of philosophically driven abstract ideas, principles, or assumptions. Furthermore, Paterson, Thorne, Canam and Jillings (2001:2) posit meta-theory as “a critical exploration of the theoretical frameworks or lenses that have provided a direction to research and researchers”. It is clear from the afore-going excerpts that the meta-theory domain or context presents a broader framework against which theories and their attendant concepts are developed or reasoned on the basis of some assumptions embraced by researchers.

3.2.1 Theoretical framework of the study

The meta-theory context presages and justifies the orientation towards the actual framework of theories referred to in this study. Chinn and Kramer (2011) illuminate that the theoretical framework is the logical grouping or outline of related concepts intended for connecting different, but interrelated and relevant aspects of a phenomenon (e.g. maternal health) or situation. According to authors such as Adom et al. (2018:438) and LoBiondo-Wood and Haber (2018:74), both ‘theoretical framework’ and ‘conceptual framework’ are not dissimilar. Therefore, these concepts may be lexically different, but are also logically synonymous and complementary. To this effect, Alavi, Archibald, McMaster, Lopez and Cleary (2018:528) further propound that in MMR designs, a conceptual framework could also become a compass to direct and increase the study’s theoretical appropriateness. Accordingly, the researcher applied these two terms interchangeably in this study.

Based on the interchangeability perspective, a theoretical/conceptual framework is presented as a set of closely linked concepts that represent an image or model of a phenomenon (LoBiondo-Wood & Haber, 2018:75). In the context of this study, the theoretical/conceptual framework also serves as a roadmap and guidance for the implementation and application of multiple health promotion interventions, and to test the analytical and evaluative mechanisms used for such interventions (Adom et al., 2018:438). Furthermore, the theoretical/conceptual framework is viewed as useful, to the extent that it enables the researcher to explain the disciplinary link and context of an investigated phenomenon and visually aligning and depicting such linkage to the practical environment in which the phenomenon and its related variables exist (Grant & Osanloo, 2014:39).

Theory in MMR research can be evaluated or determined either deductively or inductive, based on the nature of research questions. According to Gray et al. (2017:7) and Saunders, Lewis and Thornhill (2019:158), researchers can apply deductive reasoning to build a hypothesis or test an existing theory or apply inductive reasoning to develop a theory on the basis of the collected and analysed data in their research studies. The abductive or retroductive reasoning, on the other hand, validates the choice of reasoning as informed by the practicalities of a situation, and allows for the complementarity of inductive and deductive approaches (Morgan, 2007;72; Saunders et al. (2019:160). Consistent with the pragmatic philosophical orientation of the study's research design, both these approaches were used and contributed differently during the mixed-methods phases of this study. Table 3.1 below is an illustration of the practical application and relevance of the inductive, deductive, and abductive/retroductive reasoning in the study.

Table 3.1 Relevance of deductive, inductive and abductive reasoning in the study

Construct/ variable	Deductive (quantitative)	Inductive (qualitative)	Abduction (MMR)
Logic	• The study answered the question: How does maternal healthcare contribute to maternal mortality. • This included variables of maternal health that contributed to the truths about maternal mortality (logic).	• Phase I – The study focused on the research question for qualitative data collection: What is your perception regarding maternal healthcare?	• Maternal healthcare services influenced the maternal mortality. Such premises were used to test and validate the assumptions.
Generalisability	• The findings of the study can be generalised, as the sampling of the study was multiple variation and sample size was adequate.	• The study used a variety of the data collection methods to establish the different perspectives on maternal healthcare services delivery. Such led to prolonged stay in the context in	• This study developed a new model based on the interaction between the general and specific variables and propositions.

Construct/ variable	Deductive (quantitative)	Inductive (qualitative)	Abduction (MMR)
		which events took place.	
Theory verification	• Theoretical frameworks assisted the researcher to theorise and survey the relationship between maternal health and maternal mortality. • SEM and SQGM integration provided the foundational understanding of the occurrences of maternal deaths in Phase II.	• The study answers the question: What are the causes of maternal mortality?	• The study locates the data collected in selected conceptual frameworks.
Use of data	• The study responds to the question: How many deaths occurred in maternity unit? (use of data)	• The multiple data collection tools supported the analysis of maternal mortality.	• Data collected was used to further interrogate maternal health and maternal mortality. • Researcher identified the patterns across the methods of data collection.

(Source: Adapted from Saunders et al., 2019:153)

In relation to Table 3.1, the researcher developed thematic patterns from the collected and analysed (qualitative and quantitative) data for purposes of applying both inductive and deductive reasoning approaches in the development of the study's proposed model to strengthen maternal healthcare service delivery in Gauteng Province. The model takes cognisance of some inter-theory propositions derived from both the Social Ecological Model (SEM) and the Service Quality Gaps Model (SQGM), both of which are outlined in the ensuing Section 3.2.2 and Section 3.2.3. In this regard, the researcher combined the field of sociology (for the SEM) and the field of marketing (for the SQGM) to develop the maternal healthcare service delivery health model referred to.

3.2.2 Theory overview of the study

The theoretical framework provided a broader and abstractly constructed perspective and context of the philosophical rootedness of the study. On the other hand, this theory overview section locates and particularises the specific theories and their related concepts within the domains of the SEM and Service Quality Gaps Model (SQGM). From the perspective of the researcher, such theory triangulation was deemed relevant to an insightful understanding and de-emphasising any perceivable gaps between theory and practice in the sphere of maternal healthcare service provision in Gauteng Province. For purposes of this study, key concepts (derived from the literature) such as maternal healthcare delivery, quality, and service user satisfaction provided useful insight for understanding even the most philosophically steeped assumptions and paradigms associated with the SEM and the SQGM (Harris & White, 2013).

The concepts, ‘maternal healthcare’ and ‘maternal mortality’ are interrelated and clearly shaped the researcher’s perspectives in this study. Figure 3.1 (overleaf) illustrates the symbiotic relatedness of these concepts, as well as the four associated conceptual domains, namely: service users; service quality; service providers; and service delivery. The researcher acknowledges that within maternal healthcare super structural domain, there are social, economic, political, cultural, and other determinants that influence service delivery (Harvey & Land, 2016; Moyimane et al., 2017; Wabiri et al., 2016). In fact, the proposed development of the maternal healthcare model for Gauteng Province is further assertion of the SET and SQGM potential to lead to improved maternal healthcare in Gauteng Province in particular. Therefore, the developed model is invariably an assertion of the value of the triangulated theoretical framework in practical situations (Pound & Campbell, 2015).

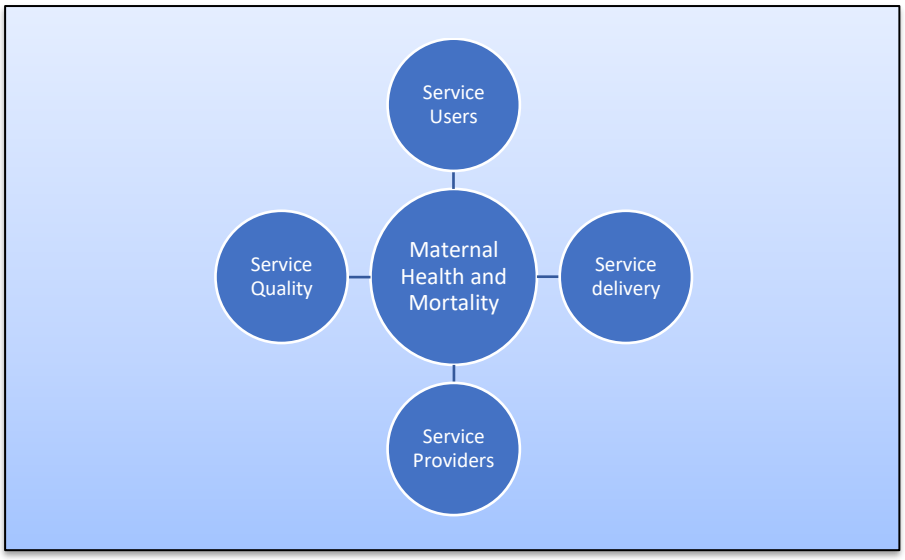

Figure 3.1 The interconnectedness of maternal health and mortality and associated variables

(Source: Adapted from Ferlie Lynn & Pollitt 2005)

Emanating from Figure 3.1 above, it is clear that the state of maternal health and maternal mortality in any organisational setting is premised on the mutual inter-dependence of healthcare service providers who deliver quality healthcare services to the users of such services.

3.2.3 Justification for theory triangulation

Theory triangulation is viewed as imperative for this research study, based on the variety of qualitative and quantitative research methods used and. Theoretical triangulation involves the integration of multiple philosophical perspectives, abstract ideas (concepts), hypotheses and assumptions into a single study (Allana & Clark, 2018; Chinn & Kramer, 2011). Both the social ecological and service quality gap frameworks used were found to be best fitting this study insofar as outlining the enablers and barriers to maternal healthcare services. On the other hand, the service quality gaps model enabled the researcher's identification of the missed opportunities in the South African maternal healthcare system. As such, both frameworks assisted the researcher to maintain the trajectory of the study in terms of the literature search, data instrument development and dissemination of the study findings and conclusions.

The visualisation of both models (in the ensuing sections of this chapter) illustrates the dynamic relationships amongst the constructs, individual, groups and environments (Benge, Onwuegbuzie & Robbins, 2012; Borrelli et al., 2016). Furthermore, the visualised inter-theory triangulation frameworks provide easily understandable and identifiable indicators of relevant health promotion and improvement factors in the context of maternal health outcomes. The ensuing discussions in Sections 3.3. and 3.4 are indicative of the strength of combining the SEM and the SQGM and extracting as much value from them as possible.

3.3 SOCIAL ECOLOGICAL THEORY (SET)

The SET (the basis of the SEM for purposes of this study) premises largely on the nature of the relationship between the individual and his/her environment (ecology) (McLaren & Hawe, 2005:9; Raingruber, 2017). At its most fundamental level, the social ecological elements include the individual, relationship, community and societal factors. In a more holistic or concentric context, SET addresses the complex interaction and interdependence of the individual, the socio-economic, cultural, political, environmental, organisational, psychological and biological elements of human behaviour and its multifaceted dynamics. Evidently, the holistic perspective of the theory transcends biological considerations only, includes both the organisms and their environments (Ariyo et al., 2017; Lowe et al., 2016).

Ecology explores the different organisms and their interaction between the abiotic (non-living) and biotic (living) settings. Ecology also allows people to understand the world around them and balances the disharmony between the organism and the environment in order to manage the natural resources and restore humankind (Meltzer, Petras & Reynolds, 2020). The following brief background of the SET allocates a considerable degree of its relevance to the present study.

3.3.1 Background to the social ecology theory

The social ecology theory (SET) was formally developed in the 1980s by the American psychologist, Urie Bronfenbrenner from its incipient conceptual model of the 1970s (Kilanowski, 2017). With its emphasis on human development, the SET has since undergone various metamorphological modifications by its founder (Bronfenbrenner), but

still emphasised the unbreakable nexus between humans and the life spaces (natural environment) in which they (humans) live and develop (Salihu, Wilson, King, Marty & Whiteman, 2015). According to Bronfenbrenner (1979), such a nexus was reciprocal, meaning that the individual is influenced by his/her habitat; and vice versa.

Bronfenbrenner's (1979) earlier conceptual model of social ecology (which preceded the SET itself) was largely used as a health promotion strategy to discuss the interconnectedness of personal and environmental factors (Kilanowski, 2017). Bronfenbrenner (1979) later classified the levels of influence into subsystems, namely: micro-, meso-, exo-, and macro-systems; all of which basically essentialise individual and community interrelatedness within their ecosystem (Raingruber, 2017). Cottrell, Girvan, Mckenzie and Seabert (2015) explained the multilevel spheres in the context of how physical, social, political, economic and cultural factors can influence behavioural change in an individual.

It is the researcher's firm view that the strength of the study's available empirical evidence supports the social ecology theoretical framework and its approach insofar as improvement of the quality of maternal healthcare service provision is concerned. In this study, an examination of the midwives' and perinatal women's perceptions in the hospital settings provided a rich understanding of the phenomenon of maternal healthcare and mortality in Gauteng Province. It was on the basis of the social ecology model's main principles or key aspects that the researcher correlated these principles in her conceptualisation of her proposed model to guide improvement of maternal healthcare service provision in the provincial tertiary in Gauteng Province.

3.3.2 Fundamental tenets/key aspects of the SET

The SEM has shown that there are multi-factorial dimensions that influence the interaction of individuals and groups in their different ecological surroundings. To this effect, five fundamental or critical aspects were identified as promoting the SEM's existential purpose, namely: individual, interpersonal, organisational, community and policy factors; all of which are outlined below.

3.3.2.1 Individual factors

Personal traits such as age, gender, ethnicity and culture may be influential to an individual in this level (Meltzer et al., 2020; Raingruber, 2017). These individual characteristics are inborn and shape the nature of an individual's understanding and treatment of his/her environment. In the context of this study, these individual factors shape the nature of the individual's understanding of his/her environment. Furthermore, individual factors such as knowledge, skills, attitudes and behaviour, influence the individual's understanding of the value and treatment of his/her environment (Meltzer et al., 2020). In this study, the midwives' knowledge and understanding of maternal healthcare helps them to shape their treatment of perinatal women as clients accordingly.

3.3.2.2 Interpersonal factors

Interpersonal factors are premised on the nature of relationships between the individuals and other people in their immediate or secondary environment, such as family members (Ariyo et al., 2017). In the context of this study, interpersonal relationships were based on factors affecting social networks in maternal health by the role players and stakeholders, such as midwives, perinatal women/mothers, and their families. Environments such as the workplace, schools, churches, hospitals and other public and private institutions require legislative mechanisms to instill institutional values and socially acceptable norms and etiquette for interpersonal relationships in a broader scope (Bronfenbrenner, 1979; McLaren & Hawe, 2005). In relation to the current study, the midwife is expected to behave in a professionally and socially acceptable manner in their interactions with midwives as users or consumers of maternal healthcare services. Similarly, the perinatal women were individually expected to reciprocate and act in an acceptable manner in their interactions with midwives a maternal healthcare service provider.

3.3.2.3 Organisational factors

Organisational factors basically refer to relationships outside the naturally inhabited environment of individuals (Ariyo et al., 2017; Bronfenbrenner, 1979). Organisations in both the public and private spheres include (but not limited to) companies, churches, schools and political parties. Each organisation prescribes its conformity rules and regulations within the confines of the legal system of the country in which such an

organisation is located (Aveyard, 2010; Boateng, Nellands, Frongillo, Melgar-Quiñonez & Young, 2018).

For purposes of this study, organisational factors include the management of the healthcare facilities to ensure the provision of quality maternal healthcare by competent midwives in well-equipped and staffed healthcare facilities. Poorly managed, equipped and staffed healthcare services were most likely to engender public distrust of the standard of healthcare services provided at such healthcare facilities (Boshoff & Gray, 2004). It is in this regard that organisational development becomes an indispensable requirement for policymakers in the macro-healthcare system (De Jager & Du Plooy, 2007).

In this era of the Fourth Industrial Revolution (4IR) midwives should have the benefit of improved health equipment and aspects of the health system, such as e/m-Health to improve quality of maternal health services (Ali, Chew & Yap, 2016; Barron, Pillay, Fernandes & Sebidi, 2017). Accordingly, the organisational equipment and systems should lessen the rate of maternal mortality in the country, especially in the provincial tertiary hospitals.

3.3.2.4 Community factors

Community factors are exogenous (externally influenced) and premised on the nature of relationships between the individual and society (Aluko-Arowolo & Ademiluyi, 2015; Conmy, 2018). In this level, culture and ideology are viewed as having a core influential role. Community factors are viewed as instilling social cohesion, cultural norms and values, as well as democratic principles in most societies (Altuntuğ, Anık & Ege, 2018). Furthermore, this level has a greater impact on human development because it is non-stagnant and changes with time as cultures evolve over time. For example, in the event that a family loses a mother due to maternal death, it is very likely that the older children will assume more responsibilities of taking care of their siblings than any other children of their age in families whose breadwinners or parents are still alive.

In this study, community factors also focused on the political will to improve the maternal healthcare service delivery and reducing maternal mortality at the provincial, tertiary, and

central hospitals. The factors as also include the socio-economic state of the women of childbearing age (Jobson, 2015).

3.3.2.5 Policy factors

Policy factors included the availability and utilisation of existing legislation for the regulation of organisations and individuals within those organisations (Manyisa & Van Aswegen, 2017). Policy factors also determine the nature and quality of leadership, management, personnel, equipment and funding of organisations and institutions. In that regard, policy factors could be viewed as inseparable from organisational factors, both of which are also dependent on the political will and socio-economic ideology for their self-preservation (Lindebaum et al., 2017; WHO, 2016).

In this study, policy factors also involved the ability of decisionmakers to support healthcare workers in meeting their maternal mortality reduction goals and targets. Accordingly, the statutory and professional oversight responsibilities of institutions such as the NDoH and the SANC determine the efficacy of the policies and regulations regarding the governance and management of both public and private healthcare facilities in the country (NDoH, 2017b; South African Medical Association (SAMA), 2015; SANC, 2013a).

3.3.3 Relevance/applicability of the key social ecological tenets to the study

The relevance or applicability of the key SEM tenets underpins the extent to which the factors referred to in the preceding section most directly apply to this study. This model directly relates to Objective 1 and Objective 2 of the study, insofar as exploring the social milieu (lived experiences) of both midwives and perinatal women as key informants than imposing externally generated perspectives in their own world (Eusafzai, 2014; Manyisa & Van Aswegen, 2017). In addition to its affinity with the above objectives and their related research questions, the relevance of the SEM is also pivotally linked to the central role of midwives as aptly articulated in Sub-section 2.5.1 of Chapter 2 in this study. In this regard, Figure 3.2 below articulates the relevance factors as discussed hereinafter.

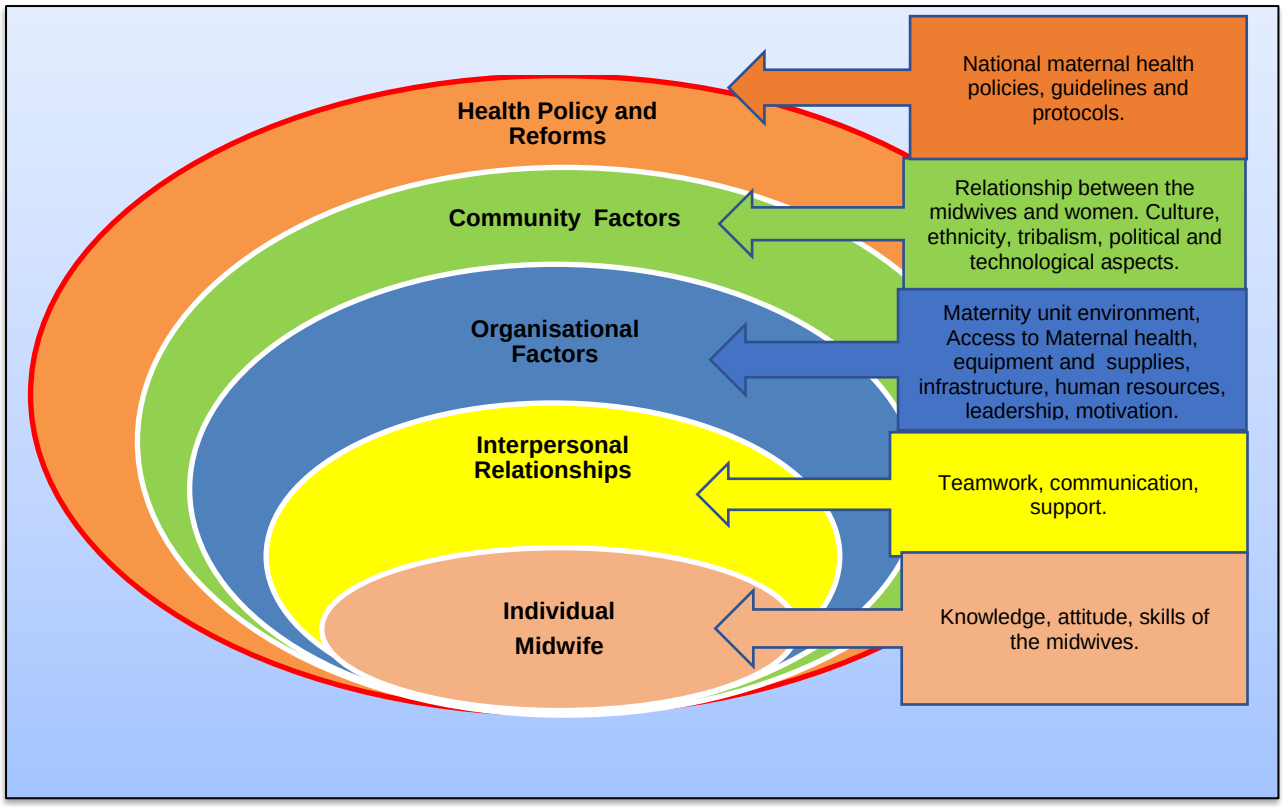

Figure 3.2 Applicability of the social ecology model factors to the study

(Source: Adapted from Bronfenbrenner, 1979)

3.3.3.1 Midwife as individual

The role of the midwife in the maternal mortality equation could not be underestimated (Sellers, 2012). The SANC (2005) defines a midwife as a qualified and competent person who can practice midwifery independently in the manner aligned to the capabilities of accountability and responsibilities of the practice. Individual factors such as the attitudes, knowledge, age and beliefs of the pregnant women were measured against the level of individual influence. Trust in the midwives by the pregnant women can also impact on the health behaviour and the outcome of the pregnancy (Lewis, Jones & Hunters, 2017). In their South African study, Kaswa, Rupesinhge and Longo-Mbenza (2018) reported that consistent utilisation of maternal services in some provinces was still a challenge, which influences the outcome of the pregnancy. The same findings were reported by (Akowuah, Agyei-Baffour & Awunyo-Vitor, 2018).

The current study focused on the midwives providing maternity care to the pregnant women until six week post-delivery. The role of the midwife is to render preventive,

promotive care and to identify complications, giving counselling and midwifery advise to the pregnant woman, family and the community throughout perinatal period (Sellers, 2012). Furthermore, the midwife can practice in a home, clinic, maternity obstetric unit and in the hospital.

3.3.3.2 Interpersonal relations as social networking

The level of interpersonal relations explains the social influences from family members, friends, neighbours and religious bodies as external contributing factors of human behaviour (Kumar, Sanderford, Gray, Ye & Liu, 2012). Behaviour can be influenced by the societal norms, identity and cohesion leading to lifestyle change, health beliefs and choices. Interpersonal relationships could have a greater impact on which level of healthcare facilities the women visit during their perinatal period.

In the context of this study, women who are supported by their families and friends are likely to utilise the maternal health services in time and follow the planned patient pathways or referral system stipulated by the provincial health department (Bac et al., 2019).

Teamwork

Teamwork is associated with poor SERPERF thus, it important to strengthen teamworking to improve service delivery. Performance appraisal can be used to provide guidance to workforce and reward excellent performance of staff (Ueno 2010).

Communication

Ueno (2010) described lack of communication as being associated with frustration, poor service quality and decreased customer satisfaction. Lang, Garrido and Heintze (2016) in their study revealed that communication problems have implications on occurrence of technical-medical aspects and patients' satisfaction.

3.3.3.3 Organisational factors as a maternity unit/health facility

At the micro- level, maternal healthcare services are rendered in maternity obstetric units, clinics and hospitals where midwives are employed to provide concomitant care. The midwives' roles include dissemination of health information to reduce maternal mortality and ensuring maternal health quality (Boadi et al., 2019). Most importantly, human, financial, infrastructural and other resources influence the extent to which both internal and external organisational factors contribute to the standards and quality of care provided to the pregnant women seeking and expecting acceptable care from healthcare facilities (Edvardsson et al., 2016; Hijazi, Alyahya, Sindiani, Saqan & Okour, 2018).

3.3.3.4 Community factors as socio-economic and political aspects

Community and social factors do not exist by themselves, nor are they immune from other institutionally shaped norms and behaviours (Coast, Jones, Portela & Lattof, 2014). In this regard, social dynamics such as the economy, culture and political stance on healthcare services could influence the health outcomes in the community (El-Jardali et al., 2014; Leyva-Flores et al., 2014). These social dynamics may also increase the risk of maternal mortality. Depending on the extent of their ideological rootedness, factors such as community-wide beliefs, cultural and traditional mores could impede on the goals of the healthcare system (Aluko-Arowolo & Ademiluyi, 2015). In the context of the current study, midwives (for both home-based and hospital-based care, ensured that professional considerations and the interest of both the unborn and newly born child were not obstructed by community factors, some of which were inimical to normal childbirth standards (Coast et al., 2014).

3.3.3.5 Health policy/reforms as a legislative framework

This study explored and examined the link between quality maternal healthcare services and maternal mortality and observed that any disjuncture in the care provision continuum could pose serious implications on the women as the major consumers or users of these services. In this regard, protracted communication and knowledge sharing between midwives and women at grassroots level could be enhanced with policies such as the NDoH's Saving Mother's Project.

The availability of, and access to maternal and child policies could positively impact on the healthcare coverage to all pregnant women in Gauteng Province (Harris et al., 2011; Mthethwa, 2012). Free MCH care service can also have a good outcome on maternal health and reduction of the related mortality. Additionally, the NHI policies ensure access to the services, despite the women's socio-economic status (NDoH, 2017b).

Having broadly provided the theoretical grounding of social ecology and its relevance to the current study in this section, the ensuing section presents a similar approach in the context of the Service Quality Gap Model.

3.4 SERVICE QUALITY GAP THEORY

The Service Quality Gap Model (SQGM, cognate from the service quality gap theory/SQGT) is premised on the variation between the customer's expectations and perceptions of the service being provided (Demir et al., 2015). In this regard, quality is viewed as the extent or degree to which a service has been provided to an expected and acceptable level (Muala, 2016; Pramanik, 2016). In the context of this study, poor quality is viewed as a direct cause of several factors in maternal healthcare and inhibits women's access to acceptable healthcare services.

3.4.1 Background to service quality gap theory (SQGT)

The models of quality emerged in the late 1970's from researchers who were proposing constructs, systematisation and operationalisation of service quality (Parasuraman, Zeithaml & Berry, 1988; Shahin & Samea, 2010). Fundamentally, the Service Quality Gap Theory (SQGT) interrogates the levels or degrees of customer satisfaction in relation to the standards of quality of services provided to them (Parasuraman et al., 1985). Organisational activities associated with the delivery of the required services have an impact on the customers' perception of the service in question. In terms of the Service Quality Gap Theory, a service could be impacted on by gaps in the service delivery value chain. The gaps, therefore, refer to the extent of disruption, disturbance or discontinuation between and among associated or linked activities involved in the production of the service itself (Ampah & Ali, 2019; Shahin & Samea, 2010).

According to Ghotbabadi, Feiz and Baharun (2015:281) the context timing and demand for the required service are essentially the determinants of the outcome of the service quality. Parasuraman et al. (1985) proposed the SERVQUAL (service quality) scale for the measurement of five identifiable gaps. On the other hand, Yarimuglu (2014) argued on the essentialisation of SERPERF (service performance) (rather than service quality), which was measurable through the SERPERF scale. It is clear that the SERVQUAL and SERPERF approaches present divergent schools of thought regarding service quality and its determinants. It is worth mentioning that the determinants themselves are not necessarily the foundational tenets of the Service Quality Gap Theory. Whereas the determinants of service quality relate to the properties or attributes of service quality, the foundational tenets of service quality refer to the gaps (service disjunctures) themselves.

3.4.1.1 Determinants of service quality

Parasuraman et al. (1985) − who is associated with the service quality gap theory from its embryonic stages − has proposed a SERVQUAL scale for the measurement of 5 (five) gaps, namely: tangibility, reliability; responsiveness, empathy, and assurance; all of which are highlighted below.

3.4.1.2 Tangibility

Tangibility relates to the evidence, reality (as opposed to mere perceptibility) or actual prevalence of the human, financial and infrastructural wherewithal, as well as planned activities and systems intentionally designed for the materialisation of the institutional or organisational goals (Manyisa & Van Aswegen, 2017). It is in this regard that Parasuraman et al. (1985) further described tangibility as a “solid” determinant of service quality. However, De Jager and Du Plooy (2007) contends that tangibility should be a simple dimension to manage, since it does not involve human resources. In the business and marketing fields, tangibility has been perceived as less significant. However, tangibility still viewed as key in the evaluation of service quality in the health sector (Boshoff & Gray, 2004; De Jager & Du Plooy, 2007).

3.4.1.3 Reliability

In the context of the SQGT, reliability premises on the capacity to deliver on the expected service in a dependable and appropriate at the first instance rather than later (Boadi et al., 2019; Demir et al., 2015). Evidently, the latter definition posits a correlational effect between reliability and customer satisfaction. According to Sanjuq (2014), the accuracy and timeliness of service provision is also linked fundamentally to reliability. In relation to the present study, the reliability test refers to the ability of the midwives to act accordingly towards the expectations of the women regarding maternal healthcare services delivery.

3.4.1.4 Responsiveness

Responsiveness to customer complaints produces a positive effect on their (customers') satisfaction and loyalty (Muala, 2016). That positive correlation does exist between customer satisfaction and loyalty is also corroborated by Shared (2019), who referred to significant factor analysis effect between e-service quality and e-customer satisfaction.

In the context of maternal healthcare, responsiveness refers to the willingness of the midwives to provide prompt advice and relevant services to pregnant mothers and women, as well as responding to complaints constructively and timeously (Siew-Peng & Sedigheh, 2015). The provision of information to pregnant women is based on *what, where*, *how* and *when* maternal healthcare services are rendered, is also a demonstration of midwives' responsiveness to the health needs and challenges of the beneficiaries and users of such services (Sanjuq, 2014).

3.4.1.5 Empathy

Empathy relates to the degree of attachment, compassion and understanding concerning the needs of a service user (Jaf, Muhammed & Omer, 2019; Parasuraman et al., 1988). In addition, empathy contributes significantly to the clients' satisfaction and loyalty to the service and its provider (Juneja, Ahmad & Kumar, 2011). The latter author also contends that, of all the five service quality determinants, empathy did not show a positive correlation (between service and client satisfaction). The implication is that, to a large extent, service users were not treated empathetically in such contexts.

Communication with the target groups should bring about the attributes of becoming good listeners, evidence of caring, understanding and empathising with the customers (Parasuraman et al., 1985). Empathetically treated customers are more willing to return for service despite the mistakes committed by the service provider. Empathetic midwives create an affectional relationship with the perinatal women; thus, retention and repeated utilisation of the maternal healthcare services and better maternal health outcomes (Jaf et al., 2019).

It has been established that nursing and midwifery personnel displaying empathy have a positive effect on pregnant women utilising maternal healthcare services (Ampah & Ali, 2019; De Jager & Du Plooy, 2007). The individualised and empathetic attention to perinatal women is key in the enhancement of service quality (Jaf et al., 2019). Health facilities are expected to demonstrate the variable “empathy” when caring for the women throughout the perinatal period.

3.4.1.6 Assurance

At the organisational level, assurance is the capacity of the health system to demonstrate competence, credibility, confidence, courtesy and security in the maternity units (Ampah & Ali, 2019; Jaf et al., 2019:3). At the personnel and professional levels respectively, assurance is about the extent to which the courtesy and maternal health knowledge of the midwives and their skills inspire women’s trust and confidence in their delivery of health service (De Jager & Du Plooy, 2007).

Assurance is viewed as having a positive correlation with clientele satisfaction, based on the mutual feeling of safety and strong relations between midwives and their patients (Sanjuq, 2014). Literature has shown that an interpersonal relationship is significant in the healthcare sector, because close contact between pregnant women and midwives is always anticipated.

It was on the basis of the Service Quality Gap Model’s main principles or key aspects that the researcher correlated these principles in her conceptualisation of her proposed model to guide improvement of maternal healthcare service provision in the provincial tertiary in Gauteng Province.

3.4.2 Fundamental tenets/key aspects of the service quality gap theory

The Service Quality Gap Model assisted the researcher to understand various multi-layered factors that may influence maternal healthcare services delivery. Similar to the trajectory followed in locating the relevance of the SEM (see Sub-section 3.3.3.), an overview of the fundamental Service Quality Gap Model presages its relevance factors to the study for better depiction of the link between theory and practice in the context of this study (Allana & Clark, 2018; Salihu et al., 2015). Figure 3.3 (overleaf) shows the five dominant gaps (discontinuities/disruptive factors) in the service quality gap equation.

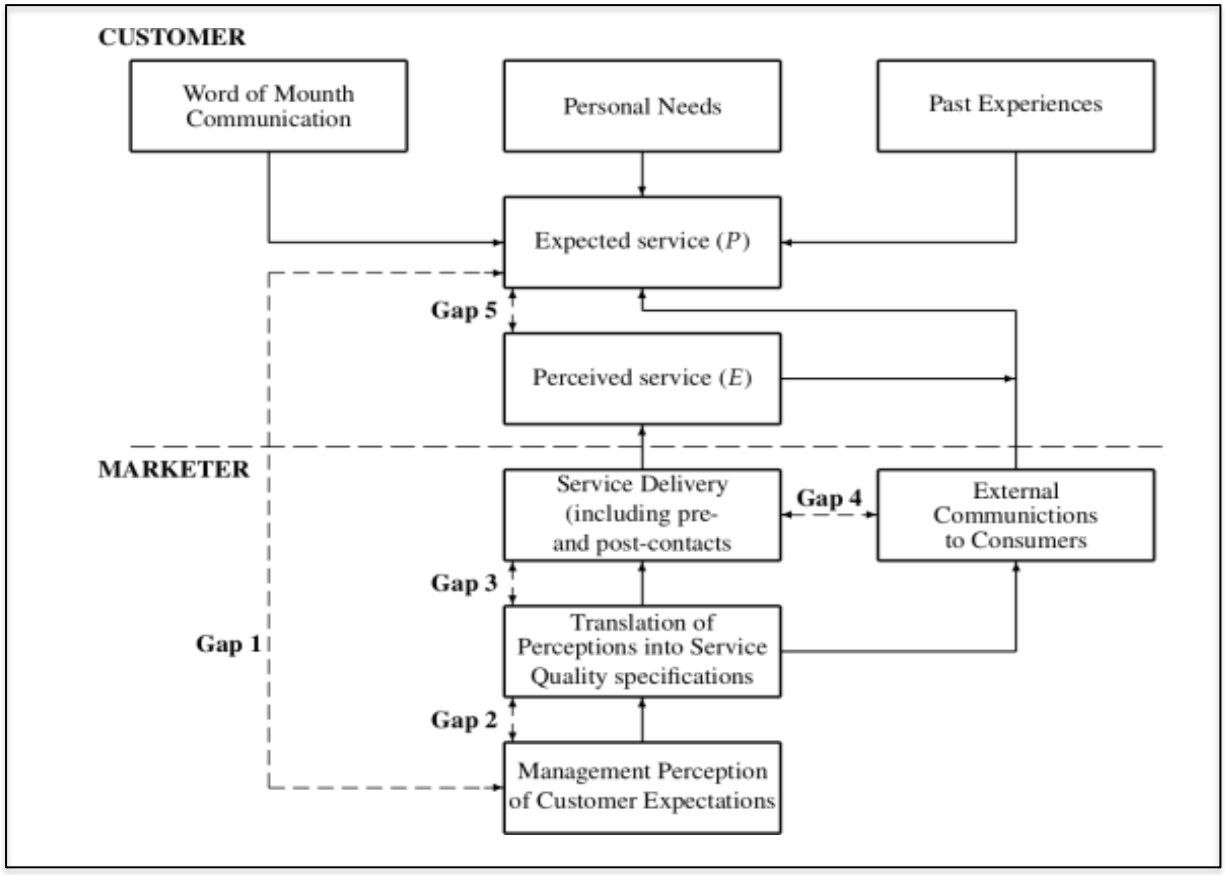

Figure 3.3 The Service Quality Gap Model and its fundamental tenets

(Source: Parasuraman et al., 1985:44)

Figure 3.3 above shows the five foundational tenets of the SQGM, with gaps 1-4 focusing on the marketer or service provider, while gap 5 is located entirely within the domain of the customer or service user. An overview of the five gaps is presented in the ensuing sub-sections.

3.4.2.1 Gap 1: Customer expectations: management of customer perception gap

This gap is the variation between the expectation and management of customer perception (Parasuraman et al., 1985). The expectation relates mainly to the customer's expectation or anticipation, which is affected by factors such as personality, family, demographics and cultural background (Ampah & Ali, 2019). The customer's perception is mostly subjective in nature, and dependent on the customer's interaction with the product or service. The best way to bridge this gap is by understanding the needs and knowing the expectations of customers.

In the context of this study, this gap focused on the differences that existed between the expectations of the perinatal women concerning maternal healthcare delivery and perceptions of the service quality (Berry & Parasuraman, 1991). The gap also translates in the facility management's failure to be cognisant of the clients' expectations. Parasuraman Zeithaml and Berry (1988) further argued that most of the time, service providers do not understand what was required to ensure quality services for the customers.

3.4.2.2 Gap 2: Perception management of consumers' expectation: Service quality specification

This gap relates to the specification of the quality of services as defined by the guidelines that management has on the customer's expectation of services to be provided to them (Parasuraman et al., 1988). According to Yarimoglu (2014:82), this gap is clearly identified in the policy factors as borrowed from the SEM. The literature shows evidence of management difficulties to deliver services according to the expectations of the clientele. Gebremichael and Singh (2019) attribute gap (between service quality and customer expectations) to the lack of resources and service quality commitment by management as well as the growing demand for maternal services resources. Thus, it is important for administrators to promote comprehensive research to bridge the gap between service quality and customer expectations and perceptions.

3.4.2.3 Gap 3: Service quality specification: Service delivery

The service quality specification gap is sometimes referred to as the policy gap and relates to the variation between service quality specifications and the actual delivered service (Davaki, 2019; Parasuraman et al., 1985). This gap clearly reflected the discordant translation of policy into protocols and guidelines for the midwives working within the maternity units. Ueno (2010) also endorses the view that Gap 3 is a factor of human resource challenges. Although public healthcare facilities may have protocols and policy guidelines for provision of maternal healthcare services, there is still observable difficulty in adhering to these health standards, mainly due to the performance inconsistency of the midwives (Gebremichael & Singh, 2019; Parasuraman et al., 1985). Such inconsistency may affect the consumers' perceptions of the service quality.

3.4.2.4 Gap 4: Service delivery: External communication to customers

The service delivery gap involves the differences between delivery of service and the promises made by the service providers to customers through external communication about provision of the service (Davaki, 2019). Evidently, this gap addresses the correlation of the promised (ideal) service with the actual service delivered. Promising more than the company's capacity to deliver is unsafe, mainly because it leads to high customer expectations and lowers quality perception when the promises are not fulfilled (Parasuraman et al., 1985:45; Rosene, 2003). For instance, the NDoH could have well-articulated maternal health policies that are poorly implemented by midwives (Turizam, 2011).

Furthermore, a service delivery gap could occur due to the integrated service marketing communication deficiencies, according to which perinatal women are disempowered by vacuous promises by healthcare policymakers and managers. Potluri and Angiating (2018) caution that empty promises could further lead to communication and interpretation discontinuity. The latter author presents such discontinuity as "a complacency gap" accruing from untruthful or misleading communication.

3.4.2.5 Gap 5: Customer service expectations: Perceived service gap

This is the most important gap, which seeks to address the differences between consumers' expectation' and perceptions of services rendered (Ueno 2010); Yarimoglu, 2014). This size- and directionally inclined gap is viewed as a function of the four gaps mentioned already (see Sub-sections 3.4.2.1 to 3.4.2.4) in terms of the delivery of service quality on maternal healthcare services.

Meeting customer expectations is the core maxim of any organisational activity (Parasuraman et al., 1985; Yarimoglu, 2014). Perceived service quality by customers stems from the judgement analysis of the perceptions of the service provided. According to the latter authors, service quality perceptions in service engagements have great effects on consumers than in the quality of the product itself. Parasuraman et al. (1988) proposed that when measuring Gap 5, the service quality becomes a common denominator of perceptions and expectations in accordance with the following guiding formula: Gap 5=f [Gap 1, Gap 2, Gap 3, Gap 4]. These gaps need to be managed and maintained, to achieve service quality.

3.4.3 Relevance/applicability of the key service quality gap tenets to the study

The main purpose of the current investigation is to assess the quality of maternal healthcare services delivery by measuring the maternal mortality amongst women accessing maternity units in Gauteng Province. In addition to the Social Ecology Model, the theoretical grounding of maternal healthcare service delivery was allocated within the context of the Service Quality Gap Model and its five service quality dimensions or determinants. The rationale being that the provision of maternal healthcare is construed fundamentally as a service provided to perinatal women and mothers as the primary users or consumers of such a service. Therefore, measuring the quality of the service was important for determining any positive correlational value in the manner the service was perceived by its users in Gauteng Province.

Additionally, the fundamental focus of the Service Quality Gap Model on services and their quality gaps cohere with Objectives 3 and 4 of the study insofar as maternal healthcare policies and practices were concerned. Healthcare has become a competitive service in the modern era (Ampah & Ali, 2019; Coast et al., 2014). It is in this context that the Service Quality Gap Model is important for this study, because it identified the service

quality gaps in exploring the maternal healthcare services delivery in Gauteng Province in the quest to reduce maternal mortality. The role of the health sector is to consistently provide sustainable services to its clients, which would stand the reputation and image of the sector in good stead (Davaki, 2019; Maphumulo & Bhengu, 2019). Accordingly, the Service Quality Gap Model highlighted the need for the NDoH to provide acceptable and descent maternal healthcare services to women of child-bearing age.

Word of mouth communication can either destroy or build the reputation of institutions providing healthcare to perinatal mothers and women (Madula, Kalembo, Yu & Kaminga, 2018). The model's exposure of communication-related gap coheres further with the study's emphasis on obtaining the views of both midwives and their patients (perinatal women). Such an orientation was beneficial for providing a framework within which the nature and levels of midwife-patient communication occurs. For example, responsive and empathetic midwives were more likely to communicate effectively and share relevant information with their clients.

On the whole, all five gaps of the SQGM are both relevant and applicable to the current study. Supporting evidence to this effect is provided in greater detail in the empirical data collection and analysis section of the study; that is, Chapter 5 and its subsequent supporting chapters. Hence the researcher investigated the nature of maternal healthcare services as expected by perinatal women in order to understand their expectations and perceptions regarding the availability and use of maternal healthcare facilities in Gauteng Province. The researcher's proposed improvement model is envisaged to guide and strengthen maternal healthcare practices in this province.

3.5 SUMMARY

The chapter presented an inter-theory discussion on the SEM and the Service Quality Gap Model as the theoretical framework of the study. The researcher adopted an approach in terms of which the terms, 'theoretical framework' and 'conceptual framework' were used interchangeably and provided relevant literature reference to this effect.

Most importantly, the chapter provided an overview of the background, foundational tenets and relevance/applicability of the two dominant models in this chapter. To a very large extent, virtually all attributes of these conceptual models applied in this study and guided the researcher's proposed maternal healthcare model.

CHAPTER 4

RESEARCH METHODOLOGY AND NATURE OF THE STUDY

4.1 INTRODUCTION

The previous chapter provided a context for the current study's theoretical framework in respect of two interrelated theories and their attendant conceptual rootedness and relevance to the core issue of institutional maternal healthcare. On the other hand, the current chapter focuses largely on the actual ***pre-data collection and analysis*** contexts in terms of the research processes and procedures applied by the researcher in the quest to comprehensively explore, describe and analyse the nature and extent of maternal healthcare service delivery/provision in Gauteng Province.

It is the researcher's firm view that some degree of nomenclature clarification is necessary at this stage of the chapter. In particular, such clarification applies to the terminological application of the terms/concepts, 'research design', 'research methodology', and 'research methods'. Some research practitioners and scholars view these three terms as synonymous, interchangeable, and complementary; while another school of thought considers the self-same three terms or concepts as different (dissimilar and not interchangeable), but still complementary (Babbie & Mouton, 2011; Rani, 2016; Roller & Lavrakas, 2015). Accordingly, the study regards 'research design' and 'research methodology' as synonymous, but different from, and complementary to 'research methods'.

Given the study's differentiation approach as cited above, both 'research design' and 'research methodology' are then viewed as the philosophical terrain on whose strength the overall planning and management of the study processes, strategies and approaches are executed (Almalki, 2016; Burrel, 2017; Rani, 2016). Therefore, while the design/methodology domain essentialises processes and their management, the 'research methods' are viewed in this study as referring specifically to the type and properties of the research instrumentation/tools designed for their suitability in resolving the identified problem, answering the research questions, and achievement of objectives of the study (Brink et al., 2014; Saldana & Omasta, 2018).

For purposes of thematic logic, the structure of the current chapter basically reflects the design/methodology aspect on the one hand, as well as the data collection, analysis, and quality assurance on the other. In this regard, the chapter also adheres to the three phases characterising the stages of data collection as identifiable elements of the nature of this study insofar as its sequential exploratory research design approach is concerned.

4.2 PARADIGMATIC PERSPECTIVE/ORIENTATION OF THE STUDY

The study's paradigmatic orientation is largely a representation of the philosophical principles, worldview framework and beliefs underpinning the current study, as well as the extent to which these beliefs and principles have influenced the researcher's choice of triangulated data collection and analysis approaches ***prior to*** the actual gathering of the relevant information pertinent to the study (Creswell & Plano-Clark, 2018; Rani, 2016; Saks & Allsop, 2019). The entirety of Sub-section 1.8.1 in Chapter 1 of this study has largely captured and reflected on the three most commonly used philosophical perspectives and orientations in research. Moreover, pragmatism was also presented (in Sub-section 1.8.1) as the major paradigmatic orientation of this study. According to Polit and Beck (2017) the emergence of pragmatism is a factor of the "paradigm wars" and perennial tensions between the proponents of positivism and those of constructivism.

Some researchers apply the terms, 'worldview' and 'paradigm' interchangeably to refer to a continuum of generalisations, values and beliefs which implicitly or explicitly espoused by a group of individuals subscribing to a particular form of intellectual persuasion (Almalki, 2016; Creswell & Plano-Clark, 2018). Meanwhile, Harvey and Land (2016), Parahoo (2014), and Polit and Beck (2017) add further that the research paradigm allocates a degree of guidance, shape and structure concerning the interpretation of natural phenomena and the nature of reality and knowledge. From the researcher's viewpoint, Eusafzai's (2014) assertion captures the essence of the various definitions and schools of thought as "a loose collection of logically related assumptions, concepts, or propositions that orient thinking and research … and abstract as well as philosophical aspects".

The adoption of the pragmatist paradigm in this study is consistent with the MMR design approach pursued in this study (discussed later in this chapter). The adoption itself was

influenced by the researcher's beliefs and assumptions about the particularities (nature, experiences and characteristics) of the various stakeholders in the investigation of the phenomenon of institutional maternal healthcare and maternal mortality in Gauteng Province (Babbie & Mouton, 2011; Polit & Beck, 2017). In the ensuing section, the researcher briefly outlines the range of philosophically steeped assumptions about the particularities of phenomena in research. Whether they are tested/proved or not, assumption statements are by themselves not necessarily susceptible to evidential scrutiny or proof but do profoundly shaping and influence the researcher's interpretation of the researched phenomenon and its impact on the study (Roller & Lavrakas, 2015).

4.2.1 Research philosophical assumptions

Whereas the paradigmatic orientation provided the broader framework and philosophical foundation of worldviews, principles, beliefs, and values guides the research, the assumptions themselves inform the specific (tested or untested) basis on which "making sense of something" is articulated (Aliyu et al., 2015). In this study, the beliefs guiding the "making sense of something" are premised on theoretical, ontological, epistemological, methodological, and axiological assumptions; all of which are highlighted below.

4.2.1.1 Theoretical assumptions

Theoretical assumptions are premised on the (tested or untested) belief that a particular theory or group of theories and their related conceptual models/frameworks are appropriately suited for implementation, discussion or integration in the context of a particular research study (Aliyu et al., 2015; Creswell & Plano-Clark, 2018). In this study, an inter-theory approach was pursued on the belief or assumption that the complexity of the study and its MMR design project warranted more than a singular theoretical grounding according to the mixed data collection instruments non-homogenous stakeholders involved (Brink et al., 2014). It is in this regard that both the Social Ecology Model and the Service Quality Gap Model to interrogate, shape, and predict both the conceptualisation and practical implications of the current state and quality of institutional maternal healthcare services in Gauteng Province.

4.2.1.2 Ontological assumptions

Ontological assumptions emanate from the beliefs concerning the nature of knowledge and reality of a phenomenon (Denzil & Lincoln, 2008; Eusafzai, 2014). A phenomenon does not exist in, and of itself, but also affects, and is affected by a wide range of external factors (Ayeleke, Dunham, North & Wallis 2018). Such external factors could be geographic, socio-economic, political, cultural, environmental or ideological in their nature.

In the context of this study, the researcher's ontologically induced assumption is that the nature and extent of institutional maternal healthcare and maternal mortality is shaped by the confluence of individual, interpersonal, organisational, community, and policy factors (Walker & Avant, 2013; Yilmaz, 2013). As such, the researcher contends that the nature or 'state of being' of any meaningful knowledge about the state of maternal healthcare service delivery and mortality in Gauteng Province would be incomplete with the exclusion of all these confluent factors.

4.2.1.3 Epistemological assumptions

Epistemological assumptions basically focus "the truth of how we know what we know" (McClean et al., 2020). Therefore, assumptions in this category allocate the nature of "knowing" as either a subjective or objective factor of lived experiences in a particular ecological or environmental milieu (Aliyu et al., 2015; Yilmaz, 2013). For instance, and consonant with the constructivist paradigm, the researcher consulted with various categories of participants in their own naturalistic surroundings to explore and obtain more detailed information about the (subjective and objective) truth concerning maternal healthcare service delivery (Eusafzai, 2014:180). This 'first-hand' acquisition of knowledge provided a context in terms of which the researcher eventually generated further knowledge that translated into the development of the findings of the study (Polit & Beck, 2017).

4.2.1.4 Methodological assumptions

Methodological assumptions are premised on the researcher's belief concerning the appropriateness of methods deemed 'fit for purpose' in relation to the investigated

problem, the accomplishment of the research objectives, as well as adequately responding to the research questions (Creswell & Creswell, 2018; Saks & Allsop, 2019). According to Harrits (2011), methodological assumptions justify the *modus operandi* of acquiring knowledge about the realities of the known world.

In the current study, the researcher's methodological assumptions shaped her decision to opt for an MMR design according to which a multiple data collection strategy was applied and involved (Creswell & Creswell, 2018; Morris & Burkett, 2011). Consistent with the study's pragmatic philosophical perspective, the researcher used both qualitative e.g. FGDs, in-depth interviews, and documentary/partograph review and quantitative methods e.g. questionnaires and checklists (Adom et al., 2018; Creswell & Creswell, 2018).

4.2.1.5 Axiological assumptions

Axiological assumptions focus primarily on the role of values, norms and ethics when conducting research as a systematic mechanism to construct evidence-based knowledge and realities (Christ, 2012; McClean et al., 2020). According to Biedenbach and Jacobsson (2017) and McClean et al. (2020), the axiological assumptions reflect on the research process and implications of scientific inquiry on the uniformity and trustworthiness of the enquiry being conducted.

In the context of the present study, axiological assumptions have been demonstrated with the researcher's commitment to the research process by means of both the informed consent form and information sheet sent to the participants prior to the commencement of the study. Furthermore, the researcher is a professionally trained and qualified maternal healthcare practitioner (midwife), but she diligently excluded her personal predilections and professional biases from interfering in her engagement with the research participants throughout the empirical phase of this research study (Maguire & Delahunt, 2017; Walliman, 2015).

4.3 RESEARCH APPROACH AND METHODS

Section 1.8.1.2 of Chapter 1 in this study has predicated the research approach and design that the researcher has preferred in pursuance of the study's objectives and resolution of the problem being investigated. It is in that context that the research

approach is viewed as the planned procedures and strategies for connecting the study's adopted philosophical paradigm with the specific data collection and methods of data collection and analysis (Creswell & Plano-Clark, 2018; Gray et al., 2017). As stated at the beginning of this chapter, the current study has adopted an MMR design approach presented below in the sequence of its implementation during the data collection and analysis stages of the investigation.

4.3.1 Qualitative research approach

The qualitative research design approach (which is closely linked to the constructivist philosophical paradigm) is mostly characterised by its non-numerical, exploratory, descriptive and narrative inclinations whose primary goal is to obtain the truth, facts and (subjective) knowledge about a phenomenon or some social reality from the perspectives of those who actually have first-hand experience about such reality (Flick, 2014:17; LoBiondo-Wood & Haber, 2018). According to authors such as Brink et al. (2014) and Gray et al. (2017:62), qualitatively inclined research has been in use in research fields such as public health and nursing as a preferred methodology due to its (qualitative approach's) ability to generate densely detailed data, which is most suitable for exploring, describing, and analysing the lived experiences of a social phenomenon. Most importantly, the qualitative research approach is most helpful by virtue of its capacity to 'penetrate', observe, document and interpret the emotional and psychological aspects of those from whom knowledge and further information is sought concerning the reality of an issue or phenomenon that is being investigated (Abutabenjeh & Jaradat, 2018).

In the context of this study, the qualitative approach was conducted by means of FGDs, in-depth interviews and documentary review and analysis in the maternity units of the regional, provincial tertiary and central hospitals as the midwives' places of employment, and healthcare service centres for perinatal women accessing maternal healthcare in Gauteng Province. This was in addition to the protracted search, identification and review of pertinent literature sources and scholarship on the subject of institutional maternal healthcare service delivery and maternal mortality (Aspers & Corte, 2019).

4.3.2 Quantitative research approach

The quantitative research approach (which is closely associated with the positivist philosophical paradigm) is viewed as a formal, objective (unbiased), systematic process in which numerically inclined or statistical data are obtained, analysed and interpreted for the purpose of answering the research questions (Gray et al., 2017; Polit & Beck, 2017). As opposed to the more descriptive and interpretive orientation of qualitative designs, the quantitative variant is more inclined on precise measurement and quantification and involves the rigorous control of research variables to generate patterns of predictability and explain phenomena through deductive reasoning or logic (Aliyu et al., 2015; Allana & Clark, 2018). Such quantification capacity is enabled by use of descriptive statistical tests and collection of data from all subjects simultaneously (Allana & Clark, 2018; Brink et al., 2018; Gray et al., 2017).

In this study, the quantitative aspect of research was implemented by means of structured questionnaires and checklists in which both the midwives and the perinatal women (patients) participated.

4.3.3 Mixed-methods research (MMR) approach

The MMR design approach (which is closely associate with the pragmatist philosophical research paradigm) basically entails the amalgamation of two or more research approaches in the same study (Christ, 2012). The usage or integration of research methods in a single study is necessitated by the inherent advantage of bringing together the strengths of both quantitative and qualitative approaches in order to compensate for any weakness in both approaches (Polit & Beck, 2017; Tariq & Woodman, 2010).

According to Guest and Fleming (2015) and Poth (2018), the MMR approach is most desirable in cases of the study results' prioritisation of interaction among diverse groups with a common purpose. Accordingly, the current study employed the MMR's multiple data acquisition techniques as a reliable mechanism to address the complex aspects, practices and experiences relating to the exploration of maternal health in Gauteng Province. Furthermore, the exploration required that both the qualitative and quantitative aspects of the study be coordinated sequentially for purposes of convergence and logical conclusions. This sequential aspect is highlighted below.

4.3.3.1 Sequential exploratory mixed-methods design

The sequential exploratory aspect of this mixed-methods study was implemented in three distinguishable stages or phases. In the first phase, the study commenced with the collection and analysis of the predominantly qualitative data. The second phase was characterised by the collection and analysis of predominantly quantitative data. The third and final stage involved the convergent analysis of both qualitative and quantitative findings, the fundamental purpose of which is to demonstrate such findings as belonging to the same study (Creswell & Plano-Clark, 2018; Poth, 2018). Figure 4.1 below is an exemplification of the sequential exploratory (and descriptive) mixed-methods design approach as applied in this study.

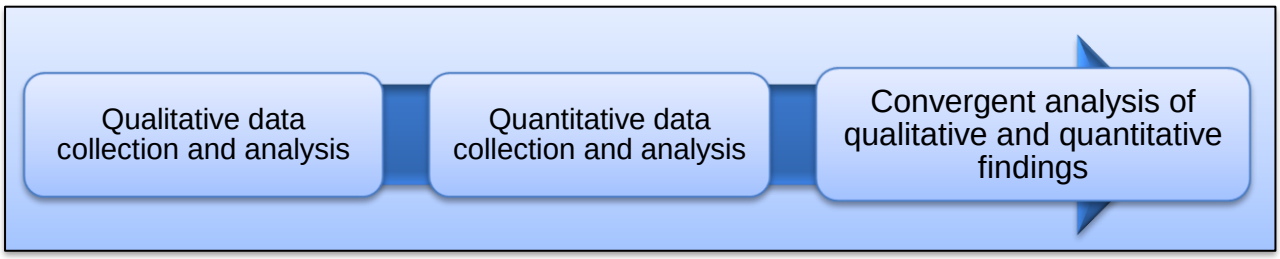

Figure 4.1 Representation of the sequential exploratory mixed-methods research

(Source: Adapted from Creswell & Plano-Clark, 2018:64)

This researcher emphasises two considerations with regards to exploratory sequential design as shown in Figure 4.1. Firstly, the above diagrammatic representation shows that the researcher made a choice regarding the levels of interaction between each 'independent' strand of the mixed-methods approach (Creswell & Plano-Clark, 2018). Secondly, the choice made was in relation to the qualitative determination of the priority allocate to answering the questions asked in this study (Guest & Fleming, 2015). In addition, the current study maintained separate data collection and data analysis processes but converged or amalgamated during interpretation for inferential purposes of drawing conclusions (Creswell & Plano-Clark, 2018). By logical implication, the researcher could not develop the quantitative instruments prior to the analysis of the qualitative findings.

4.3.3.1.1 Rationale for selection of the exploratory sequential design

The rationale for utilisation of the exploratory sequential design is based largely on the complexity of the study phenomenon, that is, institutional maternal healthcare service delivery in Gauteng Province by merging the two strands that are complementary and allow each to showcase its methods (Bryman & Bell, 2011; Creswell & Plano-Clark, 2018). In that regard, the rationale is then based on issues of complementarity, developmental considerations, initiation, expansion and triangulation requirements; all of which are outlined below.

Complementarity: Data gathered in both qualitative and quantitative stages are illustrative of the findings of one another (Tariq & Woodman, 2010). In this study, the focus groups discussions, in-depth interviews and partograph review explored and described the experiences of the midwives and perinatal women regarding maternal healthcare provision. On the other hand, the quantitative responses from the questionnaires and checklists actually calibrated those experiences in numerical terms. Combining the two approaches provided a clearer and more comprehensive picture of maternal healthcare and maternal mortality in Gauteng Province.

Developmental considerations: The use of the initial (qualitative) findings to inform and develop the other (quantitative) method (Tariq & Woodman, 2010). In this study, the generate qualitative phase findings contributed towards the development and subsequent implementation of the questionnaire and checklist for the second phase. In this regard, the qualitative themes from the focus groups and in-depth interviews were used to inform the quantitative phase and its development of the survey questionnaire and the checklist.

Initiation: Involves the use of study findings from different methodologies to assess the incongruence to generate new knowledge or insights on maternal healthcare delivery (Bryman & Bell, 2011). The researcher used focus groups to explore the causes of discrepancies in maternal healthcare and maternal deaths in the qualitative phase, whist the results of the survey indicated increased deaths among perinatal women but objectively low measure on maternal healthcare.

Expansion: Aided by the complementarity and developmental factors, expansion entails the incremental role of data obtained in one approach to advance the informational base

of the other method, while also responding to the purpose and the objectives of this study (Creswell & Plano-Clark, 2018). In this study, the larger sample from the survey questionnaire and checklist provided a broader information pool, as compared to the focus groups and interviews − whose engagement with participants was limited (Tariq & Woodman, 2010).

Triangulation requirements: Greater validity in the current study, was provided with the researcher using data from focus groups and in-depth interviews to corroborate the findings from the questionnaires and checklists in the same study on the quality of maternal healthcare service delivery in Gauteng Province (Creswell & Plano-Clark, 2018; Polit & Beck, 2017).

Notwithstanding its advantages, the sequential exploratory MMR approach and its consequent triangulated orientations was found to be time-consuming, and that the researcher may experience some ethical issues relating to the quantitative phase of the study (Creswell & Plano-Clark, 2018; Poth, 2018).

4.4 STUDY CONTEXT

Whereas the previous sections of this chapter outlined a more process-oriented perspective of the research design, the study context highlights a more participant-centred perspective in terms of answering the question: *Who is the people affected or involved in the designed or planned processes and methods?* In this regard, the study context then focuses on 'the people' (i.e. participants) involved and places at which their involvement occurs.

4.4.1 Research site/setting

The research site or setting is the physical location or place at which the study was conducted (Gray et al., 2017; Tappen, 2016). This study was undertaken at four hospitals in the City of Ekurhuleni and City of Tshwane, both reflected in Figure 4.2.

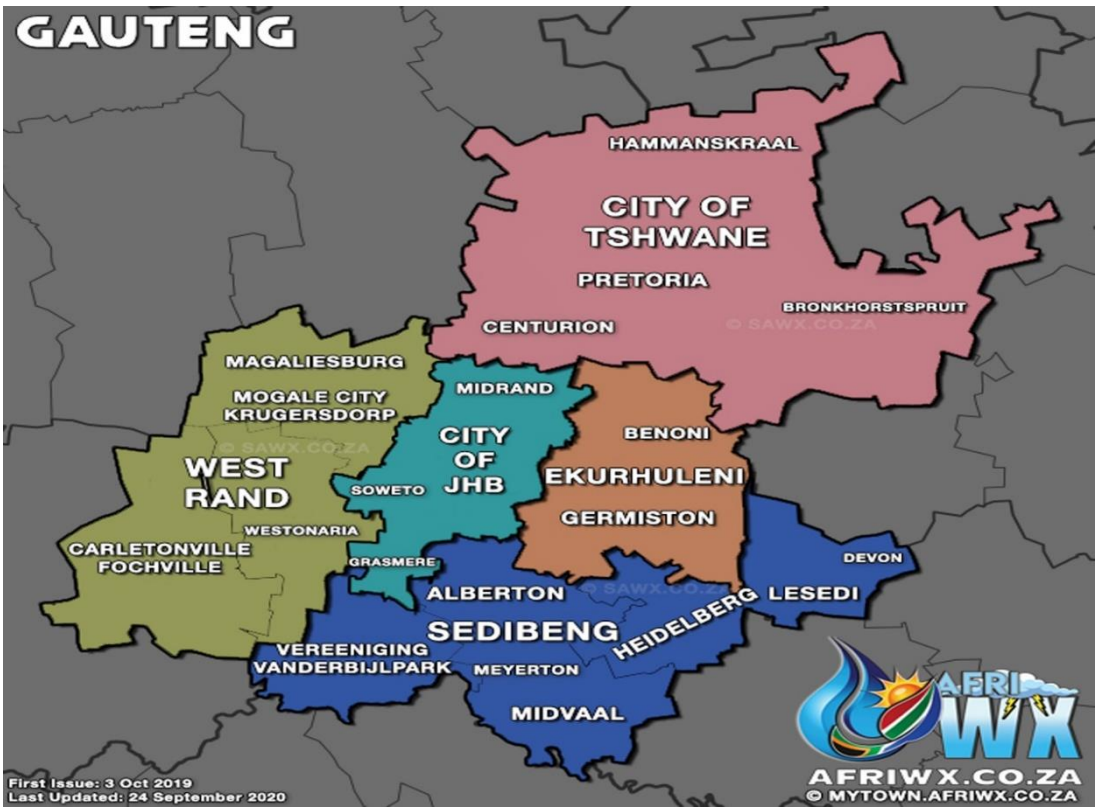

Figure 4.2 Map of Gauteng Province showing Ekurhuleni and City of Tshwane

(Source: https://sawx.co.za/province-district-municipality-maps/)

In the City of Tshwane, a regional and a provincial tertiary and a central hospital were selected for involvement in the study, while another provincial tertiary was selected for involvement in the city of Ekurhuleni. Gauteng Province is divided into six districts and seventeen sub-districts. Within these districts are 4 (four) central hospitals, 3 (three) provincial tertiary hospitals, and 9 (nine) regional hospitals that are fully operational on a twenty-four-hour basis (NDoH, 2012a). The selection of the four hospitals in City of Ekurhuleni and City of Tshwane respectively, was influenced by the fact that Gauteng Province is the third province with high maternal mortality in the country's provincial tertiary hospitals (NDoH, 2017c).

It is the view of the researcher that the Gauteng Province healthcare facilities were also overcrowded by the additional health burden placed by the inflow of the migrants for maternity services. It has been estimated that Gauteng Province has the largest inflow of migrants, standing at approximately 1,048 440 between 2016-2021. Such high influx rates are induced by the fact that the province is viewed as the country's economic hub

with many employment opportunities, whereas the unemployment rate has been high for long (Stats SA, 2020).

4.4.2 Study population

The study population refers to the larger group of individuals, objects, units or groups of individuals possessing the qualities or traits from which a smaller representative group could be selected (Brink et al., 2014; Vaismoradi et al., 2013). For purposes of this study, reference is also made to the country-wide aspect of the population is provided in order to contextualise the phenomena of institutional maternal healthcare service delivery and maternal mortality.

According to Statistics South Africa (Stats SA) (2020), South Africa's population was estimated at 59.62 million as per mid-year 2020, of whom 15.4 million people were living in Gauteng Province alone. For the same period (2020 mid-year), the female population of Gauteng Province stood at 7.8 million (Stas SA 2020). According to Stats SA (2016), life expectancy of South African women at birth with, and without HIV/AIDS for perinatal women is 67.3 years and 71.5 years respectively. The female population is predominantly black (81%) as compared to the other racial groups. This group of perinatal women is mostly utilising the public maternity units. In this study, the whole group of people in which the researcher has an interest were all midwives and all pregnant and postnatal women in Gauteng Province (Polit & Beck, 2017).

4.4.2.1 Target population

The target population refers to all set of cases on which the researcher wishes to make generalisations (Flick, 2014; LoBiondo-Wood & Haber, 2018). Accordingly, the target population in the current study was all midwives working in public hospitals and the perinatal women admitted at the same facilities in Gauteng Province.

4.4.2.2 Accessible population

The accessible population are those the researcher is able to reach/access (Brink et al., 2014). Both the exploratory qualitative and quantitative components of the study consisted of midwives and perinatal women who fulfilled the required criteria in the

selected four hospitals in the Ekurhuleni and Tshwane metropolitan areas during the data collection. Area managers of the hospitals assisted with gathering the statistics of their midwives. Perinatal women who were accessible for this study were 195, refer Table 1.1. The in-charges of the units provided the researcher with maternity registers and admission books in the antenatal and postnatal units.

4.4.3 Sampling procedures

Sampling refers to the systematic process of choosing or selecting representative groups of persons, events, or any other relevant element that is useful to the investigator for the purpose of gathering relevant information pertinent to the research topic (Gray et al., 2017; Flick, 2014). The researcher used both sampling designs for qualitative and quantitative components of the mixed-methods design to enhance generalisation of the findings to broader populations (McClean et al., 2020; Polit & Beck, 2017).

4.4.3.1 Sampling criteria

The sampling criteria refers basically to the considerations, standard or norms on whose basis prospective participants are regarded as either legible (included) or ineligible (excluded) for any involvement in the study's empirical data collection (Mohajan, 2018, Nowell et al., 2017). In research, it is not always possible to involve all prospective participants in a study due to financial, logistical, practicality, and other reasons beyond the control of the researcher. It is for such eventualities that the researcher pre-determines strategies and criteria in terms of which the ultimate number and rationale for their involvement is ascertained. Therefore, the selection criteria for inclusion or exclusion is determined according to the participants' possession of homogeneous (similar) or heterogenous (dissimilar) traits, characteristics or attributes in relation to the larger (study) group from which they were selected or sampled (Gray et al., 2017). Table 4.1 below shows the comprehensive inclusion and exclusion criteria for the midwife and perinatal women participants involved in the triangulated data collection methods.

Table 4.1 Midwives' and perinatal women's inclusion and exclusion criteria

Qualitative		
Participants	**Inclusion**	**Exclusion**
48 Perinatal women in focus groups	• In 28 weeks, gestation to six weeks postnatal, and are accessing maternal healthcare services in public hospitals • Willing to participate in the study	• Gave birth in transit or before arrival at the hospital • Expatriate women who could not speak English
5 Midwives in in-depth Interviews	• Registered with the SANC as midwives • Working in the maternity units for more • Midwives on any level but working with perinatal women	• Community service placement • Working overtime in the maternity units • Unwilling to partake in the study
2 Peri-natal women in in-depth interviews	• Admitted in the public health hospitals • Visiting the antenatal clinics	• Unwilling to share experiences
50 Perinatal women in partograph use	• Partographs of women still admitted in the maternity unit • Partographs of emergency Caesarean sections • Partographs of un-booked cases • Partographs of women who had alive infants	• Partographs of elective Caesarean sections • Partographs with head on perineum • Partographs of women who had intrauterine fetal death
Quantitative		
142 Midwives in questionnaires	• Registered SANC midwives. • Willing to participate in the study.	• Community service placement • On part-time work from elsewhere
145 Perinatal women in checklists	• Women in their 28 weeks of gestation to six weeks postnatal and are accessing maternal healthcare services in public hospitals • Can read and write in English	• Women in early gestation • Cannot read and write in English

Table 4.1 above clearly shows the inclusion and exclusion criteria in the context of the various participant categories and data collection methods (discussed later herein).

The eligibility criteria are designed from the research problem, purpose, literature, study variables and design. Therefore, it reduced the confounders that may have implications on the study outcomes. In this study, the researcher developed the criteria in Table 4.1 to address the recruitment dynamics and factors attendant to the participants. In this

regard, the sampling was restricted to the permanently appointed midwives (as opposed to part-time) because they are trained and accountable for delivery of maternal healthcare (NDoH, 2011; SANC, 2013a). Meanwhile, the perinatal women (patients) were only those admitted in the maternity units because they sought either antenatal, intrapartum or postnatal midwifery care.

4.4.3.2 Sampling techniques/methods

Consequent to the criteria or standard set by the researcher for the involvement or 'disqualification' of participants as shown in Table 4.1, the researcher also determined the techniques or methods by which the participants were sampled. Consistent with the flexibility of the mixed-methods approach (i.e. unbound by any single research approach), the researcher applied more than one sampling strategy for the participants' involvement in both the qualitative and quantitative data collection of the study (Bazeley, 2016; Creswell & Creswell, 2018). Table 1.1 in Chapter 1 of this study provided details of the sampling techniques for the 105 participants involved in the qualitative data collection, and the 287 participants in the quantitative data collection.

4.4.3.2.1 Maximum variation sampling

The researcher opted for maximum variation sampling for the selection of the 48 perinatal women participating in the FGDs. Maximum variation sampling refers to selection based on the widest possible element of variability between representative cases or units (Vaismoradi et al., 2013). The researcher considered the extent of variability between the midwives and perinatal women on factors such as age, educational background and professional background.

Maximum variation sampling was also opted for, because the researcher wished to understand how midwives and perinatal women in the different perinatal stages and settings (different levels of hospitals and different maternity units) experienced maternal healthcare service delivery issues in Gauteng Province. Different data categories were collected in three stages at different times with the intention of recruiting small groups/units to maximise the variation relevant to the research questions (Savin-Baden & Major, 2013).

4.4.3.2.2 Purposive sampling

The researcher opted for purposive sampling for the selection of the 5 (five) midwives, participating in the in-depth individual interviews. Purposive sampling relates to the participants' selection according to the researcher's own judgement of their suitability according to their knowledge of the issues of interest to her (researcher) (Babbie & Mouton, 2011). The researcher purposively selected the midwives based on their midwifery knowledge and experience.

4.4.3.2.3 Convenience sampling

The researcher applied convenience sampling for the selection of the 2 perinatal women participating in the in-depth interviews, as well as the 145 perinatal women (patients) involved in the checklist quantitative data collection. Convenience sampling is concerned with selection based on availability and accessibility of participants because it is convenient for the researcher from a practicality, financial, logistical or other point of view (Kumar, 2014). Given the varied nature of the research instruments, selection criteria and scheduling times for appointments, the researcher applied the element of convenience to mediate the attendant sampling complexities.

4.4.3.2.4 Stratified random sampling

The researcher applied stratified random sampling for the selection of the 50 partograph files of admitted perinatal women. The same sampling method was used for the selection of the 142 midwives involved in the questionnaire data collection method. Basically, stratified random sampling is based on the non-probability of participants' involvement in the study because such involvement could not be predicted or guaranteed ahead of the study (Gray et al., 2017). Furthermore, such sampling method was necessitated by the requirement to gather thick and rich information from cases who are well informed about the phenomenon of interest (Polit & Beck, 2017).

This study employed the stratified random sampling with each midwife or perinatal woman (patient) in the respective participant category or 'population' selected into strata based on homogeneity (pregnant and postnatal) during data collection (Gray et al., 2017). In the first phase of the study, the researcher recruited the midwives, perinatal women and

partographs for the qualitative design through non-probability sampling to achieve a high level of representativeness. The participants who took part in this phase were not eligible for the quantitative phase (Creswell & Plano-Clark, 2018).

The researcher opted for the choice of homogeneity because this study focused on similar cases from the public health sector (Polit & Beck, 2017). The study used random sampling in this phase in order that the calculation of the exact number of subjects could be drawn with the sampling error in mind (Brink et al., 2018).

4.4.3.3 Sample size

While sample size refers to the actual number of participants involved in the experiential/empirical phase of investigation, such a number is not solely the primary determinant considering the primacy of data saturation, especially in qualitative research designs (Bauce & Fitzpatrick, 2018; Brink et al., 2014). In this study, data saturation was reached at the fifth participant and determined the sample size as no new themes emerged any further.

The FGDs were planned to be 8 (eight) in number. However, data saturation was reached by the sixth FGD. The researcher and her supervisor then agreed to concluded data collection at that stage on the premise that sample adequacy and its representativeness of the population was indeed achieved (Polit & Beck, 2017).

Table 4.2 below shows the number of participants sampled according to the different techniques stated in Sub-section 4.4.3.2, as well their numbers in respect of the various data collection tools.

Table 4.2 Structural representation of participants and data instruments

Research sites/setting	**Maternity units (3)**	**Preferred data collection methods**		
		Qualitative aspect		
		Focus groups	**Interviews**	**Partograph/ Documents**
Hospital 1: Tshwane Regional Hospital	1 Antenatal 1 Postnatal	2 groups x 8 women (16)	3 midwives	15 women (labour ward)
Hospital 2: Tshwane Provincial – Tertiary Hospital	Postnatal	Nil	2 women (postnatal)	12 women (labour ward)
Hospital 3: Ekurhuleni Provincial – Tertiary Hospital	1 Antenatal 1 Postnatal	2 groups x 8 women (16)	1 midwife (antenatal)	11 women (labour ward)
Hospital 4: Tshwane Academic Hospital	1 Antenatal 1 Postnatal	2 groups x 8 women (16)	1 midwife (antenatal)	12 women (labour ward)
Sub-total: 4 Hospitals (2 Health Districts)		**48**	**7**	**50**
Quantitative aspect				
	Participants		**Research methods**	
Four Hospitals (Hospital 1, 2, 3, 4)	Midwives (142)		Questionnaires	
	Patients (perinatal women) (145)		Checklist	
Sub-total: **2 Health Districts: Hospital 1, 2, 3 and 4**				
Total participants/respondents			**Midwives: 5+142**	**147**
			Perinatal women: 48+2+145	**195**
			Partographs: 50	**50**
			GRAND TOTAL:	**392**

Table 4.2 above confirms the relatively small sample size for the qualitative component, compared to the quantitative aspect which had a large sample size. However, in-depth information was achieved to gain insight into maternal healthcare services in Gauteng Province. The researcher is also conscious that an inadequate sample may compromise the quality and credibility of the study's findings (Burrel, 2017; Creswell & Creswell, 2018).

4.4.3.3.1 Sample size for the perinatal women

The researcher sampled women in the selected hospitals who were admitted for 2 days unless they experienced some complications, resulting in their longer hospitalisation. The researcher sampled the women using the Raosoft sample calculator. Based on the daily

admissions of the women in the units, the sample size was determined as depicted in the table below.

Table 4.3 Calculated sample size of the perinatal women for each level of care

Research site	Level of care	Daily average deliveries	Daily number of perinatal women sampled per day/hospital
Hospital 1	Regional	26	18
Hospital 2	Provincial − Tertiary	18	16
Hospital 3	Provincial − Tertiary	40	32
Hospital 4	Central	32	24
Total		**116**	**90**

The extent of numerical variability between Table 4.2 and Table 4.3 mainly explains that the former table mostly reflect a global template of the participants, whereas the latter table mostly depicts sample size based on deliveries.

4.4.3.3.2 Computing the allocation number of midwives

The source population of the midwives in the selected hospitals was 316. The sample size determination was 251. The sample size was calculated for each hospital or level of care using the proportional allocation. The sample size of 70% of the figures captured in Table 4.2 was considered adequate as the study was undertaken in only one of the country's nine provinces. In the context of standard sample size calculation from a finite population, the relation is given as: n=Zα/2.

The critical value of the normal distribution at α/2 (e.g. for a confidence level of 95%, α is 0.05 and the critical value z is 1.96. *e* is defined as the margin of error, *p* is the sample proportion, and *n* is the finite population size of the midwives in the four hospitals from which the sample would be calculated is (n=316) as depicted in Table 4.4.

Table 4.4 Calculated sample size of midwives for each level of care

Research site	Level of care	Midwives in maternity units	Sample size
Hospital 1	Regional	58	46
Hospital 2	Provincial – Tertiary	49	37
Hospital 3	Provincial – Tertiary	92	73
Hospital 4	Central	117	93
Total	**4**	**316**	**241**

Table 4.4 above is based on the value of using a sample proportion of p=0.5 as the estimated proportion and choosing the acceptable margin of error as ± 3.5%. Using the relation above, the computed sample size of 241 with allowance of a dropout of 5%. This was allocated to the hospitals in proportion to the population size of the hospital in the protocol to achieve the objectives.

4.5 DATA COLLECTION PROCESS

Data collection is the process of collecting the necessary information to answer the research question and to achieve the study's aim and objectives (Roller & Lavrakas, 2015). Consistent with the researcher's adopted pragmatic perspective, the data collection processes in this study are prominently characterised by triangulated approaches applied in a three-phase exploratory sequential mixed-methods process. Therefore, the ensuing discussions were guided and directed precisely along this prominently stated process. The researcher reiterates that the empirical data collection stage occurred prior to the advent of the current worldwide COVID-19 pandemic (see Annexure B and Sub-section 1.10.1.2 in this study). Hence, issues of risk-adjusted prevention of actual contact between the researcher her participants did not affect the current study's data collection processes.

4.5.1 Triangulation of data collection and analysis methods

Triangulation constitutes an indispensable aspect of this predominantly exploratory sequential MMR design study. Triangulation itself refers to the inclusion of several methods in a single study to develop a comprehensive understanding of a phenomenon (McClean et al., 2020; Saks & Allsop, 2019). In this study, triangulation was applied to gather detailed understanding of the phenomenon of maternal healthcare services in

Gauteng Province (Brink et al. 2018). According to Gray et al. (2017), triangulation is the use of more than one research design or multiple sources of data in the same study to allow the investigation to confirm the truth more precisely. Brink et al. (2018) assert that the aspect of confirmability of the findings as a known mechanism to gather different but complementary information on the same phenomenon. In this study, furthermore, triangulation provided a corroboration and convergence framework for the narrated statements and experiences of both midwives and perinatal women about the care rendered during the perinatal period.

The triangulation of the current study premises on the assumptions already articulated in Sub-section 4.2.1. To that extent, each of the assumptions coheres with its own corresponding method of triangulation. Therefore, the researcher proposes that the assumptions logically precede their triangulation variants. For instance, it is on the basis of the researcher's theoretical assumptions that theory triangulation was effectively applied as exemplified in Chapter 3 (Theoretical Framework). In this regard, the Social Ecology Theory (SET) was integrated with the Service Quality Gap Model for purposes of unravelling the conceptual parameters of maternal healthcare service delivery (Creswell & Creswell, 2018; Denzil & Lincoln, 2008). Theoretical triangulation is utilised to set and justify the study using two or more theoretical perspectives as grounds for epistemological and ontological lenses in the study (McClean et al., 2020).

On the other hand, methodological assumptions cohere with the method triangulation of data collection. Method triangulation means the use of the multiple methods of data collection for the same phenomenon (Polit & Beck, 2017). It is on the basis of her methodological assumptions that the researcher finally applied qualitative methods (focus groups discussions, in-depth interviews, documentary/partograph review and analysis) and their quantitatively variants (questionnaires and checklists) as the predominant methods by which pertinent information and data were collected from the midwives and perinatal women in the maternity units of the selected four hospitals in the City of Ekurhuleni and City of Tshwane, Gauteng Province.

Furthermore, data triangulation was applied to obtain relevant information from a variety of sources about maternal healthcare globally and locally. In the case of the current study, the multiple sources of data included the review of literature for theoretical or secondary data for qualitative purposes. Additionally, quantitative data was obtained from live human

beings (as primary data sources) for their experiential perspectives (Pattinson et al., 2018; Roller & Lavrakas, 2015).

This research study also entails a triangulation of settings “space triangulation”, in terms of which the research involved more than one cluster or setup within a setting, or within one or more settings that share common attributes, influences, and comparisons (McClean et al., 2020:158). The aim of space triangulation was not only to ensure generalisability, but to also strengthen the investigation and obtain deep understanding of the maternal healthcare phenomenon (Polit & Beck, 2017). In this study, the researcher explored several hospitals of different levels of care in Gauteng Province.

In addition, to theory, method, data and setting triangulation, investigator triangulation was also employed for greater accuracy of collected data (Mohajan, 2018; Pattinson et al., 2018). This form of triangulation involves more than one investigator across the different stages of the study. The main reason for his/her involvement is to obtain maximum accuracy for more credible, confirmable, and dependable procedures and conclusions (Denzin & Lincoln, 2013; McClean et al., 2020).

The researcher and her supervisor were in constant communication and guidance throughout the study. For example, with data coding, analysis, and interpretation of the findings (Polit and Beck 2017: 566). The supervisor and statistician guided the processes regarding the data collection instruments and analysis of data of both phases. This process also provided a platform for the researcher to maximise her research skills.

4.5.2 Pre-investigative/pre-implementation phase of the study

The pre-investigative or pre-implementation phase of the study mainly relates to the preparatory stages during which the ultimate data collection instrument/s was/were refined for application in the actual or final three phases of data collection and analysis in this study (Bless et al., 2014; Creswell & Plano-Clark, 2018). In this regard, pre-testing of the in-depth interviews and questionnaire constituted the most fundamental pre-investigative framework of the study.

4.5.2.1 Pre-testing of the interview guide

This phase commenced by developing an interview guide that the researcher used in both in the in-depth interviews and FGDs. The content of this preliminary interview guide was discussed and moderated by the study supervisor. This initial pre-investigative process was galvanised by Unisa's Ethics Research Committee in the Department of Health Studies formally issuing an ethical clearance certificate to the researcher (HSHDC/654/2017) as shown in Annexure B.

The researcher pre-tested the interview guide at a regional hospital to ensure feasibility of this qualitative instrument in a real-life setting (Brink et al., 2014; Chinn & Kramer, 2011). The pre-tested interview and FGD questions, together with the pre-tested participants were not included in the final study. This process allowed the researcher to identify questions that were useful in the study, including any ambiguously worded statements (Babbie & Mouton, 2011; Christ, 2012). Questions that were not useful were discarded. However, the following question was eventually added: "How do you perceive the current practices of maternal healthcare?"

The modification of the guide also included the applications of the theoretical framework and proposed model in phrasing follow-up questions. The researcher asked the first two of the below-mentioned questions to the perinatal women, while the last two were asked to midwives:

- How do you experience the knowledge, skills and attitudes of the midwives?
- How do midwives relate and communicate to women and to each other?
- What do you think about the resources in the hospital?
- How does the culture of the women, values and norms impact on the maternal health rendered?

4.5.2.2 Pre-testing the qualitative FGD instrument

The researcher pre-tested the study tools at one district hospital in Gauteng Province to test the research plans (Polit & Beck, 2017:57). FGD and in-depth interviews were conducted to test the tool. The researcher decided to conduct in-depth interviews with midwives because she could not secure a group of midwives for focus group interview,

due to their busy schedules. They were either busy with admissions, observations of the first stage of labour, delivering women in the labour rooms as maternity units do not operate on a specific routine.

4.5.2.3 Pretesting of the questionnaire

The questionnaire and checklist were pre-tested on three midwives and five perinatal women with the intention to assess their relevance and feasibility (Babbie & Mouton, 2011; Creswell & Creswell, 2018). The time taken to complete a questionnaire and the checklist was approximately 15 and 10 minutes respectively on average. Both these preliminary research instruments were designed and categorised according to research objectives and baseline information from the qualitative data instruments. Flaws and practicability of the study were able to be identified in time and dealt with to minimise severe methodological gaps, accessibility to the sample and unfavourable consequences relating to scientific value, rigour and money (Brink et al., 2018:175). The study promoter assessed both tools for the content validity to ensure that they actually measured what they were meant to measure.

4.6 ACTUAL INVESTIGATIVE STAGES

The actual investigative stages occurred in three phases in accordance with the study's exploratory sequential MMR design approach. During Phase 1, qualitative data was collected by means of in-depth interviews, documentary review of partograph use files, and fieldnotes. The emphasis on the sequence is essential since it represents the precise order in which the current study was undertaken. While each of the three phases are 'independent' their inter-dependence is worth highlighting. For instance, the Phase 2 quantitative research instrument (questionnaire) were developed at the conclusion of the Phase 1 qualitative stage.

4.6.1 Phase I: Qualitative data collection

The researcher commenced with the collection of the qualitative data in the form of focus groups discussions, in-depth interviews, and documentary analysis. The objectives covered under phase I are as follows:

- **Objective 1:** To explore and describe the participants' (midwives' and perinatal women's) experiences and perspectives regarding the provision of maternal healthcare services in Gauteng Province
- **Objective 2:** To explore, describe and analyse factors affecting the provision of maternal healthcare services in Gauteng Province

4.6.1.1 Focus group discussions (FGDs)

Focus groups are defined as a research technique that facilitates the collection of data through group interaction on a topic determined by the researcher in ways unlikely to happen in a one-to-one interview (Gray et al., 2017; Morgan, 2019). Although the suggested sample size of a focus groups is four to twelve participants, in this study they were conducted homogenously in groups of eight women who were pregnant and postnatal and whom the researcher simultaneously sought for their opinions and experiences regarding the availability of maternal healthcare services in the four selected hospitals (Brink et al., 2014).

All FGDs lasted for about an hour and a half each, and were audio recorded with the duly obtained consent of the participants. These informal interactions and conversations with the participants enabled the researcher to connect with their insights, perspectives and actual realities. Research assistant played a role in capturing the emotions of the participants fieldnotes in the qualitative phase especially in the focus groups discussions where the researcher might have missed such emotions. The FGDs also added value into the development of the specific items for the inclusion in the questionnaire and the checklist.

4.6.1.1.1 Recruitment of participants for FGDs

The researcher purposively selected pregnant and postnatal women whom she perceived to be knowledgeable informants, considering the maximum variation sampling whenever FGDs were conducted in accordance with the setting triangulation referred to earlier in this data collection section. The triangulated settings refer to the maternity units and sections of the four hospitals and the different times of conducting the FGDs.

4.6.1.2 In-depth interviews

Flick (2011) refers to in-depth interviews as detailed narrative conversations, whilst Tappen (2016) alludes to this type of interviews as open and free flowing because of its dialogical nature, as opposed to a monologue. The qualitative interviewing enabled this study to access and gather the ontological properties of the realities of the maternal healthcare services in Gauteng Province (Mason, 2018).

Developing an interview guide is key in the qualitative interview process. Hence, an interview guide was drafted to assist the researcher to direct her conversations with the participants. Secondly, the interview guide was utilised to encourage thought-provoking conversations that are most relevant towards the maternal healthcare services and maternal mortality (Flick 2011). Witzel (2012) as cited in Flick (2014) defines an interview guide as an instrument that provides an over-pragmatic epistemological guidance to the interviewer on how to deal with the interview processes. The interview guide further contains a set of questions, directions for asking those questions and space to record the respondents' answers (Brink et al., 2018).

The midwives and few postnatal women were interviewed in different settings. The women who undergone interviews were selected from the disrupted FGDs. The midwives who participated in the study were co-workers in all four hospitals. The researcher mediated issues of bias by ensuring that she was not directly involved in their recruitment. The local hospital-based management facilitated their recruitment after the researcher made formal request to that effect. The researcher had planned and scheduled appointments with maternity units of each hospital for times where health services delivery could not be interrupted or disturbed. The researcher introduced the study to provide an orientation and establishment of a good rapport with the participants (Tappen, 2016).

Prior to the commencement of the interview sessions, ground rules were explained to the participants as stipulated in the interview guide. The audio-tape recording was explained in consideration of ethical issues. The recording of data acted as an opportunity for validity assessment because the raw data is always available for scrutiny (Polgar & Thomas, 2013). Informed consent was signed by the participants prior to their participation in this study (Flick, 2011).

Confidentiality and privacy were reiterated once again, that participants can choose to terminate their participation in the study without fear of any reprisals. Participants were further assured that the privacy would be maintained regarding gathering, storage and management of data (Polgar & Thomas, 2013). Participants were guaranteed that all data were kept safe and anonymised. The names of the participants and the hospitals were protected. Furthermore, the moderator emphasised the purpose and the design of the study.

The researcher posed the following grand question to the midwives and perinatal women: *"How have you experienced the maternal healthcare services you have rendered and received in this hospital?"*, followed by more specific questions to further explain and elaborate. The researcher further kept the questions as short and simple as possible, followed by probing questions for clearer understanding. The researcher also prompted participants to ease their levels of anxiety. (Brink et al., 2014). All questions and answers were audio-recorded as per the participants' consent. Notwithstanding that the interviews were conducted in English, participants automatically switched to their vernacular, which the researcher is conversant with.

In concluding her interviews asked the participants if there was any further input they wished to make regarding the essential matters raised in the interview sessions. Relevant information that emerged after the audio-recordings was captured in the researcher's field notebook.

4.6.1.3 Documentary review and analysis

The partographs were collected and analysed using the document analysis method. Document analysis is a methodical evaluation of documents, whether printed or electronic (Flick, 2014; Rani, 2016). In this study, the documents analysed were institutional, schematically hand-written materials called the partograph. The researcher conducted the analysis of the partograph as documented in the maternity units. This technique was used in labour wards, where the midwives were forever busy and could not participate in the interviews. Intrapartum care was analysed through the partograph used in the labour rooms to monitor the progress of labour. The researcher designed a structured tool

consisting of 31 items in six sections developed from the literature. Table 4.5 below is an illustration of the researcher's designed partograph evaluation tool or checklist.

Table 4.5 Partographs content and structure

Section	Content covered	Items
Section A	Patient data	5
Section B	Risk factor identification	5
Section C	Fetal condition	7
Section D	Progress of labour	7
Section E	Maternal wellbeing	4
Section F	Plan of care	4
Total		**32**

The partograph evaluation tool or checklist shown in Table 4.5 above included patient data, risk factor identification, foetal condition, progress of labour, maternal well-being and plan of care.

4.6.1.4 Fieldnotes

Field notes are the researcher's written reflections or unstructured observations and interpretation of those observations captured during the data collection (Boateng et al., 2018; Polit & Beck, 2017:729). Each fieldnote was dated, and included aspects such as the participants' body language, gestures, facial impressions, as well as the sitting positions and moods. These field notes were kept for both FGDs and in-depth interviews.

4.6.2 Phase 2: Quantitative data collection

Quantitative research is a form of data collection in which information can be computed and subjected to analysis of statistical approaches. Quantitative research emphasises the reduction of a phenomenon to numerical values in order to carry out statistical analysis (Apuke, 2017). In this study, the quantitative component was a beneficial complement to the qualitative aspects regarding maternal health and maternal mortality. Triangulation in this study assisted to establish trustworthy in qualitative component, even though it has been critically scrutinised for its insufficiency as compared to scientific rigor in the quantitative methods (Cope, 2014). Yilmaz (2013) suggests that quantitative research pronounces the objective measurement and analysis of causal relationships between maternal health and its mortality.

The objectives covered in the Phase 2 data collection:

- **Objective 3**: To assess current maternal healthcare practices in the context of existing policies and protocols in Gauteng Province
- **Objective 4:** To identify the corrective interventions and improvement measures related to the quality of maternal healthcare services in Gauteng Province

4.6.2.1 Questionnaire development

Questionnaires are the collection of standardised data from a large sample where the same questions or observations are applied in every case to ensure consistency and objectivity (McClean et al, 2020). The study questionnaire consisted of a formalised series of questions, which were grounded on the research questions (Moule, Aveyard, Goodman, 2016). The researcher used the qualitative findings to develop the questionnaires and the checklists. In this regard, the researcher decided on the information deemed more valuable for the development of the data instrument for the second phase from the first one (Creswell & Plano-Clark, 2018).

Self-administered questionnaires were used to collected data from the midwives in this study (Parahoo, 2014). Respondents completed the questionnaires in the absence of the researcher. The questionnaires were classified into seven domains of 96 items as shown in Table 4.6 below.

Table 4.6 Content and structure of the midwives' questionnaire

Section	Content covered	Items
Section A	Biographical data	09
Section B	Ability of record the partograph data	25
Section C	Challenges regarding provision of maternal healthcare in general	39
Section D	Interpersonal challenges	05
Section E	Organisational factors	07
Section F	Community challenges	04
Section G	Policy and governance	07
Total		**96**

Table 4.6 is a depiction of all questionnaire items contained in the various seven sections.

4.6.2.1.1 Administration of the questionnaires

The researcher was responsible for the entire data collection in both phases. Questionnaires were coded and put in the envelopes according to each hospital. After completion, the respondents sealed the envelops and deposited in the designated box point in each hospital, from where the researcher collected them at the agreed time.

4.6.2.2 Checklist

A checklist is a two-dimensional matrix in which a set of questions are listed vertically along one dimension and the response option is listed on the other (Polit & Beck, 2017). Checklists consisted of six (06) sections of thirty-three (33) structured questions with the same response options. A structured checklist was used as a category system to direct data collection of an observation (Gray et al., 2017). The checklists were used in the Phase II of this study as a data collection instrument. Table 4.7 below shows the structure and contents of the checklists.

Table 4.7 Content and structure of the checklist for the women

Section	Content	Items
Section 1.	Biographical data	07
Section 2	Attitudes	08
Section 3	Appearance	03
Section 4	Monitoring of labour	05
Section 5	Structural factors	04
Section 6	Physical surroundings	06
Total		**33**

The checklists were distributed to the perinatal women, who completed them immediately and returned to the researcher.

4.6.3 Phase 3: Convergence/amalgamation of qualitative and quantitative data

The notion of convergence premises on the merging or amalgamation of both the qualitative and quantitative processes of the study (Adom et al., 2018; Nowell et al., 2017). While the MMR approach in this study essentialises three phases, it should be stressed that none of these phases was completely independent of the other. For

instance, during the actual first stage of data collection, only qualitative instruments were applied in the form of FGDs, in-depth interviews and partograph/documentary review. However, at the conclusion of this ***self-same*** qualitative stage, the researcher compiled a new qualitative data collection instrument (questionnaire and checklist) by eclectically compiling a list of questions derived from all of the three qualitative research instruments.

In essence then, the merging (convergence/integration) of the qualitative and quantitative research processes practically presaged the analytic framework of the study presented in the ensuing Section 4.7 in this study. It is in this context that many research scholars argue for the simultaneity of data collection, management, analysis and interpretation (Eusafzai, 2014; Kumar, 2014; Tariq & Woodman, 2010).

Therefore, the rationale for the qualitative-quantitative convergence or merging was aimed at optimisation of the study findings (Nowell et al., 2017; Tappen, 2016). From the themes of FGDs and in-depth interviews, the researcher developed her own quantitative checklist and questionnaire using qualitative findings. Hence, the schematic diagram below (Figure 4.4) was designed to indicate the steps followed in paralleling the qualitative and quantitative approaches in this exploratory sequential research.

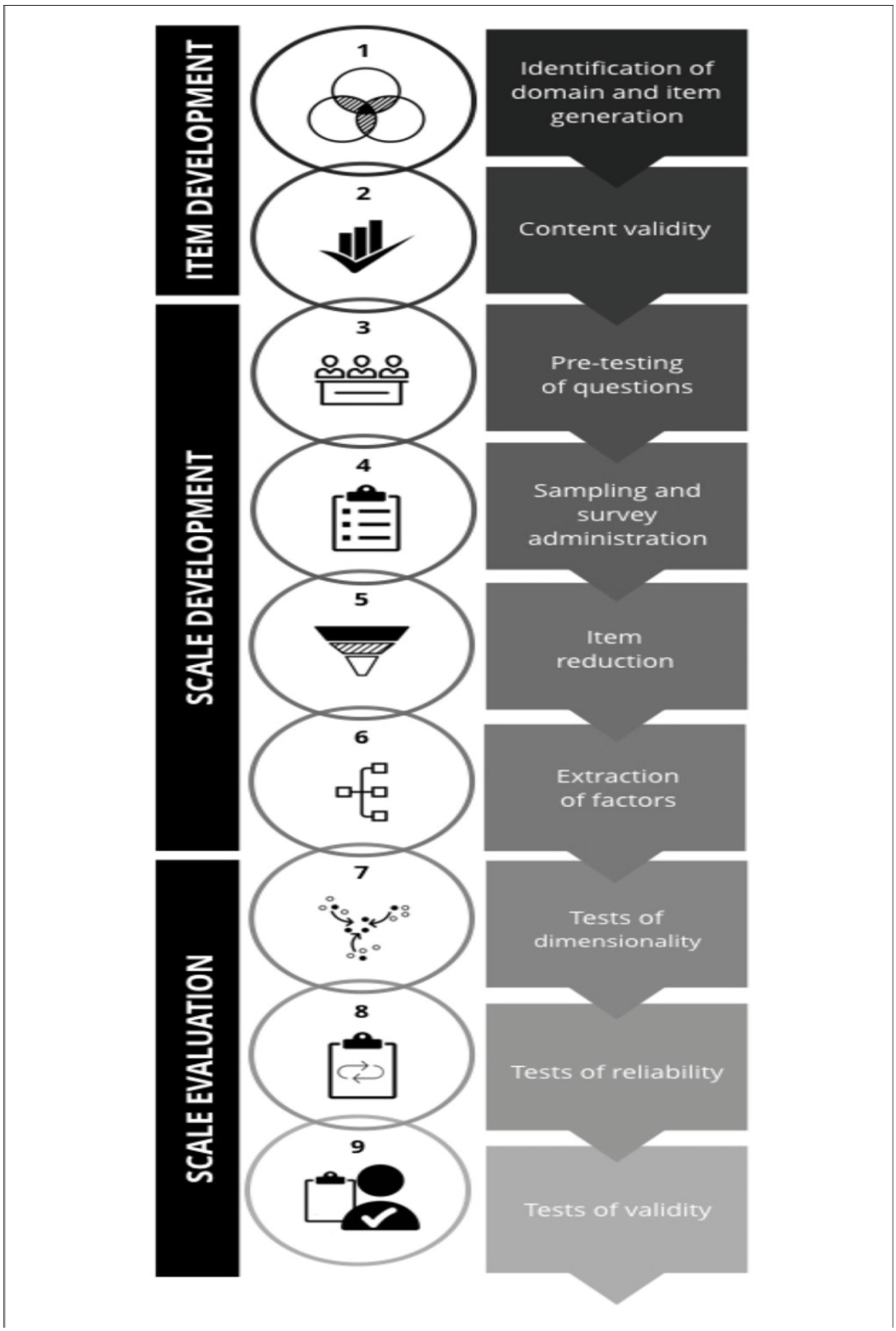

Figure 4.3 Overview of the integrative qualitative and quantitative phases and steps

(Source: Boateng et al., 2018:149)

Figure 4.3 above also reflects that the convergence process of Phase 3 is a consequential process of developing the questions of the checklist and questionnaire, and ultimately evaluating their relevance to generate a thematically holistic (integrated/merged or convergent) meanings of the different variables on whose basis the central phenomenon of maternal healthcare service provision was presented and discussed.

4.7 DATA MANAGEMENT AND ANALYSIS

Data management and its analysis refers to the systematic and methodical process in terms of which the collected original or raw data is kept safe from contamination for subsequent conversion into meaningful findings (Saks & Allsop, 2019; Walliman, 2015). Data analysis incorporates the categorising, ordering, manipulation and summarising the raw data and describing them in a meaningful manner (Brink, 2018). Audio-tapes of both FGDs and in-depth interviews were transcribed verbatim. The researcher attempted to obtain meaning of the experiences of the women and perceptions of the midwives regarding the maternal healthcare services as delivered in Gauteng Province. Thematic data analysis method was employed as proposed by Braun and Clarke (2006) as cited in Nowell et al. (2017).

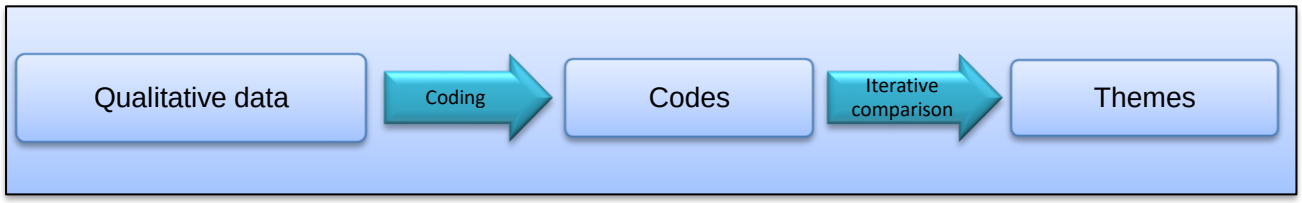

Figure 4.4 Schematic process of thematic analysis of the study

(Source: Nowell et al., 2017:4)

The analysis of qualitative and quantitative data in this study occurred concurrently in accordance with the steps outlined in Table 4.8 below:

Table 4.8 Steps and description of qualitative data analysis

Steps	Description of analysis
1. Familiarising self with data	1. The digital audio-recorded data corpus were transcribed verbatim 2. Researcher re-reading the raw data for self-immersion in the data. 3. Researcher translated transcription to ensure discovery of the ideas.
2. Generating initial codes	1. Researcher coded qualitative data manually and came up with the emerging themes that were relevant to the research questions. 2. Code interesting features of data in a systematic manner in the data sets.
3. Searching for themes	1. Researcher combined the codes into themes 2. Clustered, categorised and summarised all data according to the relevance to each theme.
4. Reviewing of themes	1. Checked themes for relations to coded extracts. 2. Assessed themes work for relations to the entire data sets. 3. Reviewed data to identify additional themes. 4. Generated a thematic flowchart of the analysis.
5. Defining and naming themes	1. On-going analysis to refine the specific of each theme and the overall story analysis. 2. Generate clear definitions and names for each theme.
6. Producing the report	1. Researcher and the supervisor identified vivid and compelling extracts. 2. Both assessed the selected extracts for final analysis. 3. Both recount the analysis to the research question, study objectives and the reviewed literature.

(Source: Adapted from Braun & Clarke, 2006:19)

4.7.1 Qualitative data analysis

The interchangeable usage of content and thematic analysis in literature depicts a level of thematic analysis in literature depicts a level of terminological and conceptual reference of meaning-making in qualitative research ((Vaismoradi et al., 2013). However, these overlapping concepts are both suitable for answering questions of concern about a phenomenon in qualitative studies (Vaismoradi et al., 2013). In this study, both content and thematic analysis were employed for the qualitative component in particular.

4.7.1.1 Content analysis

Content analysis is based on the researcher's particular focus and examination on the pattern of words or content in a text and subsequently classifying certain categories of words, ideas, or patterns of thought according to their frequency or repeatability (Gray et al., 2017). Such a process is intended to describe certain characteristics in the content. For purposes of this study, specific categories of words were derived from the statements

of the midwives and perinatal women, from which elements of the proposed model (displayed in Chapter 6) were also incorporated into the proposed model (Vaismoradi et al., 2013:401). In addition to the midwives' and perinatal women's statements, the analysis of the pattern of frequently occurring words in the partographs/documents enabled the researcher to connect the participants' most common experiences concerning the state of maternal healthcare in the four hospitals.

4.7.1.2 Thematic analysis

Most of the analytic process begin with a thematic analysis, the systematic process of identifying and organising patterns of regularly occurring statements or themes of qualitative (Allana & Clark, 2018; Maguire & Delahunt, 2017). It is noted that thematic analysis remains the most worthwhile method of data analysis for qualitative research. Owing to the triangulated data collection in the study, thematic patterns were generated across all five data generation instruments for the final convergent analysis that constituted the third phase of this research study's processes (Brink et al., 2014). To a larger degree, the triangulated three-phase aspect of data collection also alludes to the simultaneity or concurrence of the content, thematic, and convergent analytic processes.

4.7.2 Quantitative data analysis

Following the collection and analysis of the qualitative data, the researcher utilised the findings of Phase I to develop a self-administered questionnaire and the checklist to gather quantitative data. The questionnaire was distributed to the respondents to complete during their own time. As opposed to the content and thematic analytic approaches, the quantitative aspect of data analysis was more numeric/statistical in its orientation. In this regard, the researcher used the 4-point Likert scale of variable values ranging from 'strongly agree' (4), to 'strongly disagree (1)', and 'yes' or no' responses (Apuke, 2017; Bauce & Fitzpatrick, 2018). These were applicable to both quantitative data collection instruments (questionnaire and checklist). On the receipt of the participants' responses, the questionnaires and checklists were checked for completeness. Questionnaires and checklists with incomplete responses were excluded from analysis. Finally, 142 questionnaires and 145 checklists were analysed.

Descriptive analysis of quantitative data was carried out. The Microsoft Excel 2016 file was then imported into STATA 16 (SPSS, version 27.0) software programme for statistical analysis purpose. With the assistance of an experienced statistician, descriptive summaries were developed and showed statistical characterisations such as the means, frequencies, proportions and associated 95% confidence interval by demographics (Apuke, 2017).

In addition, association of the various characteristics were evaluated using correlation analysis (contingency table analysis) to assess and determine factors relating to the delivery of maternal healthcare services. These provided the percentages and frequencies on the maternal healthcare services in the Gauteng Province.

As mentioned earlier, the three phases of data sharing in the exploratory sequential MMR design process were not completely 'free' from each other. To that extent, the development of the quantitative research instruments entirely from the quantitative research instruments attests to the inter-dependence of the analytic processes as components of the same study. Therefore, the qualitative and quantitative data analysis process may be different, but certainly complementary as well (Bryman & Bell, 2015).

4.8 QUALITY ASSURANCE OF THE RESEARCH PROCESSES

The quality assurance mechanisms mentioned in this section underpin the extent of the study's valid and reliable processes and consequent findings as a true account of the participants' input, as well as generation of trust and scientific rigour (Babbie & Mouton, 2011; Bazeley, 2016; Walliman, 2015).

4.8.1 Enhancing trustworthiness

Lincoln and Guba's Framework was adopted to assess the standards of quality in qualitative phase to maintain trustworthiness of the study (Polit & Beck, 2017). The following criteria was followed:

4.8.1.1 Credibility

The concept of credibility refers to the confidence on the existing truths of the data and interpretations (Polit & Beck, 2017). There are multiple truths/realities out there that may be gathered from participants through methods of data collections (Walliman, 2015). In this study, the researcher used multiple sampling techniques to classify the participants. Prolonged engagement was maintained with in-depth interviews and focus groups, participants provided more accurate data. The researcher used the expertise of an independent co-coder to ensure the peer review to guarantee external confidence in the study. The co-coder affirmed the themes, sub-themes and categories emerged from the data.

4.8.1.2 Confirmability

Confirmability refers to the degree of objectivity or neutrality of the study data. The findings of this study reflected the voices of the participants through recorded interviews and transcription of recordings; and not the biases, preconceived ideas, motivations of the researcher (Polit & Beck, 2017). The researcher used direct quotes from the transcripts, thus confirms that the data were from participants.

4.8.1.3 Dependability

Dependability refers to reliability of data over time despite the unrelated conditions to the study (Polit & Beck, 2017). The supervisor examined the study findings and independent co-coder was engaged for analysis and interpretation of findings to reach an agreement concerning the themes. Researcher documented the scientific methodology and methods of data collection the study followed, to ensure stability of the study.

4.8.1.4 Transferability

Transferability means the extent to which qualitative findings can be transferred to other settings (Polit & Beck, 2017). The important measure for transferability is the ability of the researcher to provide an amount of data regarding the context of the study. The researcher provided evidence of thorough description of the setting and observed

transactions of the participants' extracts from the transcripts and field notes (Annexures O, P and S), thus thick description was realised (Polit Beck, 2017).

4.8.1.5 Authenticity

Authenticity refers to the extent to which the researcher shows fairly and faithfully the range of different realities (Polit & Beck, 2017). The study revealed the participants' lives and their lived experiences in order to caution the readers to understand sensitivity and seriousness of issues as presented. The methodology and methods undertaken in this study also guided and enhanced authenticity.

4.8.2 Validity

Bazeley (2016) and Parahoo (2014) intimate that the aspect of validity determines the extent to which the research instruments cohere with the research problem, aim, objectives, questions and conclusion in the study. From the researcher's viewpoint, it is this degree of correlation that also contributes to the scientific rigour of this exploratory sequential mixed-methods study. During the pre-testing stage of the quantitative survey a district hospital, the researcher, her supervisor and the statistician assessed each question's face validity. Furthermore, the questionnaire and checklist were not adopted, but were the original product of the qualitative data collection process, including the review of literature. Thus, the integrated development of the research assisted the researcher in identifying possible questions that were considered in the development of the questionnaire and the checklist (McClean et al., 2020).

Additionally, the triangulation of theories contributed towards the developed model's conceptual parameters (see Chapter 6), as well as broader understanding of the theoretical understanding and practical implications of quality healthcare service delivery. In this regard, theory integration helped in the process of testing the validity of the developed model (Chinn & Kramer, 2011). To that extent, the conceptualisation of maternal healthcare and maternal mortality through a developed model demonstrates the study as having engaged a rigorous scientific enterprise (Parahoo, 2014).

4.8.3 Reliability

Reliability refers to the extent to which the tools or measures perform consistently over time or amongst different investigators (McClean et al., 2020). The researcher engaged in three-pronged exercise of creating a data collection and analysis framework in order to produce a scientifically reliable instrument or tool to perform consistently over time during the different stages of investigation. The researcher focused on few types of reliability, mainly due to the nature of the study under investigation.

4.8.3.1 Intra-rater reliability

Intra-rater reliability refers to the extent of consistency measured by various research instruments at various stages of research (Creswell & Creswell, 2018; McClean et al., 2020). The statistician assessed agreement of measurements (domains) developed by the researcher herself on different occasions and different hospitals with different levels of care for a period of about six months.

4.8.3.2 Internal consistency

The internal consistency and stability of both qualitative and quantitative research questions was facilitated by means of developing several sets of questions, each related to a specific domain (e.g. knowledge, service delivery, attitudes etc.) to measure constructs (Curtis & Curtis, 2011). The questions were useful to the measurement of the constructs as they were relevant, except for the few questions in the checklist. Internal consistency was also assessed in both the questionnaire and the checklist using item-total correlation and Cronbach's alpha (McClean et al., 2020).

4.8.4 Legitimation in MMR

In this study, legitimation (also known as assessment of validity) implied the justification of the integrated (mixed-methods) approach with demonstrable evidence throughout the research project (Benge et al., 2012). In this study, the qualitative-quantitative component is constant in every chapter, including the theoretical framework in Chapter 3. In the latter chapter for instance, the Social Ecology Theory represents the immeasurable (unquantifiable) social-ecological factors (e.g. experience, culture, community), while the

Service Quality Gap Model exemplifies the measurable and quantifiable aspects of the maternal healthcare aspects and the focus on quality. For instance, measuring of healthcare service delivery through the amount of money budgeted by the Gauteng Provincial government.

4.8.4.1 Sample Integration

In this study, the researcher employed various sampling strategies encompassing each of the five data collection phases and methods (see Sub-section 4.4.3.2). Moreover, the midwives and perinatal women in public hospitals were sampled in their different levels of care and maternity units. From the researcher's point of view, multiple-level sampling techniques reinforced the notion of the quantitative-qualitative perspectives as credible, valid and reliable scientific means to optimally reach findings that correlate with the processes employed for the very findings (Domínguez & Hollstein, 2014).

4.8.4.2 'Inside-outside'

The 'inside-outside' notion relates to the extent to which the internal study processes relate to the 'outside' world in respect of factors such as internal and external validity; relevance or significance of the study; as well as the practical application of research instruments to the participants (Downe & Fleming, 2015; Guest & Fleming, 2015). In this regard, the researcher involved perinatal women as professionally 'outside' of the nursing profession, but not to healthcare services to which they were entitled. In addition, the midwives were 'insiders' to their own profession, which is not immune to the 'outside' influence of their patients' culture, religion, traditions and other social constructs. For the researcher herself as an 'insider' who is privy to all the requirements of the study, she could not achieve those without the external input of 'outsiders' such as peer reviewers.

4.8.4.3 Weakness minimisation

The choice of a MMR research design approach and its complementarity of strategies helped the researcher's minimisation of possible weaknesses associated with a single-approach research study (Downe & Fleming, 2015; Gray et al., 2017). In this regard, the study benefited from the strengths associated with both the qualitative and quantitative strands.

4.8.4.4 Sequential legitimation

The sequential legitimation rests in the nature of this study itself. For example, the nature of the study design (exploratory sequential MMR) required a sequential data collection process in terms of which the study's meta-inferences were wholly dependent on the collection of the qualitative phase (Phase I) to develop a questionnaire and a checklist for the quantitative Phase II of the study (Parahoo, 2014). It is the researcher's contention that the qualitative-quantitative sequence was neither coincidental nor accidental. The reverse order (quantitative-qualitative sequence) would not have achieved the same objectives due to the 'type' of data needed to finally construct a framework for the development of an improvement model at the end of the data collection stages.

4.8.4.5 Paradigmatic integration

The study followed the pragmatic approach to support the rationale for exploratory sequential MMR, as outlined in Chapters 1 and 4. The researcher demonstrated a reasonable degree of integrating both constructivist (for the qualitative) and positivist (for the quantitative) philosophical paradigms/perspectives in the study.

4.8.4.6 Conversion legitimation

In MMR, convergent legitimation relates to the extent of 'qualitising' (allocating qualitative characterisation of participant profiles from quantitative findings) and 'quantitising' (rendering quantitative properties derived from qualitative profiles) to macro-interpretations (broad-based framework of data conversion) for meaningful generation and understanding of the study's findings and their practical implications (Nzabonimpa, 2018). The 'qualitising-quantitising perspective was applied, firstly with the development of two quantitative research instruments (checklist and questionnaire) from the findings of a collection of three different qualitative research instruments (FGDs, interviews, and documentary/partograph evaluation).

4.8.4.7 Commensurability

Commensurability premises on the degree of correlation or affinity between the mixed-methods' meta-inferences and the worldview they are reflecting on (Benge et al., 2012). The present study fundamentally incorporates both the constructivist and positivist worldview to reorient these perspectives into a single study pragmatic worldview unconstrained by either of the qualitative-quantitative approaches (Guest & Fleming, 2015; Morris & Burkett, 2011).

The pragmatic worldview incorporated theoretical perspectives assumptions and (deductive and inductive) logic to ensure that the study's eventual findings accurately reflect the multiple dimensions of constructing multiple forms of reality from a variety of participant experiences.

4.8.4.8 Multiple validity

Multiple validity premises on the consistency levels associated with different data generation tools (Guest & Fleming, 2015; Morris & Burkett, 2011). Throughout the phases of data accumulation and analysis, each of the three qualitative and the two quantitative instruments, the focus of the questions did not deviate from the centrality of maternal healthcare service delivery quality. In fact, the researcher's development of her proposed model has considered and applied the notion of maternal healthcare service delivery quality as its most pivotal and interstitial premises.

4.8.4.9 Political sensitivity

The study has been sensitive to the needs, values and interests of the stakeholders. Ethical aspects were addressed from the beginning of the project.

4.9 SUMMARY

The main purpose of the chapter was to detail the research design and methods framework adopted and employed in both the pre-investigation and actual investigation processes and procedures of this mainly exploratory sequential exploratory MMR research design study. The theoretical (literature-based) and empirical (participant-

centric) aspects of the three phases of data collection were also presented and discussed. The nature of the study necessitated the centralisation of the pragmatic philosophical perspective as the influential guide in all the qualitative and quantitative aspects of data acquisition and analysis.

The study is uniquely characterised by the heterogeneity of participants (midwives and perinatal women in their various demographic attributes) and triangulated data collection methods. As such, it was also necessary to collate the findings in a third phase to demonstrate the rationale for the adopted exploratory sequential mixed-methods approach. The next chapter focuses solely on the presentation, analysis and interpretation of the actual data whose qualitative and quantitative frameworks were presented in the current chapter.

CHAPTER 5

QUALITATIVE AND QUANTITATIVE DATA PRESENTATION, ANALYSIS AND DISCUSSION

5.1 INTRODUCTION

In the preceding chapter, details of the research design and methods of the study were provided, which basically outlined the pre-implementation framework of the processes, strategies and methods employed for the qualitative and quantitative data collection, analysis, and interpretation of the study's findings. The current chapter, on the other hand presents and discusses the actual (post-investigation) findings of the research in respect of both the qualitative component and quantitative aspects of the data whose theoretical premises have been discussed in the preceding chapters. In that regard, the current chapter also serves as a cogent prelude to the proposed healthcare improvement model framework in Chapter 6. The findings presented in the current chapter were captured as described by both the midwives and perinatal women regarding the nature and the extent of maternal healthcare services in Gauteng Province.

Consistent with this three-phased exploratory sequential mixed-methods nature of the study, the first step involved the collection and analysis of data from the FGDs, in-depth interviews, and documentary analysis of partograph use. At this stage, the emphasis was on describing and substantiating (not measuring) the responses of the participants (Creswell & Creswell, 2018; Kumar, 2014). Secondly, the researcher focused on the specific characteristics of the participants' narrated statements to identify and synthesise any thematic significance relevant to the research problem and study objectives (Maguire & Delahunt, 2017; Morris & Burkett, 2011). For the quantitative aspect (questionnaires and checklists), the focus was on measurement, which is the quantification of the participants' responses (Bazeley, 2016). It is in this regard that the current chapter ultimately presents an amalgamated context of both the qualitative and quantitative findings. Most importantly, the findings are tested against the available evidence from literature (Berman, 2017; Bless et al., 2014).

The researcher's intention was to determine the nature of the *qualitisation-quantitisation* relationship between the subjective statements and objective responses on the one hand; as well as literature-based perspectives and evidence in relation to the delivery of maternal healthcare services, on the other. Such an integrative orientation enabled the researcher's determination of the plausibility and feasibility of developing a model to strengthen maternal healthcare services in the Gauteng Province.

The structure of the current chapter replicates the processes of the exploratory sequential MMR design employed in this study. Accordingly, the chapter first presents Section A as a reflection of the demographic details of the participants, followed by the core findings on which the researcher based her findings as a product of the participants' views and inputs concerning the state of maternal healthcare in Gauteng Province (Bless et al., 2014; Flick, 2014). In that regard, Section B is a thematically constructed presentation of the ***qualitative*** findings in respect of the FGDs, in-depth interviews, and the documentary review and analysis of partograph usage. Section C focuses entirely on the ***quantitative*** findings in respect of the structured and questionnaires and checklists.

Finally, Section D concludes the findings with an integrated (converged/merged) presentation of the findings accruing from both the qualitative ***and*** quantitative empirical phases of the data gathering process (see Annexure V). Most notable from the range of findings and their attendant main categories and sub-categories is the fact that both qualitative and quantitative results are centrally linked by the extent of their coverage of the current state and implications of maternal healthcare provision in Gauteng Province (Burrowes et al., 2017; Chadwick et al., 2014; Manyisa & Van Aswegen, 2017; Mason, 2018).

5.2 SECTION A: PARTICIPANTS' DEMOGRAPHIC CHARACTERISTICS/ VARIABLES

In this section, the demographic characteristics of both the midwives and perinatal women are presented. All the selected midwife participants worked in the maternity units (antenatal, labour, and postnatal) wards of the four selected hospitals in City of Tshwane and City of Ekurhuleni. Therefore, the perinatal women who were selected for participation were engaged from their maternity wards at the same four hospitals mentioned above.

5.2.1 Midwives' demographic characteristics/variables

The demographic characteristics/variables of the midwives include their age; gender; marital status; number of dependants; educational background/qualifications; midwife category; years of professional experience; knowledge of partograph use; as well as their income levels. All these variables are represented diagrammatically below (Section 5.2.1 to Sub-section 5.2.1.9). Worth noting is that the midwives' demographic characteristics or variables are first presented in summary form, and then as individualised items.

Table 5.1 Summary of midwives' demographic characterisation from questionnaire

Variable	**Responses**					**Total**
Age in years	20-29 (26)	30-39 (50)	40-49 (30)	50-59 (30)	60-65 (5)	141
Not completed						1
Gender	Male (8)	Female (133)	-			141
Not completed						1
Ethnicity	Black African (135)	Coloured/Asian/ White (7)	-			142
Not completed						0
Marital status	Married (59)	Other (single, divorced, widowed, separated) (80)				139
Not completed						3
Number of dependents	None (3)	1 (38)	2 (63)	3 (25)	>3 (11)	140
Not completed						2
Educational level	Diploma (83)		Bachelor's/ Post-basic Diploma (56)	Master's degree (3)		142
Not completed						0
Midwife category	Midwife (82)		Advanced midwife (53)		Other (1)	136
Not completed						6
Years of professional experience		1-10 (74)	11-20 (32)	21-30 (15)	31-40 (18)	139
Not completed						2
Knowledge of partograph use		Excellent (147)	Good (0)	Poor (0)	Do not know (0)	142
Income level (rands)		100.000.00 to 300,000.00 (62)	301.000.00 to 400,000.00 (50)	401.000.00 to 500,000.00 (17)	Above 500,000.00 (3)	132
Not completed						10

Table 5.1 above is indicative of the 142 midwives' age; gender; marital status; number of dependants; educational background/qualifications; midwife category; years of

professional experience; knowledge of partograph use; as well as their income levels according to the questionnaire. Throughout the various demographic categories for the midwives, the 'not completed' sections are reflective of only the specific items not completed by respondents. It should be noted, however, that the frequency of these 'not completed' items are quantitatively minimal and do not constitute any significant qualitative effect on the overall outcomes in each measured variable category. Percentages were rounded off to the next decimal.

5.2.1.1 Age distribution of the midwives

Table 5.2 below depicts the age group distribution of the total number of 147 midwives represented in this study (those who did not subsequently withdraw).

Table 5.2 Age distribution of the midwives (N=141)

Age group/cohort	Frequency	Percentage	Cumulative
20-29 years	26	18.4	18.4
30-39 years	50	35.5	53.9
40-49 years	30	21.3	75.2
50-59 years	30	21.3	96.5
60-65 years	5	3.5	100.0
Total	**141**	**100.0**	

In terms of Table 5.2 above, the majority of the midwives (n=50; 35.5%) in the maternity units were between the age-group of 30-39 years, with the least number/minority (n=5; 3.5%) of the cohort of 60-65 year. The finding shows that there are fewer older professionals implies that the future of midwifery is guaranteed, with its human resources pool populated by a relatively younger generation (Mash et al., 2015).

5.2.1.2 Gender distribution of the midwives

Table 5.3 below shows the gender distribution of the midwives.

Table 5.3 Gender distribution of the midwives (N=141)

Gender	Frequency	Percentage	Cumulative
Female	133	94.3	94.3
Male	8	5.7	100.0
Total	**141**	**100.0**	

Extrapolated from Table 5.3 is that most/majority of the respondents (n=133; 94.3%) were females, with very few males (accoucheurs). It is an indication that the nursing profession has generally continued to retain its character as historically predominated by females (Peyman et al., 2019).

Table 5.4 Ethnicity distribution of the midwives (N=141)

Ethnicity	Frequency	Percentage	Cumulative
Black African	135	95.0	95.0
Other	7	5.0	100.0
Total	**141**	**100.0**	

Table 5.4 above revealed that the maternity units in the public hospitals are dominated by black African female midwives, with few of other races at (n=7; 5.0%).

5.2.1.3 Marital status distribution of the midwives

Table 5.5 below shows the distribution of the midwives' marital status.

Table 5.5 Marital status distribution of the midwives (N=139)

Marital status	Frequency	Percentage	Cumulative
Married	59	42.4	42.4
Other	80	57.6	100.0
Total	**139**	**100.0**	

The 'other' category in Table 5.5 above refers to those midwives who are single, divorced, widowed or separated. Accordingly, married midwives (n=59; 42.4%) were in the minority, while the majority (n=80; 57.6%) were in the 'other' category. The latter state of affairs could be an indication that this group has relatively less demanding marital commitments. As such, they were more likely to be focused and investing more time on their work-related obligations, including their studies (Bergh & Baloyi, 2015).

5.2.1.4 Midwives' number of dependants

Table 5.6 illustrates the midwives' number of dependants.

Table 5.6 Midwives' number of dependents (N=140)

Dependants	Frequency	Percentage	Cumulative
No dependants	3	2.1	2.1
1 dependant	38	27.1	29.2
2 dependants	63	45.0	74.2
3 dependants	25	17.9	92.1
More than 3 dependents	11	7.9	100.0
Total	**140**	**100.0**	

In terms of Table 5.6, the majority of midwives (n=63; 45.0%) had 2 (two) dependants, followed by the minority of 3 (n=3; 2.1 %) who do not have dependants; compared to those with three dependants (n=25; 17.9%) and more than three dependants (n=11; 7.9%). The study could not stablish a correlational effect between marital status, number of dependants and job performance. However, from the researcher's viewpoint, the number of their dependants was relevant for subjective factors such as their attitudes, emotions and psychological attachment to the neonates they were caring for. For instance, a midwife with children and grandchildren of her/his own would be expected to display an optimally caring and loving attitude to newly-born infants at her own place of employment. At the same time, aberrant situations and conditions could not be underestimated. Midwives' 'rudeness' was one of the findings of the study as reported later in this chapter.

5.2.1.5 Educational background/qualifications of the midwives

Table 5.7 is a representation of the midwives' educational background and qualifications.

Table 5.7 Educational level/qualifications of the midwives (N=142)

Qualification	Frequency	Percentage	Cumulative
Diploma/Post-basic diploma	83	58.5	58.5
Bachelor's degree	56	39.4	39.4
Master's degree	3	2.1	100.0
Total	**142**	**100.0**	

According to Table 5.7 above, the majority of midwives (n=83; 58.5%) have either a diploma or post-basic diploma only, followed by (n=56; 39.4%) of those with a bachelor's or undergraduate degree. That only a minority (n=3; 2.1%) had Master's (post-graduate) qualifications, demonstrates the need for the nursing profession to strengthen its human resources pool with more highly educated and qualified personnel (Austin-Evelyn, Rakbin, Macheka, Mutiti, Mwansa-Kambafwile, Dlamini & El-Sadr, 2017; Peyman et al., 2019). However, workload-related and other demands prevent such a desirable state from materialising.

5.2.1.6 Midwife professional categories

Table 5.8 below is an indication of the midwives' different categories.

Table 5.8 Midwives' professional categories (N=136)

Category	Frequency	Percentage	Cumulative
Midwife	82	60.3	60.3
Advanced midwife	53	39.0	99.3
Other	1	0.7	100.0
Total	**136**	**100.0**	

The majority (n=82; 60.3%) in Table 5.8 are in the elementary/basic (non-advanced) level of qualifications, which coheres with the trend in Table 5.6, in which those with the highest qualifications were fewer. Similarly, the trend is also replicated in Table 5.8, with the majority of midwives in the category of those with basic professional status.

5.2.1.7 Years of professional experience

Table 5.9 below is indicative of the midwives' years of professional (work-related) experience or service.

Table 5.9 Years of professional experience (N=139)

Number of years	Frequency	Percentage	Cumulative
1-10 years	74	53.2	53.2
11-20 years	32	23.0	76.2
21-30 years	15	10.8	87.0
31-40 years	18	13.0	100.0
Total	**139**	**100.0**	

For any employment organisation, the years of employee's professional experience also indicate a correlation between their productivity and quality of services they were most likely to render (Child, 2010; Lindebaum et al., 2017). Table 5.9 above demonstrates that the highest number of midwives (n=74; 53.2%) have a professional service record of 1-10 years, with the lowest number (n=15; 10.8%) having served 21-30 years. Similar to the trend in their age distribution, the midwives' years of professional experience suggests that 1-10 years age cohort were the youngest in the profession. By logical extension, the younger workforce, are more likely to improve the productivity, knowledge, experience, if the longevity of the services provided (Ampah & Ali 2019). Therefore, the older and fewer the workforce, the lesser the human resources attrition (Manyisa & Van Aswegen, 2017).

5.2.1.8 Midwives' knowledge of partograph use

Table 5.10 shows the midwives' knowledge of partograph use, which is further attested to, in Section B and Section C. The partograph is the most important instrument in the midwives' 'toolbox' (Bazirete et al., 2017).

Table 5.10 Midwives' knowledge of partograph use (N=142)

Level of knowledge	Frequency	Percentage	Cumulative
Excellent	142	100.0	100.0
Good	0	0.0	0
Poor	0	0.0	0
Do not know	0	0.0	0
Total	**142**	**100.0**	

Since it constitutes a critical 'tool of the trade', the findings in Table 5.10 show that all the midwives (n=142; 100%) were aware of the partograph and its purposes. Whether or not its use had an effect, is the subject of further discussion in both Sections B and Section C.

5.2.1.9 Midwives' income level distribution

Table 5.11 below is an illustration of the midwives' annual income level distribution. It should be noted that the tabulated information does not necessarily draw a correlation between income and qualifications, and income and job performance. Rather, it was important for the researcher to have an idea of their income since it has been cited as the

main reason for nurses' migration to other countries in search of better salaries and opportunities (Manyisa & Van Aswegen, 2017; Ng'ang'a & Byme, 2015).

Table 5.11 Midwives' income level distribution (N=132)

Income Level (R)	Frequency	Percentage	Cumulative
R100,000.00 to R300,000.00	62	47.0	47.0
R301,000.00 to R400,000.00	50	37.9	84.9
R401,000.00 to R500,000.00	17	12.9	97.8
Above R500,000.00	3	2.2	100.0
Total	**132**	**100.0**	

Table 5.11 above shows that most of the midwives (n=62; 47.0%) are on the 'entry level' salary scale of the public service. Correlated to Table 5.9, the majority 'entry level' salary scales of R100,000.00 to R300,000.00 would also be most likely be the in the early years of professional service, and with basic qualifications. From the researcher's point of view, there were only (n=3; 2.2%) midwives with master's degree qualifications in Table 5.7 and the same number again in Table 5.11 earning above R500,000.00 annually, is not coincidental. Rather, it represents a relationship between educational achievement and income (Mash et al., 2015; Ng'ang'a & Byme, 2015).

5.2.2 Perinatal women's demographic characteristics/variables

The demographic characteristics/variables of the perinatal women included their age, gender, marital status, level of education, and nationality. All these variables are represented diagrammatically below (Sub-section 5.2.2.1 to Sub-section 5.2.2.6). It is also note-worthy that the perinatal women's demographic characteristics or variables are first presented in a summary table, and then as individualised demographic items. To that effect, Table 5.12 (overleaf) represents the overall demographic variables of the perinatal women participants in respect of their, age, gender, marital status, educational level, nationality, and employment status.

Table 5.12 Summary of perinatal women's demographic characterisation from the checklist data

Variable	Responses				Total
Age in years	15-19 (13)	20-29 (68)	Above 30 (64)		145
Not completed					0
Gender	Male (0)		Female (145)		145
Marital status	Single (12)	Married (31)	Other/staying with partners (102)		145
Not completed					0
Level of education	Primary School (12)		Secondary School (99)	Tertiary level (27)	138
Not completed					7
Nationality	South African (114)		Other (31)		145
Not completed					0
Employment status	Employed (44)		Unemployed (101)		145
Not completed					0

It should be noted that all the bracketed numbers in the table above are representative of the actual number of respondents affected by the particular demographic variable, such as the 13 women aged 15-19 years in the very first variable category age.

5.2.2.1 Age distribution of the perinatal women

Figure 5.1 below is a representation of the perinatal women's age groups.

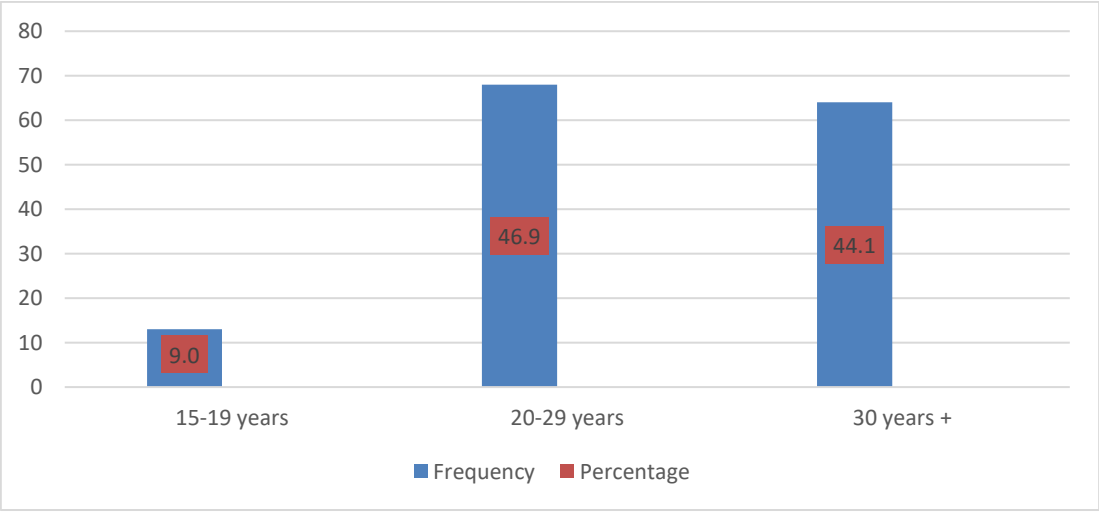

Figure 5.1 Age distribution of the perinatal women (N=145)

Figure 5.1 shows that the majority of the women (n=68; 46.9%) were 20-29 years, followed by the above 30 years age cohort (n=64; 44.1%); then the 15-19 years age-group (n=13; 9.0%). Arguably, the latter category is legally classified as increasing to teenage pregnancy, which is a global challenge especially in schools.

5.2.2.2 Marital status of the perinatal women

Figure 5.2 below is an illustration of the women respondents' marital status.

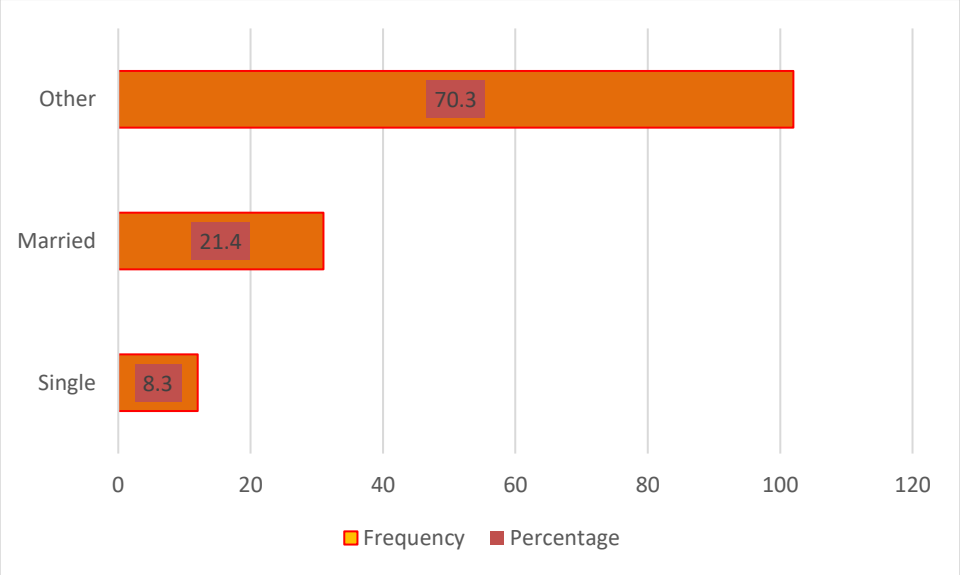

Figure 5.2 Marital status of the perinatal women (N=145)

In Figure 5.2 above, the majority of the women (n=102; 70.3%) were in the 'other' category, neither married nor single. They were either divorced or widowed, with only (n=31;21.4%) married. Such a situation does not predict well for stable families (Habib et al., 2017; Morris et al., 2014. However, the divorce rate which was not addressed in the study could contradict such an assertion.

5.2.2.3 Level of education of the perinatal women

Figure 5.3 below is indicative of the perinatal women's various levels of educational attainment.

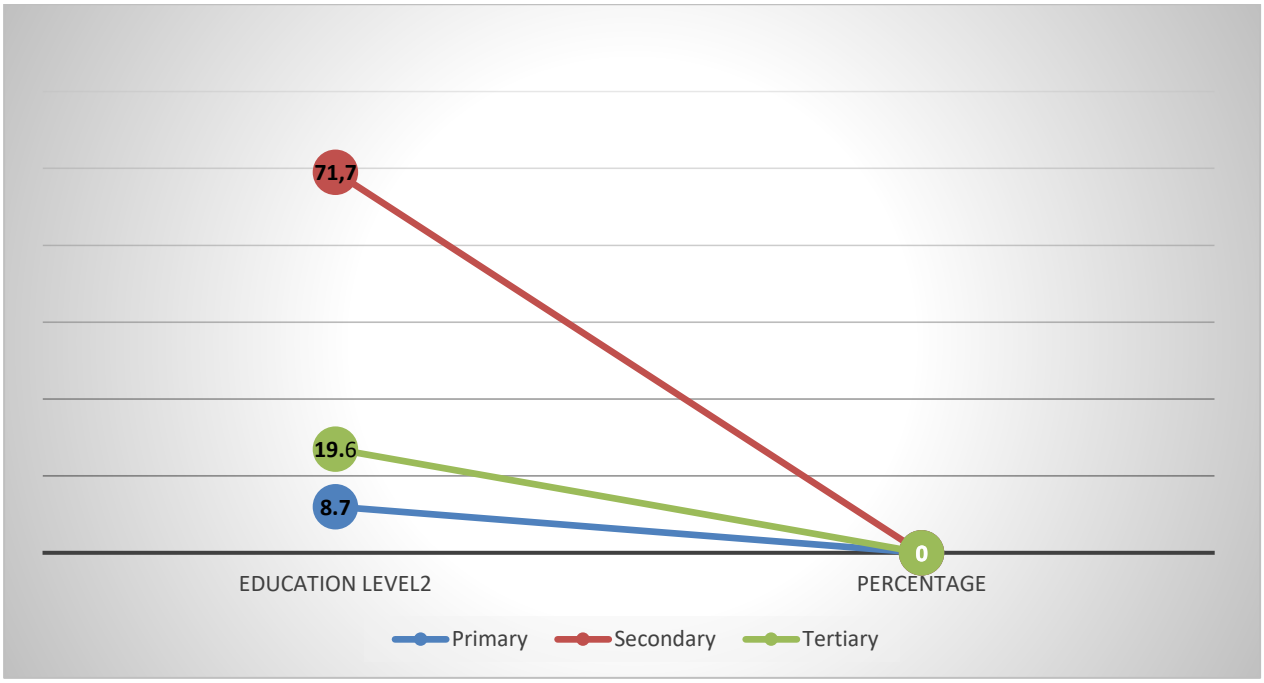

Figure 5.3 Education level of the perinatal women (N=138)

According to the details in Figure 5.3 above, most of the perinatal women participants (n=99; 71.7%) had secondary school education, followed by tertiary-level (n=27; 19.6%); and primary school education (n=12; 8.7%). Evidently, the educational level of many of the women suggests that they were not illiterate and would at least display some level of understanding and knowledgeability with elementary childbirth and other related issues (Ferguson et al., 2012; Wabiri et al., 2016).

5.2.2.4 Nationality of the perinatal women

Figure 5.4 below shows the perinatal women's nationalities.

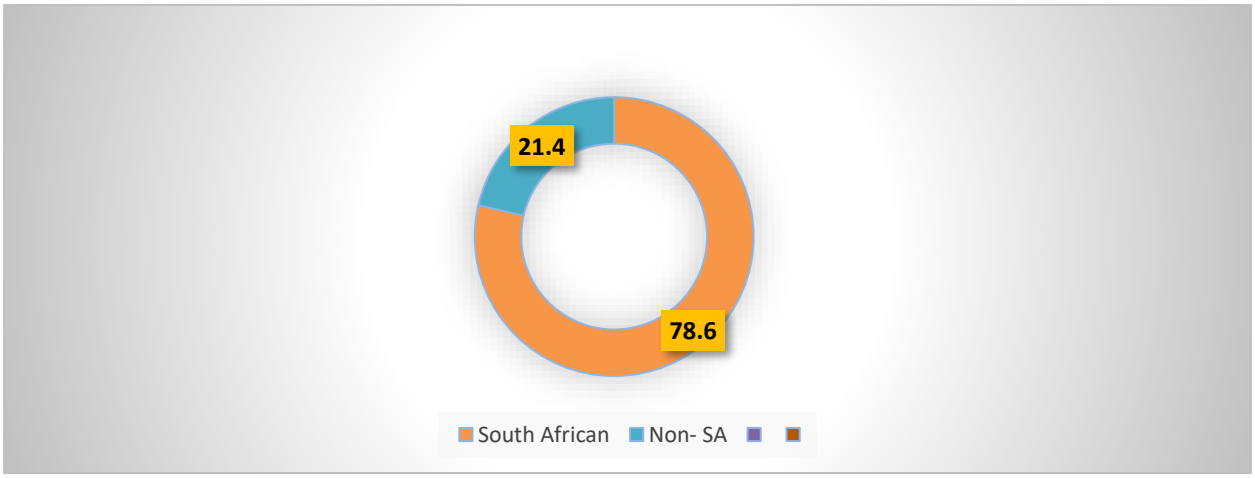

Figure 5.4 The perinatal women's nationalities (N=145)

Extrapolated from Figure 5.4 above, is that most of the women participants (n=114; 78.6%) were South African, and (n=31; 21.4%) were expatriates from other countries. The researcher's further engagements with the women indicated that they were from most neighbouring countries such as Lesotho and Zimbabwe. Whether legal or illegal in South Africa, their presence in the country has been occasioned by the better healthcare facilities when compared to their own countries of origin (Dahab & Sakellariou, 2020; Filby, McConille & Portela, 2016; Katoba et al., 2019).

5.2.2.5 Employment status of the perinatal women

Figure 5.5 below shows the employment status of the perinatal women.

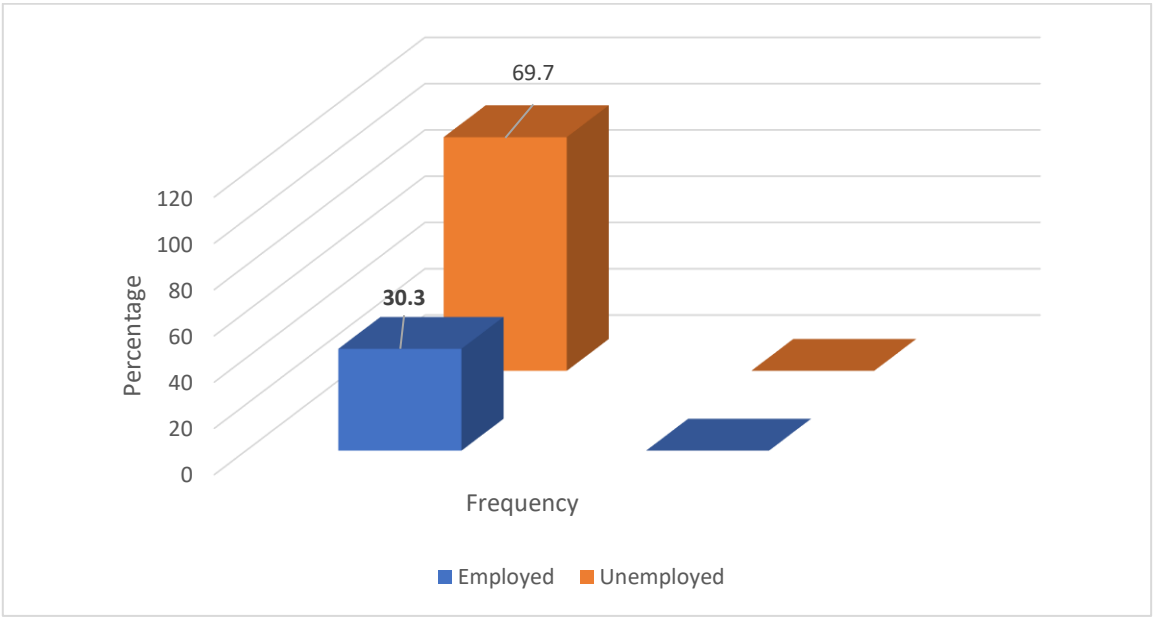

Figure 5.5 Employment status of the perinatal women (N=145)

It is the firm view of the researcher that the women participants' status of employment status was relevant insofar as determining the extent of their partial or total reliance on publicly funded healthcare facilities, irrespective of their nationalities. Figure 5.5 above shows that the majority of the women (n=101; 69.7%) were unemployed, and (n=44; 30.3%) who were employed. On the whole, the women's unemployment levels generally reflect current unemployment trends in the country (Stats SA, 2020; Wabiri et al., 2016).

5.2.2.6 Maternity unit category

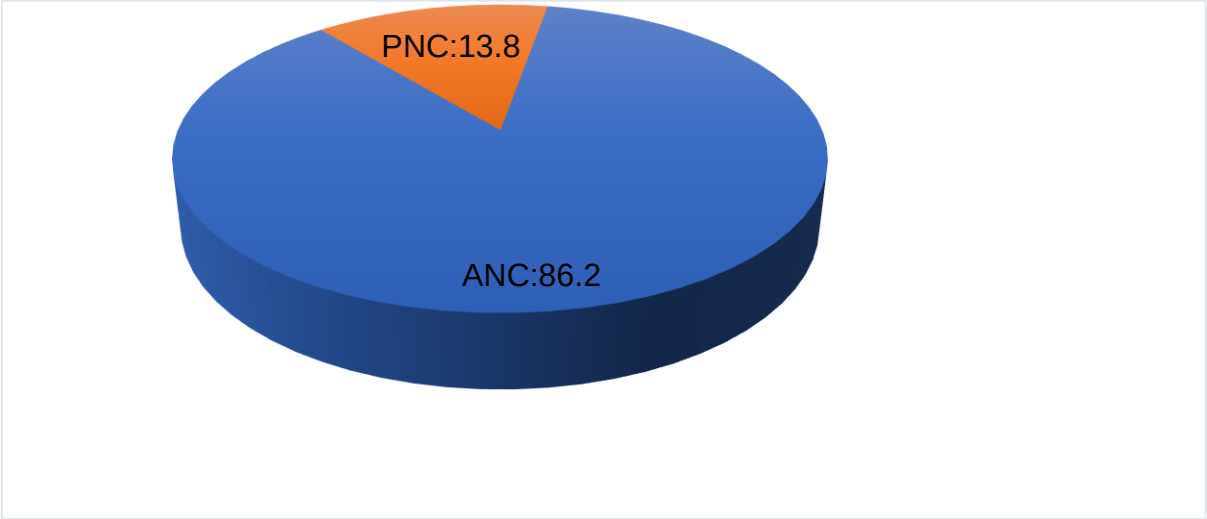

Figure 5.6 Pie chart on maternity unit category (N=145)

Figure 5.6 above suggests that most of the respondents (n=125; 86.2%) were in the antenatal units than (n=20;13.8%) of the respondents in the postnatal units. Figure 5.6 confirms that women in the postnatal units were discharged within six hours of delivery when they have no obstetric complications. Secondly, if the number of postpartum women is this low, it is apparent that they did not have time to participate in the data collection and completion of the checklist because of their demanding responsibilities towards the care of new-born babies such as nappy changing and breastfeeding.

It is notable that the demographic details only reflect the researcher's own analysis of the respondents' attributes in relation to the broader populations from which they were sampled (Bomela, 2020; Tocchioni, Seghieri, De Santi & Nuti, 2018). On the other hand, the next section presents, for the first time in this study, the sampled participants' actual views, perceptions, experiences, knowledge and understanding *in their own words and thoughts* relating to the state of maternal healthcare in Gauteng Province.

5.3 SECTION B: PRESENTATION OF QUALITATIVE FINDINGS

The qualitative findings presented, analysed and discussed in this section accrue wholly from the FGDs with the 48 perinatal women participants (patients of the midwives); and the in-depth interviews with 5 (five) midwives; and 2 (two) perinatal women participants or patients. Additionally, the third qualitative data acquisition category derived from the

documentary review and analysis of the partograph. In this regard, the researcher intended to determine the extent to which midwives (and not patients) were knowledgeable about the content and use of the partograph– a single sheet indicating critical statistical information during labour, such as vital signs, duration of labour, foetal heart rate, and cervical dilation (Bazirete et al., 2017; Dalal & Purandare, 2018).

The qualitative findings are presented in both a composite summary and individually in the context of the generated themes, categories and sub-categories; all of which are the outcomes of the eclectic data analysis processes involving thematic, content and convergent approaches (Apuke, 2017; Braun & Clarke 2006 as cited in Nowell et al., 2017; Vaismoradi et al., 2013). The latter were referred to in Sections 4.7.1 and 4.7.2 respectively.

Table 5.13 (overleaf) highlights the main themes, categories, and sub-categories generated through the qualitative data gathering process, merged later in this chapter in order to actualise and complete the exploratory sequential mixed-methods orientation of the current study (Allana & Clark, 2018; Bazeley, 2016; Shannon-Baker, 2015).

Table 5.13 Summary of qualitative research results

Related research objective and research question (RQ)		
Objective 1: To explore and describe the participants' (midwives' and perinatal women's) experiences and perspectives regarding the provision of maternal healthcare services in Gauteng Province RQ1: Which are the factors that mostly affect the provision of maternal healthcare services?		
Theme 1	**Category**	**Sub-category**
Individual challenges	Midwife perspective	Disrespectfulness to users Lack of passion Lack of commitment Lack of time management
	Midwife profile	Knowledge and skills Curriculum development Human factor and ergonomics
	Patient profiling	Interactive technology and parenthood Influence on maternal response Maternal age Maternal literacy
Related research objective and research question (RQ)		
Objective 2: To explore, describe and analyse factors affecting the provision of maternal healthcare services in Gauteng Province RQ2: Which are the factors that mostly affect the provision of maternal healthcare services?		
Theme 2	**Category**	**Sub-category**
Interpersonal/mutual/civil/relational relations	Communication	Language barriers Ethnicity Tribalism
	Impact on maternal health	Lonely birthing Obstetric complications Compromised maternal healthcare
	Clinical functioning	Professional ethics Integrity

Related research objective and research question (RQ)		
Objective 3: To assess current maternal healthcare practices in the context of existing policies and protocols in Gauteng Province RQ3: To what extent are the current maternal healthcare practices relate to, or link with existing policies and protocols?		
Theme 3	**Category**	**Sub-category**
Organisational context	Workload	Shortage of personnel Illegal immigrant overcrowding Physical bearing Stress incidences and occurrence
	Resources	Extreme clinical setting Human and material resource gap Outsourcing of services
	Helm of organisation	Authority/bureaucracy Norms of consensus Mobilisation and utilisation of the resources Decision making power.
	Synchronisation of co-occurrences	Compelling performance Execution of relevant and irrelevant tasks Skeleton staff deployment Performance of internal control systems
Related research objective and research question (RQ)		
Objective 4: To identify the corrective interventions and improvement measures related to the quality of maternal healthcare services in Gauteng Province RQ4: What corrective interventions can be applied to improve on maternal healthcare service delivery in this hospital?		
Theme 4	**Category**	**Sub-category**
Community factors	Immigrant/undocumented mother dynamics	Cross-cultural maternal health Foreign traditional practices
	Maternal-baby interface	Multi-disciplinary relations
	Psychological impact	Work-induced tension Violence against midwives Dehumanisation of women

	Motherhood and immigration	Generational patterning of family/maternal health Social forces and family/maternal health dynamics
Related research objective and research question (RQ)		
Objective 5: To develop a model for midwives and perinatal women to strengthen the provision of maternal healthcare services in Gauteng Province RQ5: How should a maternal healthcare model be developed to strengthen the capacity of midwives in their provision of quality services to patients (perinatal women)?		
Theme 5	**Category**	**Sub-category**
Policy and governance	Unstructured clinical setting	Quality conducive clinical setting Political will Factors inhibiting quality.
	Disease Profile	Procedure and logistics Funding of maternal healthcare Healthcare outcomes Caesarean section queues
	Guidelines and protocols	Health policies Inter-departmental policies Referral system

5.3.1 Theme 1: Individual challenges

This theme relates to the significant individual factors arising from the midwives' perspectives concerning provision of maternal healthcare services in the maternity wards of the selected four research sites in City of Ekurhuleni and City of Tshwane, Gauteng Province. It is worth stating that the participants marked as 'Hosp' were involved in the FGDs (see Annexure M), while those marked 'IDI' were involved in the in-depth interviews (see Annexure L). Table 5.14 below is a diagrammatic display of this first qualitative theme and its categories and sub-categories.

Table 5.14 Theme 1 and its related categories and sub-categories

Theme 1	Category	Sub-category
Individual challenges	Midwife perspectives	Disrespectfulness to users Lack of passion Lack of commitment Lack of time management
	Midwife profiles	Knowledge and skills Curriculum development Human factor and ergonomics
	Patient profiling	Interactive technology and parenthood Influence on maternal response Maternal age Maternal literacy

In terms of Table 5.14 above, the perinatal women perceive the as displaying an unprofessional attitude in that they are disrespectful to service users; and lack passion, commitment and time management. These challenges constitute a core inhibition to midwives' capacity to provide adequate midwifery care (Bremnes et al., 2018).

5.3.1.1 Category 1.1: Midwife perspective

The attitude portrayed by the midwives towards the perinatal women in the public maternity units is both unwelcome and professionally unacceptable. All the 48 perinatal women participants in the focus groups reported such attitudes from the midwives, who were also accused of unpalatable utterances and expletives. Amongst others, these midwives were also viewed as cold-hearted. The related sub-categories concerning the perinatal women's perspectives are discussed further in the ensuing subsections.

5.3.1.1.1 Sub-category 1.1.1: Disrespectfulness to users

Most of the women participants alluded that midwives were disrespectful to them, and that they rather be treated by medical doctors. The labour ward midwives were perceived as harsher than those in other units. The following statements from the FGDs attest to the perinatal women's' views of the unacceptable and disrespectful treatment by midwives:

> **Hosp 3, P8:** "They make us feel that we are nothing and that they are more important because they are working and educated, that is the reason they are looking down on us. To them we are uneducated and unworthy people."

> **Hosp 3, P4:** "The problem that I have noted is respect. Nurses do not have respect for others. For the mere fact that a midwife would tell a woman who is in labour to shut up and stop making babies, it is a sign of disrespect."

Participants reported that midwives were rude, uncouth and shouted at them as though they were children. Such actions result in failure of the midwives to listen to the women as they experience labour differently (Machira & Palamuleni, 2017). According to the participants, the midwives' rudeness also creates a hostile environment in which unwanted relations between the midwives and the women developed. This is corroborated by the following statements.

> **Hosp 1, P5:** "The first day when I was admitted in this hospital, I was approached a nurse who was very rude, and I was so crossed."

> **Hosp 4, FGD PNC:** "The problem is that nurses are very rude; and we do not have any choice. We cannot deprive ourselves healthcare services because of them and leave the clinic without receiving care."

Participants also mentioned the role of gender difference in the context of healthcare service delivery, as attested by the statement below.

> **Hosp 4, P2:** "I am proud of the two male nurses who were on duty last night., they were up the whole night and never slumbered nor slept, whilst their female

> counterparts disappeared. Male nurses are better than females. They are more patient than females."

The next subsection presents lack of passion as a sub-category of the perinatal women's' perspectives on midwives.

5.3.1.1.2 Sub-category 1.1.2: Lack of passion

Participants revealed that the midwives lack passion and are not committed to their professional duties. Contrarily, several studies have revealed that midwives were passionate about their professional duties, from which they derived fulfilment regardless of other undesirable situational aspects and conditions (Matlala & Lumadi, 2019). The following verbatim account testifies to that fact:

> **Hosp 4, P8:** "Last night, there was a lady who was in labour pains. She called for help and one midwife said to her this is not the labour room, quick … walk fast. Not long ago one woman lost her baby, she has been reporting her pains, but the midwife did not listen until it was too late."

Some of the participants indicated that they already lost trust in midwives. This state of affairs was also reported by Lambert, Etsane, Bergh, Pattinson and Van den Broek (2018). In addition, participants expressed the feeling of vulnerability in the hands of these midwives. They felt that midwives should be passionate about their work, which would enhance their skills and responsiveness to their patients' needs, as attested by the following:

> **Hosp 3, P8:** "Midwives have to love their work especially, that they are working with two people (mother and the baby). They are making us not believe that our babies will get better."

> **IDI:** "I do not even trust her anymore because of the misunderstanding we had. I think she might give me wrong medicines because of the hatred she has upon me."

Some of the participants reiterated the view that the midwives' ignorance rendered them neglected as they delegated their duties to their subordinates:

> **Hosp1, P6:** "Some of the sisters will just look at you when you call for assistance. They will not respond to whatever you have requested her to do for you, they rather postpone your request or sent the student to do it and I think the poor student did not know how to do the task. Such delays compromise the health of our babies. They are not passionate enough even though they are not all the same."

The next subsection presents lack of commitment as a reflection of the women's perspectives on midwives who treated them in the maternity unit.

5.3.1.1.3 Sub-category 1.1.3: Lack of commitment

Lack of commitment relates to the sluggishness with which workers perform their duties (Child, 2010). The following statement reflects the lack of commitment by midwives as reported by their perinatal women patients in this study:

> **Hosp 3, P3:** "I just remember reporting to the midwife that I am in pains, and I can feel the baby's head is coming. The midwife asked when did the labour pains started and I responded that not that long. She told me to wait a bit, she ignored me. The second time I called, she still not came. The pains were unbearable, I then pushed, and baby came out. When she came the baby was already born. My worry is what I the baby got stuck? This is also scary because with my first baby I had struggled with cord around the neck. What if it was same problem? I think midwives should pay attention to us as report."

Lack of time management is presented below as a subcategory of the women participants' perspectives on the midwives who treated them in the maternity units in this study.

5.3.1.1.4 Sub-category 1.1.4: Lack of time management

The perinatal women participants also indicated that midwives did not manage their time well because they were often sitting and chatting amongst themselves during working hours, especially during night shifts, where patients would not receive their medication on time. However, the women participants acknowledged and conceded that they (women) too were many to be cared and treated by a limited number of midwives. Nonetheless, midwives should manage time well in order to offer assistance to all patients equally

(Manyisa & Van Aswegen, 2017; SANC, 2013b). The following participants' statements bare testimony to the midwives' perceived lack of time management:

> **Hosp 3, P4:** "It clearly indicates that midwives do not give attention to the patients. They spent time chatting and laughing to each other."

> **Hosp 3, P2:** "Eish, (sad face). Strange enough they will all disappear at the same time. I do not know they had a meeting at night, or they went or rest … I do not know. If they went for a break, it cannot take so long … breaks are short, they would have come back."

> **Hosp 3, P8:** "Sometimes, nurses' routines contradict with how we were told to take our medication from our local clinics. We get medicines very late … hours late. For example, in my case I am injecting Clexane, nurses will always be late with my medicines. If they say take medication at eight … you must take it at that time, anything other than that, it is not quality."

> **Hosp 3, P2:** "Think of the patient who is getting diabetic injections, if she does not get those injects on time what will happen to her?"

The following section presents the second category under the theme of individual challenges.

5.3.1.2 Category 1.2: Midwives profile

This category relates to the aspect of midwife profiles in respect of their knowledge and skills, syllabus inclusions and the human factor of the midwives in public hospitals. All participants recognised the midwives' capacity in terms of their knowledge and skills. The only concern that was largely expressed was the need to self-correct their attitudes in order to improve the provision of maternal healthcare.

5.3.1.2.1 Sub-category 1.2.1: Knowledge and skills

Participants indicated that knowledge and skills of the health personnel were key in the provision of maternal healthcare services. Most of the participants reported that midwives' training seemed satisfactory, except for the ethos of professional practice. According to

the women participants, the training of midwives provided them with the necessary knowledge and skills in the midwifery field, as well as competence in the scope of practice. This view was expressed as follows:

> **Hosp 4, P8:** "I believe that those who assisted me, were very skilful, they knew what they were doing. The doctor' care was a cherry on top, because he came back after delivery to check on me how am I doing? My birth was not so easy, if they did not have skills anything could have happened to me and my baby. I could have lost my baby."

> **Hosp 4, P2:** "Nurses do have skills (laughing)."

Furthermore, the women participants alluded to the important role of the age of the midwives in their acquisition skills. To this effect, the participants reflected that younger midwives lacked knowledge and skills, which was expressed thus:

> **Hosp 4, P3:** "I also think that age of the midwives and maturity counts. For example, you find a lot of old midwives in the antenatal clinic. They can give you answers in detail when you ask questions. I just want to put on record that they are loud, but you leave the clinic satisfied. They are so gentle and passionate even though they are loud. Come to the wards, you get young nurses who do not know their work. I think if they can be rotated, the young one will learn from the older one."

The next sub-section highlights curriculum development as a factor of the midwives' challenges

5.3.1.2.2 Sub-category 1.2.2: Curriculum development

Curriculum development is a measure of the knowledge, skills and performance of the nurses (Berhan & Berhan, 2014; Nakua et al., 2015). Participants revealed the need for midwifery curriculum to be strengthened in relation to the ethics of the profession.

> **Hosp 3, P 3:** "Midwives go to the extent of disclosing patients' health conditions in front of everybody, that makes us not free to inform them about what we are experiencing in our bodies."

Most of the participants vigorously mentioned the behaviour and actions of the midwives as very concerning, as depicted in the following statement:

> **Hosp 3, P2:** "One lady in labour ward asked a midwife water to drink. The response from the midwife was your sister was here during visiting time, why didn't you ask her to get you water? Poor woman stood up and got herself water to drink."

5.3.1.2.3 Sub-category 1.2.3: Human factor and ergonomics

Human factors include environmental, organisational and work-related factors which can improve client and healthcare provider health and safety (Bronfenbrenner, 1979; Mash et al., 2015). These factors may be individualised in the form of competence, skills acquired, personality and risk perception, amongst others. On the other hand, ergonomics explains the interaction between people and other objects of a system, profession and related principles (Mash et al., 2015; Morley & Cashell, 2017). In addition, ergonomics maximises human well-being within organisational systems.

In the context of this study, ergonomics relates to the approaches for improving the performance efficiency of the midwives to provide healthcare services in compliance with organisational regulations. The following participant statements reflect on the salience of responsibility and responsiveness as factors contributing to the safety and standard delivery of care:

> **Hosp 3, P8:** "Midwives are rude, if they can improve on that weakness, the relationship with the women will be better."

> **IDI:** "The attitude in this hospital (raising eyebrows) tends to impact on the quality of healthcare that we receive in the hospitals. (Perspective from the patient) I do not think I will fall pregnant again whilst I am in SA. I have two children and I do not think I want to expose myself to this treatment again. I will make sure I use my family planning throughout. I got my first baby in Zimbabwe and never came across this type of treatment."

However, some of the participants also reported that the attitude factor applied to both midwives and service users as well:

> **IDI:** “It is not easy for nurses because you can still get difficult patients, actually rude patients. Handling difficult patients is frustrating.”

5.3.1.3 Category 1.3: Patient profiling

In this study, patient profiling relates to the generation and subsequent documentation of evidence-based descriptions and characteristics of the maternal healthcare users. Such profiling includes technology utilisation and lack of health education within the maternity units, as discussed below.

5.3.1.3.1 Sub-category 1.3.1: Interactive technology and parenthood

Based on the midwives’ perceived reluctance to explain relevant midwifery information and issues to the perinatal women, most of the participants then reported that they resorted to Google for such. Some participants even raised concerns that they were first time mothers who needed guidance from the midwives. Maternal disinterest and health education ignored by the midwives in the public hospitals also resulted in these mothers using their mobile phones for self-education purposes in the presence of the midwives as reported below:

> **Hosp 3, P1:** “This is my third pregnancy, midwives should not take us as if we know because this is my third baby. When you ask a question … you taken very light and ignored. We end up going on Google for answers. Google gives us all the facts and answers that were supposed to given by the midwife. It replaces the midwives, because they do not want to educate us; they just give you answers in passing.”

Seemingly, the role of the midwife in providing health information to women appears to be gradually fading away – especially first-time mothers who critically need it, as shown below:

> **Hosp 3, P1:** “When you ask a question … you’re taken very light and ignored.”

Contrarily, some midwives refuted the above-stated sentiment, and mentioned that they do give health education to their clients/patients, and that such evidence was recorded and kept in the units.

> **IDI:** “We give health talks every day in the morning, but they are busy on their phones. We have a book where we record the health talks that we are giving.”

5.3.1.3.2 Sub-category 1.3.2: Influence on maternal response

This refers to how the women responded to the exertions of the midwives while they were admitted in the units. Differing retaliations were noted from various narrations of the participants. These are some of the extracts,

> **Hosp 4, P8:** “Despite all these things, what I just want to put on record is that “nurses are really trying.”

> **Hosp 4, P5:** “From the time of my admission, I was treated with a sense of urgency.”

Further to the above, participants also indicated that nurses are not the same, some are caring and calm, while some are very rude.

> **Hosp 3, P8:** “When you ask assistance from other nurses their response will be that I am not the only nurse on duty in this unit I then asked one nurse for help and she nicely assisted me”.

> **Hosp 3, P1:** “Nurses sometimes have arguments about the number of duties they have performed on the patients, while this is happening, patients are neglected because when these arguments are going on, nurses will be seated at the nursing desk.”

> **Hosp 4, P8:** “When I came in, I was in a critical condition, I was attended to in a good manner. When I told the midwife that the baby is coming, she did not ignore me, and I delivered nicely and calmly.”

Other participants felt that midwives also needed psychological interventions to help them cope with the work-related challenges they face daily:

> **Hosp1, P3:** "I think that nurses also need psychological help for them to cope because they also run up and down with the sick mothers and babies and some are dying in their hands."

5.3.1.3.3 Sub-category 1.3.3: Maternal age

The perinatal women participants admitted in the maternity health facilities were mostly young. Advanced maternal age is becoming uncommon as compared to women between the ages of 18 to 35 years (Abbasi & Younas, 2015; Aluko-Arowolo & Ademiluyi 2015). Compared to their older counterparts, young mothers have heightened sense of technological savvy, and in a better position to navigate various search engines to explore relevant information regarding pregnancy and motherhood, as reported below:

> **Hosp 3, P1:** "Google gives us all the facts and answers that were supposed to given by the midwife."

5.3.1.3.4 Sub-category 1.3.4: Maternal literacy

This category reflects on the educational levels of the perinatal women seeking healthcare in public healthcare facilities. Participants felt that they were made to feel undeserving and treated condescendingly by the based on their level of education. This view was poignantly expressed thus:

> **Hosp 3 P8:** "They make us feel that we are nothing and that they are more important because they are working and educated, that is the reason they are looking down on us. To them we are uneducated and unworthy people."

> **Hosp 3 P6:** "As a pregnant woman, what we do most of the time … is to beg for healthcare. We are classified as uneducated and poor by the nurses and we obey."

Having presented and discussed the qualitative findings' first theme (individual challenges) and its associated categories and sub-categories, in this section, the

following section focuses wholly on the second theme (interpersonal/mutual relations) and its attendant categories and sub-categories.

5.3.2 Theme 2: Interpersonal/mutual/civil/relational relations

Table 5.15 below is a depiction of the second qualitative theme of the findings, together with its main categories and sub-categories.

Table 5.15 Theme 2 and its related categories and sub-categories

heme 2	Category	Sub-category
Interpersonal//mutual/civil/relational relationships	Communication	Language barriers Ethnicity Tribalism
	Impact on maternal health	Lonely birthing Obstetric complications Compromised maternal healthcare
	Clinical functioning	Professional ethics Integrity

This theme relates to the positive and respectful interpersonal conversations that enhance effective interaction and understanding between maternity personnel and the perinatal women seeking services in the public health facilities. The nature of rapport between service users and service providers can impact directly on the achievement of organisational goals (Ampah & Ali, 2019; Boadi et al., 2019).

5.3.2.1 Category 2.1: Communication

In relation to this study, communication entails conveyance of routine information and processing of paperwork destined for targeted groups (Koneshe, 2016). In this regard, communication between midwives and perinatal women can play a vital role in the successful provision of maternal healthcare in public hospitals.

5.3.2.1.1 Sub-category 2.1.1: Language barriers

Native foreign languages are a hindrance to effective communication in the maternity units. Participants reported that communication between midwives and immigrant mothers was very difficult and resulted in midwives being perceived as rude when they

felt frustrated by labouring expatriate women who could not follow basic instructions in local languages during labour. To this effect, one of the participants stated:

> **IDI:** "Communication is so frustrating, because they only know Shona. It becomes a problem because you must think for them. Every question you ask the answer is 9 months. When you ask her to bear down, she will just look at you unresponsive. They do not follow the instructions it is like you are talking to yourself and that is frustrating."

The above view was refuted by some of the participants thus:

> **Hosp 4, P8:** "I guess communication depends on the individual. They are not the same, so is their communication. Some of them are aggressive and cannot communicate well. Some will surprise you… and you ask yourself what went wrong?"

> **IDI:** "There is definitely language barriers because most of these women from other countries cannot even speak English, they only speak Shona. We sometimes rely on their fellow patients who know the language to translate, although there are other confidential things that you cannot ask the other patient to translate."

> **Hosp 4, P4**: "This problem of communication is two-way. Sometimes we as the patients do not respond to the instructions given by the midwives. And such acts may lead to bad communication. In some situations, it gets to a boiling point and as a patient … you just keep quiet. As patients, we do not have a choice but to submit ourselves."

> **IDI:** "The things these immigrant mothers are doing (Laughing)…sometimes when you give Vitamin A to the mother to chew, when you turn around you will find her giving it to a new-born. Language is a challenge they do not understand at all."

Language barriers did not cause frustrations to the midwives only, but to the immigrant mothers as well as they were exposed to vulnerability:

> **Hosp 3, P4: "**As much as midwives are struggling to speak the languages of the immigrant mothers, so do the very women. Yes, they speak Shona and do not know Isizulu or English. You could see the desperation and determination on the

face of this one woman, that she wants to express herself. She wanted to hear and understand what is said, unfortunately she could not. On the other hand, the frustrated midwife was saying I am not white, I will not speak English. Indeed, this communication breakdown is challenge."

Many of the women participants raised their concerns about lack of constructive communication with the midwives, as expressed below:

> **Hosp 3 P5:** "Communication does not exist and if it does … it is not good."

Communication is also shared between the midwives as they expand on their knowledge to provide health information to their patients. Some of the participants alluded to the fact that women needed to know and understand their health problems for purposes of continuity of care when they are discharged from the hospital. This was demonstrated by the following midwife's statement:

> **Hosp, P4:** "We have to impart knowledge amongst ourselves, so that we can do correct things. If I do not know or understand something related to patient's care, I should not be afraid to ask even if you are long in the profession just like me. I still ask to this day. Patients must feel free to ask anything about their health conditions so that they may be able to take care about themselves at home."

5.3.2.1.2 Sub-category 2.1.2: Ethnicity

Besides language barriers, ethnic prejudices also worsened the already compromised communication between midwives and patients (De Freitas, Massag & Fraga, 2020). Participants vehemently expressed the need to enhance tolerance towards migrant and ethnic women for effective implementation of maternal healthcare towards improving the quality of health outcomes. This empathetic view was stated thus:

> **IDI:** "It is important that other are treated well and astonishingly, it is not just foreign nationals even South Africans. If someone is speaking Venda, then the midwife will refuse to speak Venda. They will say here we are speaking Pretorian language."

> **IDI:** "I think sometimes it is intolerance to some who looks different. I think this one thing that I have experienced while I was here. In most cases, it is the way we were socialised as we grew up. You might not realise that you are wrong, unfortunately that is how you will operate even in your professional world. Obviously when do not want to speak the other person's language, automatically, there is a certain image you have about the person."

It was further reported that the problem was not only regional, but global in its proportions:

> **IDI:** "It is not a South African thing, if you go to other countries; you will experience the same thing. I do not know if it is the effects of colonisation or not. Instead of embracing each other we look down on each other. We do not want to embrace each other's cultures. We just have to realise that we are more similar than our differences because we are just divided by the borders only, but we are pretty the same."

Some of the participants claimed that race was somewhat an easy way to embrace:

> **IDI:** "I bet if it was a white person who is English speaking … the nurse would quickly switch to English but with the black person same as she is, it's a different story altogether."

Religion was also found to be inhibitive in quality maternal healthcare delivery:

> **IDI:** "Even religion sometimes plays a role. For example, in Islam religion a woman must be accompanied by her husband when going into a public space. So, find that in this hospital, I have seen it a lot of times, men will be waiting outside but they want to know what is happening with their wives. During antenatal care, men are there in the clinic and the midwives are not responsive to the gestures of these men and midwives do not receive well because of the different beliefs."

5.3.2.1.3 Sub-category 2.1.3: Tribalism

In many traditional communities, tribalism played a divisive role and inhibited social development (Aluko-Arowolo & Ademiluyi, 2015; Tobe et al., 2018). Several participants

reported incidences of tribalism in the selected hospitals as they were seeking maternal healthcare services. The following excerpts exemplify this view:

> **Hosp 4 P4:** “Nurses need to acknowledge that when a local language is spoken, some of us cannot hear a thing.”

> **Hosp 4 P4:** “South Africans are also exposed to discrimination. I am Zulu speaking person, I cannot hear Sepedi, for that matter I am perceived as being difficult because I happened to be in the Sepedi speaking area.”

5.3.2.2 Category 2.2: Impact on maternal health

The healthcare system in South Africa is fraught with challenges that unquestionably impacting negatively on maternal healthcare (Austin-Evelyn et al., 2017; Benatar et al., 2017). The perinatal women participants in the FGDs were generally disappointed at the ineffective complaints’ procedure in the public hospitals.

5.3.2.2.1 Sub-category 2.2.1: Lonely birthing

Lonely birthing in this context implies women delivering their babies in the absence of a midwife whilst admitted in the healthcare facility. Participants reiterated their fears and frustrations regarding lonely birthing whilst midwives were somewhere in their corners of the maternity units. This was reported thus:

> **Hosp 4 P3:** “I have observed one lady delivering a baby in the toilets and it is not a nice experience. Midwives are unwilling to assist and take care of us, especially at night. Unfortunately, you cannot even report them because they do not put their name tags on.”

> **Hosp 3 P2:** “I was so scared when I witnessed the lady who just gave birth before me. When we scream for help probably they think we are screaming for no apparent reason. Until one of the midwives realised that it is indeed true, she was giving birth, that’s when she called her colleagues and they came running.”

During in-depth interviews, it was categorically stated that the pregnant women indeed delivered solitary births in the absence of the midwives or any other healthcare worker because of personnel shortages and increased number of women giving birth.

> **IDI:** "In the public hospitals, we have a lot of women delivering in the toilets because the numbers of the women delivering is non-comparable to the number of midwives in the units. Midwives cannot deal with these numbers. We have so many incidences where women delivering alone while in the hospital."

Some of the participants from the antenatal units raised their fears regarding their own deliveries based on what they observed from fellow patients. They would call for assistance when one of them was in distress and could not help herself due to unresponsiveness from the midwives.

5.3.2.2.2 Sub-category 2.2.2: Obstetric complications

The participants reported the risk of increased obstetric complications by pregnant women visiting the maternal healthcare facilities. The participants reiterated that obstetric complications were rife due to the difficulty of monitoring progress of labour in the full wards.

> **IDI:** "We do not record the partographs in most cases, due to the lack of time and busyness of the units."

5.3.2.2.3 Sub-category 2.2.3: Compromised maternal healthcare

Participants also alluded to the possible compromising of healthcare, which may lead to increased maternal mortality. This view was expressed as follows:

> **IDI:** "Based on the training that I got, with the ten years' experience that I have as a midwife coupled with the passion I have for this job, I would say that the care we are given to our patients is not what is expected. I am also aware that there are a lot of challenges in this field, but the care we give to women is poor."

> **IDI:** "For the mere fact that we had 13 cases of maternal deaths from December 2019 to February 2020 … the service that we provide to these women, I would give it less than 50% in terms of quality."

Some of the participants reported that quality care was compromised by shortage of the midwives:

> **IDI:** "A pregnant woman who is in active phase of labour, has to be monitored every two hours and the foetal heart rate every 30 minutes, vital signs every hour. If you have 15 women how does that become possible? It is just chaos, you will not even have time to wash your hands. You even have to deliver the women on the floor because you only have 15 beds."

5.3.2.3 Category 2.3: Clinical functioning

Healthcare facilities often struggle to provide emergency care that is pertinent to the mitigation of maternal complications. Such struggles include inadequate and unclean infrastructure, competence, lack of medicines, and poor documentation of records (WHO, 2016). Women's feelings and values, perceptions and compassionate care during pregnancy and childbirth are key in determining the clinical functions in the maternity units (Krause, Minnie & Coetzee, 2020).

5.3.2.3.1 Sub-category 2.3.1: Professional ethics

The following narrative statements from the FGDs capture some of the women participants' perspectives concerning professional ethics:

> **Hosp 3 P7:** "I was told to stand up and I had per vaginal bleeding which messed up the floor. There was nothing that I could do because it was just coming out. I was instructed to clean the floors myself in that state of health."

> **Hosp 3 P6:** "Unemployment rate in this country is very high. People end up choosing nursing because it is the only profession that has good chance of employment. This contributes to the lack of work ethics because nursing is not a calling to them. Some verbalise that as long as I get my salary at the end of the month."

> **Hosp 3 P2:** “I have witnessed one lady who was bleeding after giving birth, the midwife told her to sit in that blood … I get my salary on my payday.”

The work ethics of public health workers were compared to those of private healthcare workers, which was captured in the following manner:

> **Hosp 3 P6:** “Government and private nurses are totally different, they are not the same. In government, nurses know that they are here forever, and no one will dismiss them despite the behaviours they portray. These behaviours are not happening in the private sector.”

5.3.2.3.2 Sub-category 2.3.2: Integrity

The integrity of midwifery could be compromised by factors such as incompetence and poor midwifery skills (Berhan & Berhan, 2014; Okonofua et al., 2019; Pattinson et al., 2018). Ultimately, the quality of healthcare service and standard operating procedures (SOPs) could be rendered ineffective. This was raised by one of the midwives thus:

> **IDI:** “These are the things that we have been complaining about and if something can happen, what are we going to say? Why did not I give the third dose and, why did I give only the second one? Or why did I only give once, because it is not written anywhere. It is like I found it like that and just follow, but I am not sure what to do. … so, when patient comes back the post-operative, it is the second one. There is no need for the third and the fourth because the first one was working intra-operative and then post it was working after the operation. No need to continue with other doses. It was something written down as a standard operating procedure.:

5.3.3 Theme 3: Organisational challenges

Table 5.16 below is representation of the third major theme of the qualitative findings and its related categories and sub-categories.

Table 5.16 Theme 3 and its related categories and sub-categories

Theme 3	Category	Sub-category
Organisational context	Workload	Shortage of personnel Illegal immigrant overcrowding Physical bearing Stress incidences and occurrence
	Resources	Extreme clinical setting Human and material resource gap Outsourcing of services
	Helm of organisation	Authority/bureaucracy Norms of consensus Mobilisation and utilisation of the resources Decision making power
	Synchronisation of co-occurrences	Compelling performance Execution of relevant and irrelevant tasks Skeleton staff deployment Performance of internal control systems

This theme articulates to the organisationally induced challenges that midwives and their perinatal women patients face in the public healthcare facilities. In this regard, workload, lack of resources and organisational leadership were found to be affecting delivery of healthcare services in the maternity units to some extent (Austin-Evelyn et al, 2017; Maphumulo & Bhengu, 2019).

5.3.3.1 Category 3.1: Workload

This category refers to extreme exposure of midwives to increased work demands and pressure. Factors such as personnel shortages and the rapid influx of pregnant women in the maternity units, account for such workloads. In this study, midwives are the principal human resources pool and workforce agents of quality healthcare delivery.

5.3.3.1.1 Sub-category 3.1.1: Shortage of personnel

Resource planning is key to effective and efficient health service provision (Setswe, Naude & Zungu, 2016). All participants from both FGDs and the in-depth interviews emphasised the shortage of personnel in the midwifery units as disconcerting:

> **IDI:** "A nurse will be working day shift and you see her again on night duty. You find a ward like labour ward having only four nurses with many patients with different conditions and few doctors as well, that put strain on them."

> **IDI:** “During night shift, it is only two midwives, enrolled nurse and one assistant nurse taking care of 41 patients. At night it becomes extremely hard. Today we are only two midwives with one community service nurse, whom I have to cover because she is still under supervision.”

It was further reported that the shortage of personnel was exacerbated by failure to replace midwives whose services were terminated, as reported below:

> **IDI:** “The problem is that some of the midwives have resigned, some on retirement and they are not replaced.”

5.3.3.1.2 Sub-category 3.1.2: Illegal immigrant overcrowding

Overcrowding of healthcare facilities places additional human resource demands and adverse impacts on quality service provision (Maphumulo & Bhengu, 2019; Setswe et al., 2016). In this case, overcrowding is also a factor of the (illegal) immigration of foreign nationals into South Africa in search of better living conditions not experienced in their own countries (Mashamba-Thompson, Sartorius & Drain, 2016). Most of the participants complained earnestly about this:

> **IDI:** “Yes, they come in the country because maternal healthcare service is free, and their partners are in South Africa.”

Some of the participants even indicated that this immigrant overcrowding led to the indecent deliveries by the immigrant women, who are also treated more harshly than the South African women. The following excerpts accentuate the issue further:

> **Hosp 4 P1:** “It’s so sad to hear nurses speaking xenophobic words against the foreign women. They even making jokes about them. And you realise that a poor woman does not hear even a single word. Not that she does not want to participate, and she cannot understand South African language.”

> **Hosp 4 P4:** “I think that we need to be treated equally because they too have rights. This is pure discrimination. They [immigrants] are made to pay just to access

healthcare services when we South Africans are not paying so this is pure discrimination."

Notwithstanding the above, some of the participants reported that the unsavoury treatment was the same, regardless of the women's nationalities:

Hosp 4 P2: "There was a day when the ward was full, we were given the sponge mattresses to sleep on the floor, and still we were many, we had to sleep on the benches. Imagine a pregnant woman sleeping on the bench (sad face). I slept on the bench for two days. Foreign ladies were also sleeping on the benches, paid or not, we are all the same."

Hosp 4 P7: "The treatment is the same the only difference is the payment that foreign women are paying and for us is free. They pay R 621 for delivery and antenatal care R300. It is more difficult if you have money. If they do not pay, their babies will not be registered. They do not even get the babies cards if they do not pay."

5.3.3.1.3 Sub-category 3.1.3: Physical bearing

This sub-category addresses the physical impact of the midwives' day-to-day duties caused by personnel deficiencies and resultant workloads. Critical shortage of health workers exacerbates the conditions of work in maternity units (Thopola & Lekhuleni, 2015).

5.3.3.1.4 Sub-category 3.1.4: Stress incidences and occurrence

The current state of the healthcare system exposes healthcare workers to undue psychological distress (Aristotelis, Glannouli, Drantaki, Stratou & Saridi, 2015). The following statement exemplifies both the prevalence and effects of stress:

IDI: "When you go home at the end of the shift, you are a "zombie". You leave some of the things not done because you forgot and felt tired. It will just be unfortunate if that file can be chosen during audit, and all those things that are omitted you will then have to answer. Sometimes you think "what if I get into trouble, let me just do it, but you stretch yourself and the next day when you must

wake up and come back here, you can't even lift up your head". It is very stressful. The next day when you come on duty, you can't wait for 7 o'clock so that you just go home and rest for 2 days. You still feel tired and you get so impatient with everything and everybody because you can't take it anymore. Sometimes you think the next day it will be better, but you find it worse than the previous day and you just crush. We do not even have love for the pregnant women because of the way it is hectic, even if I see a pregnant woman wearing smart, I do not get impressed because of how way we are treated with the pregnant women."

5.3.3.2 Category 3.2: Resources

The NDoH (2011) emphasises the best use of resources as key to improving maternal health services and reducing duplication. The following narrative statement alludes to the deficient use of scarce resources and inability to reduce duplication by the health personnel:

IDI: "We must keep patients for 6 hours and if everything is well, we must discharge them home. So, we do admission and discharge throughout. Normally we because they are not sick, and the babies are well, but the same babies are not counted. Most of the time we get busy with them, because we get low birth weight less than 2.5 kg that needs to be seen by the doctor before they are discharged. Rh-negative the babies must be seen by the paediatrician before they go home. We draw blood and they need to stay here until they get their result. Normally they do not get the results on the same day, so we will be stuck with the mother who is discharged in the same cubicle that is full and mother is still expecting to be in bed."

5.3.3.2.1 Sub-category 3.2.1: Extreme clinical setting

This sub-category relates to the infrastructure and the outlook of the public health facilities. Participants reported that hospitals were infrastructurally inadequate to cater for the high numbers of patients seeking maternal healthcare. Some of the participants, even pleaded with government to build more health facilities to accommodate all these patients irrespective of their nationality.

Hosp1 P2: "I would like the government to provide few rooms at least three in this hospital, because some of us got babies though caesarean section and we sleep on

the floor. Imagine when you must wake up in the morning and every 3 hours because you must breastfeed the baby who is Neonatal Intensive Care Unit. You wake up in pain because you slept on the floor."

In addition to the participants' lamentations on the physical spaces needed, they also raised their concerns with the cleanliness of the maternity units, which were reported unhygienic and uninhabitable by most participants from the postnatal lodger room.

Hosp 1 P3: "The environment is inhabitable. We are trying as ladies, but you can see that some of us are not coping because we are too many for that one room."

Hosp 1 P5: "I want to concur with P, as lodger mothers, the room we occupy is not conducive and not well ventilated. We are many in there. We express breastmilk in there, we have different diseases. It is bad. We ask the hospital management or Department of Health to build 2 or 3 rooms to cover all of us. Currently, we are 32 in number in a four-bedded room. It also depends on the number of admissions or discharges in a day."

- **Gestural response**

The researcher posed a question on whether midwives were giving the best care possible to their maternity patients. One of the midwife participants referred to pharmacy related constraints raised by the participants, which revealed some of the critical infrastructure components required for quality maternal healthcare. The midwives stated that they do care. However, "the only thing is that there are things that we cannot control". The participant responded by shrugging her shoulders and it was evident from the observed gestural communication that there was a foundational void in maternal health activities that health institution needed to address.

5.3.3.2.2 Sub-category 3.2.2: Human and material resource gap

The researcher posed the question: *How do you perceive the human and material resources in term of you running your day-day activities?* The participant respondent by using her own frame of reference and was seen tearing in her eyes as she described the situation. The NDoH (2011) and Turnock (2012) assert that public health activities are

wholly reliant on infrastructural development as the cornerstone. The following statements confirm the midwives' recognition of the salience of material resources:

> **IDI:** "Sometimes material resource is available but there are times we are lacking resources. Last week there was a complaint from the family member that the patient was not given suppository because she saw it on the prescription in the file. This one, complained only because she is working in the hospital."

> **IDI:** "She was incredibly angry and reported it to the matron. We did not have that suppository; it was out of stock for about a week. To her, it was like we do not do what we supposed to do."

> **IDI:** "If medicines are not available there is nothing we can do. We always supplement with Paracetamol because it is always available, and it depend on the prescription. Doctors are not the same, some do not prescribe the antibiotics."

Noticing the impact of resource scarcity on the midwives, the researcher asked the probing question: *How does lack of material resources make you feel and how does it affect you as staff?* The response was:

> **IDI**: "It is not easy, what are you supposed to do when you do not have resources but at the same time you are expected to give quality care. Anyway, this is how the system expects from us. Sometimes you just do it until you cannot do it anymore."

5.3.3.3 Category 3.3: Helm of organisation

The 'helm of organisation' factor basically depicts the structure of authority within a particular organisation (Burrel, 2017; Child, 2010). Therefore, those at the helm determine the efficiency and effectiveness with which the organisational mandate will be accomplished (Turnock, 2012). Accordingly, the efficiency of healthcare institutions also depends largely on the competence and quality of their managers. In some instances, institutional managers have been noted to be to be sources of conflicts and tensions between administrators and professional staff (Matlala & Lumadi, 2019).

5.3.3.3.1 Sub-category 3.3.1: Authority/bureaucracy

Most of the participants reported that senior managers were not supportive and only 'hunting' for mistakes on which to capitalise. The following statement bears testimony:

> **IDI:** "We never see them unless there is a problem … you will see them being quick to judge, that is the only time, you will see them. But if it is just normal you will never speak or see them. For instance, if the midwives and nurses are in trouble [and] having a case and facing Nursing Council for charges … the little bit that I know you will never get support to say there will be someone from the hospital or from the management who will … give you support … Just so that you just feel you have support next to me".

The above statement further demonstrates lack of mutual understanding. For example, the midwife may be unaware of the manager's several responsibilities of the manager.

5.3.3.3.2 Sub-category 3.3.2: Norms of consensus

The norm of consensus entails the institutionalisation of collective decision-making and accountability (Turncock, 2012). Depending on the severity of an offence, managers may need to be consensus builders rather than unapproachable and authoritative bureaucrats looking for any opportunity to blame subordinates for any form of wrong-doing, as depicted in the following narrate statement:

> **IDI:** "We never see them unless there is a problem. When there is a problem, will see them being quick to judge."

The above statement clearly articulates the source and cause for tensions and conflicts affecting managers and midwives in this instance (Turnock, 2012). In many instances, midwives were not provided with SOPs and did not know what to do when confronted by obstetric emergencies:

> **IDI:** "These are the things that we have been complaining about and if something can happen, what are we going to say? Why did not I give the third dose and, why did I give only the second one? Or why did I only give once, because it is not written anywhere. It is like I found it like that and just follow, but I am not sure what to do.

> I used to work in private hospitals and I remember the doctors had some disagreement about the same scenario of pre and postoperative and they called the pharmacist to the meeting. Pharmacist explained that already the patient had an antibiotic preoperatively. So, when patient comes back the post-operative, it is the second one. There is no need for the third and the fourth because the first one was working intra-operative and then post it was working after the operation. No need to continue with other doses. It was something written down as a standard operating procedure."

5.3.3.3.3 Sub-category 3.3.3: Mobilisation and utilisation of the resources

This section addressed the pharmacy related constraints as experienced by the participants in the units. When asked the question: *How do you perceive the care that you are giving to these women?*

One participant responded emphatically that:

> **IDI:** "We do, the only thing is that there are things that we cannot control."

- **Observed gestural communication**

The gestural communication that was observed is that as the participant responded, she also shrugged her shoulders while making the following statement in elaboration:

> **IDI:** "You cannot just go to the pharmacy and tell them to finish the boxes, there are times, you write the time when you drop off that box and they are dispensing on the first box received approach not because in the ward there is someone screaming. They work according to their rules. At the end it becomes chaos in the ward. It is not all of them, but some behave badly and say bad things to the midwives and that makes you miserable for the whole day."

Evidently, the mobilisation of scarce resources, according to the midwife participants, is also linked to the helm of the organisation factor. For instance, the incompetence of those managing the pharmacy could cascade to the maternity wards and result in chaos as patients only expect to be provided with medicine, and not explanations.

5.3.3.3.4 Sub-category 3.3.4: Decision making power

Decision-making is a foundational tenet of an organisation's strategic viability (Ayeleke et al., 2018; De Zulueta, 2016). Participants reported that hospital management mostly failed to demonstrate leadership and strategic decision-making choices in the running of the hospitals. Failure to take unambiguous stances and decisive leadership on maternal health matters is tantamount to robbing the women of the precious life moments. For example, issues of staff recruitment and retention, especially of midwives and doctors, is the prerogative of the management. However, some mis-appointments have resulted in some women losing their lives during childbirth.

> **IDI:** "One woman came in for an elective C section. She had to wait because there were 20 other women on the list before her. She ended up spending three weeks in the hospital waiting to get the procedure. She came at 39 weeks pregnant. She ended up having complications and that was the only time she was booked for any emergency C section. And that was when it was found out that the foetus had no life. When the investigation was done, it was found that the lady had been wheeled to theatre at 10 am but only received the operation at night that same day. She ended up in ICU. It was really sad because at the time she was in ICU she had to receive the news that her baby had passed. She is 40 years of age and had been trying to fall pregnant all this time. When they broke the news to the woman who was in ICU she collapsed and died. We failed her from the time she entered this hospital to her death."

> **IDI:** "The management promised to employ new nurses to reduce the problem of workload, and to this day it has no happened instead midwives are resigning."

The study participants revealed that managers were not only indecisive, but also unsupportive and unresponsive to the needs of the midwives and women, as told:

> **IDI:** "Management expects us to be productive, but they are not supportive and invisible, this leads to frustration."

> **IDI:** "We have passion of what we are doing but I feel it is important that the management can meet us halfway. We never see them unless there is a problem. When there is a problem, you will see them, being quick to judge, that is the only time you will see them. But if it is just normal you will never speak or see them."

> **IDI:** “Managers take statistics every day, about 50 plus women in the unit at a given time. Why are taking the statistics when they are doing nothing to improve the situation?”

The statement below further attests to the hospital management’s responsibility and accountability failures in their institutions, as shown by the statement below:

> **IDI:** “I think our hospital management have a weakness because of the things that are happening here. They do not want to take responsibility for the problems that also affect the workers.”

Additionally, the managers were noted to be reactive, and only proactive when institutional failures were revealed by the media, as shown below:

> **IDI:** “Management is reactive rather than proactive.”

> **IDI:** “The wards are always full, even now there no beds. I have a woman sleeping on the stretcher with the baby because there are no basinets and that is a risk. They are waiting for something adverse to happen then they respond.”

5.3.3.4 Category 3.4: Synchronisation of co-occurrences

The synchronisation of co-occurrences primarily entails the coordination of tasks to prevent duplication (Boadi et al., 2019; Coast et al., 2014; Downe et al., 2018). The repetition of irrelevant tasks is likely to result in errors and unintended failure to achieve the desired level of quality. Additionally, the generated sub-categories in this regard relate to: compelling performance; execution of relevant and irrelevant tasks; skeleton staff deployment; and performance of internal control systems. Such a situation also results in stress, fatigue and delays experienced by the staff.

5.3.3.4.1 Sub-category 3.4.1: Compelling performance

This sub-category addresses the specific efforts expended by midwives in their quest to perform better in their basic functions of care in the units. However, the discharge

processes were replete with disruptions occasioned by the disorganised distribution of pharmacy orders. To this effect, one midwife participant mentioned:

> **IDI:** "For instance, in the caesarean section side, women must be discharged with medication, but the pharmacy is most of the time slow in dispensing the orders. The pharmacy is not dispensing for us only, it dispenses for the whole hospital including outpatients. There is a long queue of baskets that need to be dispensed, at the same time the families are here throwing temper-tantrums."

The midwives' performance was also dented by factors such as insults hurled at them by their perinatal patients' families, which was reported thus:

> **IDI:** "It is not all of them, some behave badly and say bad things to the nurses and that make us feel miserable the whole day (tearing eyes)."

The midwives' performance was also affected by delays caused by the doctors' examinations and laboratories blood results of the patients (e.g. Rh- Blood test). As such, the resultant frustration felt by the perinatal patients sparked conflict with the midwives. The issue was accentuated thus:

> **IDI:** "Sometimes, when the families come at 11h00, they demand their loved ones (women and babies) because they know that they are discharged. If you tell them that they must wait for the doctor, they take offence as they have hired transport to fetch the patients and it causes chaos."

5.3.3.4.2 Sub-category 3.4.2: Execution of relevant and irrelevant tasks

The multiplicity and diversity of the midwives' tasks may sometimes create an environment of both irrelevant and relevant tasks, some of which are outside their professional scope of practice (Bergh & Baloyi, 2015; Ng'ang'a & Byrne, 2015). Sometimes, the midwives' non-pertinent tasks may be important to enhance quality maternal health services. However, they may lead to confusion and conflicts between the midwives, perinatal woman and their families. This scenario was expressed thus:

> **IDI:** "You cannot just go to the pharmacy and tell them to finish the boxes, there are times, you write the time when you drop off that box and they are dispensing

> on the first box received approach not because in the ward there is someone screaming. They work according to their rules. At the end it becomes chaos in the ward. It is not all of them, but some behave badly and say bad things to the midwives and that makes you miserable for the whole day (tearing eyes)."

5.3.3.4.3 Sub-category 3.4.3: Skeleton staff deployment

During the in-depth interviews, the researcher established that the midwife participants relied on skeletal personnel due to shortages related to the failure to replace nurses who went on retirement, resigned or deceased. Such organisational failures and managerial deficiencies impacted adversely on the midwives' capacity to produce quality maternal healthcare services in the public hospitals:

> **IDI:** "The other challenge is the shortage of staff. In many cases I must leave my position as a shift leader and assist with the operational work in the unit due to overcrowding and working with less staff. How do I account for the three midwives having to take care of 104 patients at a given time, this is so frustrating?"

> **IDI:** "Firstly, we are having overcrowding of patients with very few nurses, so when we attend to the [patients] we just do it to finish because we know there is another patient coming so."

Evidently, the challenges induced by personnel and other shortages had undesirable effects on both the women accessing healthcare services and the midwives expected to provide such services efficiently. As a result of the magnitude of the challenges experienced, midwives were then predisposed to the undue stress of having to take care of many patients in the units.

5.3.3.4.4 Sub-category 3.4.4: Performance of internal control systems

Internal controls include the policies and procedures, tasks and behaviours within the organisation and intended to establish rules that guide the organisational goals and objectives (Bremnes et al., 2018; Child, 2010). Therefore, internal controls exist to enhance smooth running of operations within an organisation.

Most of the participants alluded to the weak management controls within the selected hospitals. For example, no supervision was conducted in the maternity units because of the midwife supervisors' laxity, reported as follows:

> **Hosp 1 P1:** "I felt so bad because I could see that my baby's condition is deteriorating but I had not been assisted despite that I have reported several times to the sister. I had to wait for the night shift. Hence, I conclude that some midwives are relaxed, and they need to be supervised."

> **Hosp P:** "I think for this hospital to improve, they should start to take suggestion boxes seriously. That is the only way they can know what our problems are. I feel it is just waste of our time because our inputs are not taken."

> **IDI:** "I think our hospital management have their weaknesses because managers do not take responsibility of the problems that affect us (workers)."

> **IDI:** "My immediate supervisor knows about our problems because we always tell her the challenges we are going through. Her role is to escalate these challenges to the higher level. She never reports to the hospital management. We are stuck with the same problems."

It is evident that internal controls exist on paper but are poorly executed. Such a situation exemplifies poor management and quality control systems, to the detriment of maternal healthcare services to be rendered to perinatal women.

5.3.4 Theme 4: Community factors

Table 5.17 below is an illustration of the fourth theme (community factors) generated through the study's qualitative data collection and analysis processes. In this regard, the consequent sub-categories were immigrant/undocumented mother dynamics; maternal-baby interface; psychological impact on the midwives; as well as motherhood and immigration factors. All of these sub-categories collectively articulate the broader domain of community factors within which maternal healthcare services are provided in the context of Gauteng Province.

Table 5.17 Theme 4 and its related categories and sub-categories

Theme 4	Category	Sub-category
Community factors	Immigrant/undocumented mother dynamics	Cross-cultural maternal health Foreign traditional practices
	Maternal-baby interface	Multi-disciplinary relations
	Psychological impact	Work-induced tension Violence against midwives Dehumanisation of women.
	Motherhood and immigration	Generational patterning of family/maternal health Social forces and family/maternal health dynamics

Community factors are not peripheral to the internal functioning of maternal healthcare institutions because the visiting and admitted patients are themselves members of diverse societal elements and sub-systems (Austin-Evelyn et al., 2017; Grant et al., 2017). As such, the theme of community factors bears significant relevance to this study.

5.3.4.1 Category 4.1: Immigrant/undocumented mother dynamics

This category relates to the dynamics attendant to the immigrant and undocumented mothers who are in the country without proper pregnancy care records.

5.3.4.1.1 Sub-category 4.1.1: Cross-cultural maternal health

The diversity of the mother population reflects differences in fertility and immigration patterns (Koneshe, 2016; Turnock, 2012). These trends also underscore the importance of health professionals' cultural competence and their ability to provide culturally sensitive and acceptable services. Cultural competence premises on behaviours, attitudes; as well as institutional values, systems and norms that consider, respect and incorporates these into the service delivery regime (Turnock, 2012).

Some of the culturally-steeped participants raised their frustrations due to the lack of understanding on the use of traditional medicines in public health facilities. A frustrated midwife participant remarked thus:

> **IDI:** "Immigrant mothers come to the units un-booked, and we do not know anything regarding their pregnancies. They most of the time complicate because they present with low haemoglobin levels. Some delivery through caesarean section due to complications."

5.3.4.1.2 Sub-category 4.1.2: Foreign traditional practices

Traditional practices, whether to the foreign or local, are controversially viewed as inimical to the mainstream practices in Western medicine. Some women patients come to the maternal facilities having used their traditional medicines from home. To this effect, one midwife stated:

> **IDI:** "Sometimes, they come having induced themselves. They drink traditional medicines from squeeze bottles, you can imagine how much of these medicines they consume? As such they present with non- reactive cardiotocographs."

5.3.4.2 Category 4.2: Maternal-baby interface

Immigrant women and their unborn babies were found to have different health needs as compared to South African women. It was also found that their hospital admission was for both childbirth and other treatments.

5.3.4.2.1 Sub-category 4.2.1: Multi-disciplinary relations

This sub-category refers to the political instability that is experienced within the SADEC countries, where the circumstances compel citizen to migrate to other countries, with South Africa as the most preferred destination. Children born with both undocumented parents automatically become undocumented residents, except in countries where citizenship is acquired by birth on the territory of the respective state (Koneshe, 2016). The following statement by one of the expatriate women attests:

> **IDI:** "We come to SA for economic reasons, we are to work because at home there are no work opportunities, unfortunately the only thing we do is fall pregnant in SA."

5.3.4.3 Category 4.3: Psychological impact

The findings have shown evidence of the psychological impact on both midwives and perinatal women who have accessed the maternal healthcare services in the selected Gauteng Province health institutions.

5.3.4.3.1 Sub-category 4.3.1: Work-induced tension

Participants alluded to the stressful events to which they were exposed daily in the quest to serve the nation. Some of the midwives confirmed the situation thus:

> **IDI:** "Midwives are finding it difficult to deal with the large number of the patients in the units daily. Sometimes, they get emotionally affected by the deaths that occur in the units. Midwives are exposed to a lot of pressure and strain. In the most recent maternal death, one midwife who was also pregnant collapsed after the women has died."

> **IDI:** "Sometimes we do not have medicines, and in such cases, there is nothing that we can do. She was very angry and reported it to the matron. We did not have the treatment, then it becomes the fault of the midwife not the pharmacy. It is frustrating."

> **IDI:** "Some of the midwives verbalise that the reason they are booked off is due to the fatigue and frustration."

It is clear that the midwives' work environment is characterised by multifactorial challenges whose psychological impact has been found to be contributory to the absenteeism of the midwives from their working stations.

5.3.4.3.2 Sub-category 4.3.2: Violence against midwives

Violence against healthcare workers is commonplace and threatens these employees' ability to work in safe and less dangerous environments (Mianda & Voce, 2019). Violence against midwives emerged with evidence of brutality towards the healthcare workers, midwives in this case. Some participants vented their frustrations on work safety and disharmony with the perinatal women and their malicious families, as reflected below:

IDI: "(Sad face) Sometimes the spouses of the undocumented women attack us. As a midwife in the hospital, avoid being part of the redress team and wearing of the name tags because we are not safe. In the redress sessions, we sit with the families and explain what transpired and what led to death either of the mother or the baby. In 2018, there was an incident where one midwife was shot, because during the redress, the family believed that the midwife was at fault and concluded that this midwife killed their loved one. One evening when we knock off, the midwife was followed and shot on her way home. It was serious but fortunately she survived the ordeal. The shooting was linked to the redress session."

Hosp 3 P4: "The attitude and disrespect that we get from some of the midwives, make some of us to want to beat them up. I am appealing to the midwives to meet us halfway because most of the time, we are trying to show them respect but nothing is coming from the side o the midwives."

IDI: "(Raised voice) When they start screaming at us, they do not even want to listen to anybody."

The totality of the above narrated statements is evidence of the midwives' fear of the verbal abuse becoming physical. Participants also subtly raised the concern with the government's responsibility and accountability to the immigrants. In this case, the focus is on the few who have come to South Africa legally. The immigrants are now litigating against the Department of Health for mismanagement in the courts of law:

IDI: "They sue the hospital and Department of Health if anything can go wrong. Yes, because people are hungry and want to make money. They forget that they came without booking."

5.3.4.3.3 Sub-category 4.3.3: Dehumanisation of women

This sub-category was mostly mentioned by the admitted immigrant perinatal women, and their plight was reported thus:

Hosp 1 P3: "The nurse is always us where do you come from? One day a midwife asked a woman, you look different … where do you come from? Midwives always make them a laughing stalk."

Hosp 1 P5: “I always feel bad, I think if I would like it, if I was in Zimbabwe and midwives treat me this way?”

IDI: “For me as a patient, it is so painful because the midwife is the person that I am looking forward to in assisting me but unfortunately, she is the one who is making me feel miserable. I expected her to be one who is comforting me and help me to understand my health needs, instead she is puts me in distress.”

Furthermore, some of the participants described that dehumanisation of the expatriate women resulted in xenophobic connotations:

IDI: When a person calls you a …, it is not nice instead it is derogative. Imagine a midwife saying you … are full of … You just come here and do as you wish (with tearing eyes). Clearly that a person hates you.

Hosp 4 P1: “It so sad to hear nurses speaking xenophobic words against unauthorised women. They even make jokes about them. And you realise that a poor woman does not hear even a single word.”

Hosp 4 P4: “I am Zimbabwean, for South African to call me that is bad and insulting. Some of us are here for work … If we can understand that we are one and South African can stop being delusional and think they are better than the rest of the Africa.”

Hosp 4 P4: “It is not only the cross-border women who are being treated bad, even South Africans are exposed to such discrimination. I am Zulu speaking person, I cannot hear Sepedi, for that matter I am perceived as being difficult because I happened to be in the Sepedi speaking area.”

From the above statements, it is clear that the bad treatment was not only towards unauthorised expatriate women, but also to South African tribalism and ethnicity.

5.3.4.4 Category 4.4: Motherhood and immigration

Herein, the discussion was around the factors that are interfering with the normal processes of motherhood in relation to the cross border maternal health clients. These

women disrupted the continuity of care as most of them immediately returned to their countries of birth. As mentioned below by the midwives, the follow up of postnatal care at six days is not achieved because of the disruption caused by the immigrants' return home:

> **IDI:** "They come to our hospitals unbooked, never monitored their pregnancies. We know nothing about their pregnancies. We must do investigations in no time."

> **IDI:** "Imagine a woman pregnant crossing the border illegally without booking for antenatal care, she might become a high risk in the reception hospital as she might have contracted infectious diseases from their countries and end up with labour complications. We can't chase them away, we have to nurse them."

> **IDI:** "One woman came in with a referral letter from Zimbabwe, stating that the patient has test HIV positive … to get Antiretroviral treatment in South Africa."

Notwithstanding the challenges imposed by illegal expatriate women, not all immigrant women have entered the country illegally and without having booked for their antenatal care services from their countries of birth.

5.3.4.4.1 Sub-category 4.4.1: Generational patterning of family/maternal health

This sub-category highlights the patterns that are now emerging within the maternal healthcare sector. To this effect, one participant reflected that:

> **IDI:** "There is no midwife-woman relationship because what we do best is to deliver the babies without being therapeutic to the women. This is due to the conditions we find ourselves in."

5.3.4.4.2 Sub-category 4.4.2: Social forces and family/maternal health dynamics

This category relates to the stressful and emotional nature of border-crossing and reception environments experienced by the undocumented women. Some of the participants indicated that the immigrant women are stressed and frustrated as they seek maternal healthcare in South Africa. This view was expressed thus:

IDI: “For me as a patient, it is so painful because the midwife is the person that I am looking forward to in assisting me but unfortunately she is the one who is making me feel miserable. I expected her to be one who is comforting me and help me to understand my health needs, instead she is puts me in distress”.

5.3.5 Theme 5: Policy and governance

Table 5.8 below captures the fifth and final theme generated through the qualitative findings in this study in conjunction with the associated sub-categories.

Table 5.18 Theme 5 and its related categories and sub-categories

Theme 5	Category	Sub-category
Policy and governance	Unstructured clinical setting	Quality conducive clinical setting Political will Factors inhibiting quality
	Disease profile	Procedure and logistics Funding of maternal healthcare Healthcare outcomes Caesarean section queues
	Guidelines and protocols	Health policies Inter-departmental policies Referral system

Health policies and governance has been mentioned several times in the FGDs and in the in-depth interviews. In this study, several participants echoed that in most hospitals, there is evidence of lack of upholding of the health legislative frameworks e.g. the maternal guidelines and the protocols are not followed and well implemented due to the circumstances that the health system of the country is faced with.

5.3.5.1 Category 5.1: Unstructured clinical setting

This section premises largely on the rambling and challenge-prone clinical units wherein women deliver their babies.

5.3.5.1.1 Sub-category 5.1.1: Quality conducive clinical setting

The below-cited narrated statement reflects on the difficulties of achieving a conducive clinical environment for women as they access maternal healthcare.

> **IDI:** "Caesarean section side women must be discharged with the medication, the pharmacy is not dispensing for us only, it dispenses for the whole hospital and they do not understand. It is a long queue of baskets that needs to be dispensed and when the families come here, they just throw temper-tantrums. They talk as they wish, they think we are irresponsible. So, it is not just easy (sad face)".

5.3.5.1.2 Sub-category 5.1.2: Political will

The participants' narratives have showed the perceived deficient political prioritisation of the maternal health as factoring into safe motherhood. Some of the participants have agreed to the fact that politicians need to address the existing social determinants that affect maternal healthcare services in the province, as mentioned below.

> **IDI:** "I think because of the unemployment rate in the country, which is aggravated by the political effects, they ended up just choosing nursing because is the only profession that has got a good chance of employment. And it also contributes to this attitude because to them it was not a calling."

5.3.5.1.3 Sub-category 5.1.3: Factors inhibiting quality

All participants testified on various reasons that impede on maternal healthcare, including human resources and clinical settings. Overcrowding was mentioned in all the extracts of the participants.

> **IDI:** "We are having more of the undocumented women, and those who are supposed to deliver in the clinics. They come to this hospital. Some are from other provinces. I checked this morning, in these 22 patients that we have admitted, only 7 were from this area. Everyone is flocking here to deliver."

> **IDI:** "We are bitter because we work hard, and we do not get any support".

> **IDI:** “I do enjoy what I am doing but at same time I am stressed. Even if I am tired I will continue do right for my patients and I will never leave them. I will do what is expected of me. If I must do vulval swabbing, I will do it because my conscience will not allow me.”

From the above statements, it is clear that overcrowding leads to physical strain on the health workers, which may be mistaken for lack of passion. However, the claims that midwives lacked passion seem to be seriously inflated.

> **IDI:** “The problem is that there is no more love in nursing. Nurses come to this profession because of high unemployment. They just come for money. When you scream of labour pains, they would say “you wanted this baby where do you expect him to come out from?” Midwives are no longer have a therapeutic and caring hand”.

Among the most notable revelations has been the demographic trends that gradually revealed challenges associated with maternal immigrant refugees or undocumented mothers. The research participants lamented the fact that the unit that normally accommodate twelve mothers was occupied by double the number of mothers as well as babies. At the time of data collection, the maternity ward had twenty-two mothers, and only seven of whom were South African.

5.3.5.2 Category 5.2: Disease profile

This category addresses the medical conditions and infections, including the most recent infections such as Covid-19 that some of the women were presenting with during admission. Globally, 40% of the world population live in SSA, where malaria in pregnancy remains a serious threat (Rogerson, Hviid, Duffy, Leke, & Taylor, 2007).

5.3.5.2.1 Sub-category 5.2.1: Procedure and logistics

This section refers to the plans that the hospital management put in place to facilitate the allocation of staff, material resources and services. All participants gave accounts on this category.

IDI: “Maternal healthcare is very difficult because we are working with shortage and the patients are too many. The number of the patients makes it difficult because we are short. We depend on people to come and help us with overtimes”.

IDI: “Our problem is workload due to patient overcrowding with less staff”.

IDI: “The other challenge is the shortage of staff. In many cases I will leave my position of being a team leader and assist with the operational working the unit due to overcrowding versus shortage of personnel. How do I account for three midwives taking care of 104 patients? That is so frustrating because you must do all these as expected but with no resources. Patients have to swap beds so that we can be able to assess them as we cannot to it whilst they are benches.”

The following statements highlight various other issues relating to procedures, logistics, human and other infrastructural resources linked to the midwives’ performance of their resources:

IDI: “It is so sad to disclose to the woman that she lost her baby while they were in the hospital waiting for the caesarean section to be performed”.

IDI: “Out of 13 maternal deaths, the outcomes of the PIPP meetings concluded that only two deaths were non-avoidable”.

IDI: “This hospital’s set up contributes to maternal deaths”.

IDI: “Midwives end up being exhausted and become frustrated as they have no idea to deal with overcrowding and are blamed for negligence”.

Collectively, the above-cited statements confirm the challenges midwives are facing and the resultant strain on the midwives in their place of work.

5.3.5.2.2 Sub-category 5.2.2: Funding of maternal healthcare

This sub-category relates to the financial constraints and the disease burden on the healthcare system. Overcrowding of the health facilities has a great impact on the delivery of healthcare. The overcrowding problem is also associated with the permeable borders

that allow unregulated entry to the country. The problem is captured succinctly in the following excerpt:

> **IDI:** “Undocumented immigrants do not pay and when you ask how they came into the country, they said there is a man who transports them from the border to the gate of the hospital. They do not pay anything and worse they have no papers”.

5.3.5.2.3 Sub-category 5.2.3: Health outcomes

This section addresses continued deficiencies and deterioration in the delivery of healthcare services. Factors such as poor-quality in-service provision and unsatisfactory patient experiences were found to affect health outcomes (Wabiri et al., 2016). One of the participants expressed that:

> **IDI:** “Resources are always available; we get sanitary and diapers for our babies, the problem is the attitude. Nurses need to know that they are working with the public and the manager must come up with some plans to deal with the attitude. Managers need to sit down with their staff and correct the bad behaviours”.

Contrary to the above extracts, some of the participants reported that there were sufficient resources to render quality healthcare, as expressed below:

> **IDI:** “Concerning quality, we are giving quality healthcare, but the only challenge is the resources”.

> **Hosp 2 P5:** “Throughout the whole process I was happy about the care I have received. I was monitored throughout my labour; my baby was also checked. And all this time the nurses were just around me”.

> **Hops 2 P2:** “The space is too small. Immediately after birth I thought when they took me to postnatal ward, I will get a bed so that I can rest and sleep. Unfortunately, that did not happen. Imagine you are still in pain with perineal stitches and bleeding, then the health system expects you to sit on a hard bench”.

The above statements reflect on the contradictory views expressed by participants. On the one hand, there is an expression of dissatisfaction, while others reported that the service they received during their admission in the facilities was satisfactory.

5.3.5.2.4 Sub-category 5.2.4: Caesarean section queues

Caesarean queuing refers to women who were booked for elective caesarean sections. These women were made to shift aside to cater for the emergency caesarean section, due to shortage of doctors and adequate theatres to perform caesarean section on time. According to the participants, such shifting around compromises quality healthcare service because the time factor is not considered. Participants alluded to these queues as also exposing them to intrauterine deaths whilst waiting. Some reported that:

> **IDI:** "Some of these women end up with intrauterine deaths whilst in hospital that performs caesarean sections. It is frustrating to know that the woman came in with an alive foetus and leaves the hospital with a dead baby".

5.3.5.3 Category 5.3: Guidelines and protocols

This category refers to the policies that guide the South African maternity units. Participants have reported that in many instances, protocols, guidelines and policies were not followed when rendering maternal healthcare services in the units.

5.3.5.3.1 Sub-category 5.3.1: Health policies

Participants alluded to the fact that in some instances, there are no policies or protocols in place to provide them with guidance as they render care to their women patients. Such omission resulted in confusion, reported as follows:

> **IDI:** "There are no standard operating procedures in the units to refer to. That is why we are most of the time not sure of what we should do".

> **IDI:** "I personally feel that we are not giving enough healthcare to women. We are not following all the national guidelines because firstly, we are overcrowded and with few nurses to attend to the patients. we attend to the patients just to finish as we know there are many still coming to deliver, so we just do it to finish not because of

we enjoy and put all efforts on what we do. We are just happy if the baby is fine. We do not have one-hour time to spend with the woman after delivery and do other important things because you have to move to the next woman who is delivering."

Midwives have also indicated that even though guidelines were available, they did not have time to focus on those documents because they also experience difficulties in offering immediate postpartum care as the units were overcrowded. One of the midwives mentioned that:

IDI: "Sometimes, we have 12 deliveries in 12-hour shift with only two midwives. It automatically means that one midwife has 6 deliveries in 12 hours, minus tea and lunch. If one midwife delivers six women, you can calculate it yourself; midwife does not have time to spend teaching women, how to initiate breastfeeding and other important issues of postpartum. On the other hand, the maternal guidelines is clear that women should be looked after in the first hour of fourth stage of labour."

Not only do midwives not give attention to the fourth stage of labour, they are also overwhelmed by the numbers of women delivering in the units:

IDI: "We are human beings too, I cannot give attention to the woman anymore, because you are not happy anymore, instead you want to finish."

IDI: "It is strenuous for us especially with the influx of undocumented immigrant women from the neighbouring countries who come and seek healthcare services".

IDI: "If you can go to our records, you will realise that South Africans are not even accounting to half of the admissions in the unit".

IDI: No paper and no money needed in this hospital, in some institutions they pay, and proper papers are demanded, that is why they will come here for maternal healthcare services."

IDI: "Remember they are not paying. If they were paying, health ministry would direct that money to purchase of the needed resources. The budget is limited, imagine if it must cater more other patients. Hence there is this shortage of resources across the nation."

Collectively, the statements above suggest the need for health policies to regulate the influx of foreign nationals, which would significantly reduce the levels of overcrowding of women who are undocumented immigrants. The overcrowding was also linked to free maternal health services offered in the country. Some of the participants stated that in some of the selected institutions of health, undocumented women are paying for the maternal services. Therefore, the need for a coordinated approach to health policy could not be overstated for the regulation of expatriate healthcare seekers in particular.

5.3.5.3.2 Sub-category 5.3.2: Inter-departmental policies

This category relates to healthcare-related policies in other governmental departments, such as the Departments of Home Affairs, International Relations, Health, and Social Development. As far as the researcher is aware, such a coordinated inter-departmental policy is either non-existent, or not fully complied with by the relevant departments. The influx of unauthorised immigrants, especially women expatriates, was raised as a serious concern by both midwives and perinatal women of South African origin.

> **IDI**: “Eish, I would say it is 50/50. We are short-staffed, and women are so many. Previously it was nice but now as you are busy with one woman, the other one comes or screaming because she is delivering”. This is not the problem of this hospital alone.”

5.3.5.3.3 Sub-category 5.3.3: Referral system

Broadly, a referral system is intended to enhance the quality of multi-disciplinary care provided to patients or clients by different healthcare professionals within the healthcare system value chain (Bekele et al., 2017; Bremnes et al., 2018; Mustafa et al., 2016). Some of the participants felt strongly that the healthcare personnel (midwives) did not adhere to the referral system’s stipulations, which further exacerbated the overcrowding problem. To that effect, one of the participants stated:

> **IDI:** “Remember, this is a regional hospital. It means patients must come with a referral document from the referring institution but in this catchment area, women just come here straight from home. This creates a serious problem because we

end up with overcrowded units. The doctors are reluctant to down refer these women mainly because they will come back."

5.4 DOCUMENTARY REVIEW FINDINGS

Following the presentation and discussion on focus group and in-depth interviews in Section 5.3, the current section wholly focuses on the presentation of the researcher's review of the partograph as an essential midwifery tool. It should also be noted that, while the qualitative FGDs and interview-based findings were primarily obtained from a participant-centred perspective, the review of the partograph was entirely researcher-centred.

The rationale for the inclusion of the partograph in the qualitative data collection regime of the study is based on the fact mentioned prominently in both Chapters 1 and 4, that these qualitative research instruments provided framework for the quantitative research instruments in conformity with the sequential exploratory research design approach. Secondly, the researcher considered the partograph as one of the helpful mechanisms to assess the capacity of the midwives to render quality maternal healthcare services in the four Gauteng Province hospital selected as research sites in this study. To that effect, both the *content/structure* and usage of the partograph by midwives were vital factors for consideration by the researcher.

The source of the documentary data was the completed partographs in the maternity units of the selected hospitals, at which the average deliveries of newly born children per day was 85 per day. The partographs themselves were randomly selected based on these delivery numbers. The partographs were then coded according to hospital numbers. The ideal unit for random selection was in the postnatal units because the researcher avoided the excuses that may arise in the labour wards such as "still busy with recording".

5.4.1 Content and midwives' usage of the partograph

Table 5.19 below is a summary depiction of the partographs accessed by the researcher at the four public hospitals, as well as the itemised variables of the partographs indicating their frequency.

Table 5.19 Summary of the consulted partographs

Item	Hospital 1	Hospital 2	Hospital 3	Hospital 4	Total
Patient data	12 out of 15 completely documented	9 out of 12 completely documented	10 out of 11 completely documented	12 out of 13 completely documented	44/50
Risk factors	3 out of 15 completely documented	2 out of 12 completely documented	5 out of 11 completely documented	5 out of 12 completely documented	15/50
Foetal condition	12 out of 15 completely documented	9 out of 12 completely documented	11 out of 11 completely documented	9 out of 12 completely documented	41/50
Progress of labour	3 out of 15 completely documented	4 out of 12 completely documented	6 out of 11 completely documented	6 out of 12 completely documented	19/50
Contraction monitoring	2 out of 15 completely documented	0 out of 12 completely documented	9 out of 11 completely documented	10 out of 12 completely documented	21/50
Vital signs	1 out of 15 completely documented	4 out of 12 completely documented	8 out of 11 completely documented	5 out of 12 completely documented	18/50
Plan of care	2 out of 15 completely documented	5 out of 12 completely documented	8 out of 11 completely documented	8 out of 12 completely documented	23/50

Table 5.19 above shows that generally the partograph was not completed comprehensively, which negatively impacted on the interpretation and analysis of the progress of labour, thus delayed referral for further obstetric management. Furthermore, the initial assessment plotting is underrated in most of the partographs, which undermines its importance as providing baseline data for the management of women in labour. The analysis also shows that women were admitted in latent phase of labour with no plotting made until the second stage of labour. This was noted as a trend, particularly during the night shift. In some partographs, the women were induced, but the partograph were not recorded. The assumption would be that the progress of labour was either poorly monitored, or not monitored at all, leading to life threatening complications.

Table 5.20 below illustrates the completed (C) and non-completed (NC) partographs sampled in the maternity units of the selected four hospitals. The relevant information was sourced from the Maternity Case book used in the respective maternity units.

Table 5.20 Partograph

Items	Hospital 1		Hospital 2		Hospital 3		Hospital 4	
Number of partographs	**14**		**12**		**11**		**13**	
Standard	**C**	**NC**	**C**	**NC**	**C**	**NC**	**C**	**NC**
Patient data	11	3	4	8	11	0	9	4
Risk factor ID	1	13	0	12	1	10	2	11
Foetal condition	9	5	3	9	9	2	9	4
Labour progress	0	14	3	9	0	11	0	13
Contractions	2	12	0	12	0	11	0	13
Vital signs	1	13	4	8	5	6	4	9
Plan of care	3	11	5	7	1	10	4	9

Table 5.20 above demonstrates the general poor and low standard in recording of the partographs. Patient data showed a good compliance, which could be viewed as an easy section to complete and user-friendly, compared to other sections of the partograph. The assumption is that the patient data section is easier to complete, hence, the good response in this item. On the other hand, the risk factor identification section is visible, but mostly neglected and was generally poorly recorded with no time of labour onset not recorded in most partographs. Risk identification is critical in reducing obstetric complications.

Foetal condition was well recording at three hospitals. However, the fetal heart rate recording does not meet the standard maternity guidelines in terms of timing of assessment and recording. The stage of labour, be it latent or active phase, determines how often the foetal heart ought to be monitored and recorded. Time monitoring of the foetal condition in relation to the phase of labour was not followed in all partographs. Partographs also showed a long period of time with no foetal monitoring. In addition, the labour progress shows poor non-compliance with evidence of no recording in most of the partographs. This section comprises of a graphic illustration aimed at highlighting the obstetric complications more easily and quicker. Progress of labour was erroneously recorded with gross neglect of the length of the cervix and the descent in most partographs. Furthermore, midwives did not even transfer latent phase to active phase of labour. Most of the time, the delivery time is not written across the graph.

Manual palpation of contractions was no longer conducted in the units, with midwives relying on the cardiotocograph machines. Nonetheless, compliance was not satisfactory. There was evidence that women were put on either continuous or 30 minutes

cardiotocograph. and that raised suspicion of whether manual monitoring of uterine contractions was no longer a relevant skill in this era.

Patients' vital signs also suggest that compliance was poor, especially the urine testing. In most of the partographs, urine testing was not recorded, but appeared on other parts of the case book. This might the result of duplicated records and the reason for poor recording. In this regard, an omission of care plans in most of the partographs was worrisome. Plan of care also needs engagement of the women under the care of the midwife in order to explain the health assessment and planned care about their health and that of the unborn baby. Furthermore, most of partographs had no signatures and designation of the midwife.

5.4.2 Summary observations from the partographs

Table 5.21 below is the researcher's representation of her observations from the review of both the content and usage of the partograph.

Table 5.21 Emergent themes of the partograph analysis

Theme	Category	Sub-category
Recording challenges	Poor documentation	- Completeness - Accuracy - Timeous - Neatness
	Human factor	- Attitude - Negligence - Acceptability - Willingness
Knowledge gaps	Personal challenges	- Incompetence - Knowledge
	Organisational challenges	- Supportive supervision - Lack of time - Overcrowded units - Practicability

Extrapolated from the above table is that the documentation of relevant partograph information was very poor, with the human factor looming large in this regard. On the other hand, knowledge gaps on the part of the midwives also contributed to such poor documentation.

5.5 SECTION C: QUANTITATIVE FINDINGS

Whereas Section A presented the respondents' demographic characteristics and Section B presented the qualitative findings derived from the focus groups, interviews and review of the partograph as a document, Section C wholly presents the quantitative findings of the study.

The researcher reiterates and clarifies that the quantitative data presented in this section is completely the outcome and product of the study's applied qualitative data collection instruments. Accordingly, the quantitative findings premise on both the checklist and questionnaire items. Similar to the sample representation balance allocated to both the midwives and their perinatal women participants during the qualitative data collection phase, the quantitative findings also reflect adequate representation of both sampled categories.

5.5.1 Checklist findings

The checklist was administered on perinatal women and was structured according to Yes or No responses in respect of the midwives' perceptions of the midwives' maternal healthcare service delivery mandate. The checklist results were analysed according to the following domains: attitudes; appearance; monitoring of labour; structural factors; and physical surroundings (see Annexure Q). The researcher managed to distribute 180 checklists for two days at each of the four public hospitals, from which a total of 159 (88.3%) checklists were collected back from the hospitals. From the 159 checklists, 145 (80.6%) were completely filled and returned to the researcher, and 14 (7.7%) were spoiled as they were incomplete. All fairly completed checklists were captured and qualified for data analysis. This phase of data collection reached 80% of the overall calculated sample size.

Completed checklists were then coded and captured manually on Microsoft Excel 2016. The SPSS version 27.0/STATA 16 program was used to analyse data. Based on the nature of the research study, the data was summarised using statistical charts, bar graphs, frequency tables, independent test and correlation to analyse and present data (Burrel, 2017; Polit & Beck, 2017). The researcher indicated the cumulative percentages in the tables and figure adding up to 100%. The tables consist of the frequency

distributions, percentages and cumulative percent. whilst the statistical charts highlighting the percentages. The quality of data and rigor was established using Cronbach's alpha statistic. The sampling adequacy was measured through Kaiser-Meyer-Olkin (KMO).

5.5.2 Overview of the checklist

The checklist adequacy was evaluated, and level of reliability was as indicated below:

- The inter-item correlation was **0.08**.
- Reliability is the assessment of how consistently the instrument measures the target attribute or the stability, equivalence and homogeneity of the research instrument (Gray et al., 2017:53). Based in the scale reliability coefficient with 34 standardised items including the demographic attributes were **0.8**.
- The average inter-item correlation of **0.1** with 26 items without the demographic attributes in the scale.
- Internal consistency was measured by Cronbach's alpha statistic was **0.8** used to measure the reliability of the checklist (Polit & Beck, 2017:308).
- From the results above, the level of reliability of the checklist too is adequate as it approached 80% requirements in most journals.
- Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy overall was **0.6.** This estimated KMO demonstrated that the measure of sampling is adequate.

5.5.3 Summary of checklist domains

Data analysis sought to identify whether the performance amongst the hospitals would differ in the provision of maternal healthcare as they are at different levels of care.

Table 5.22 Description of hospitals studied

Hospital	Frequency	Percentage	Cumulative
1	40	27.6	27.6
2	26	17.9	45.5
3	30	20.7	66.2
4	49	33.8	100.00
Total	**145**	**100.00**	

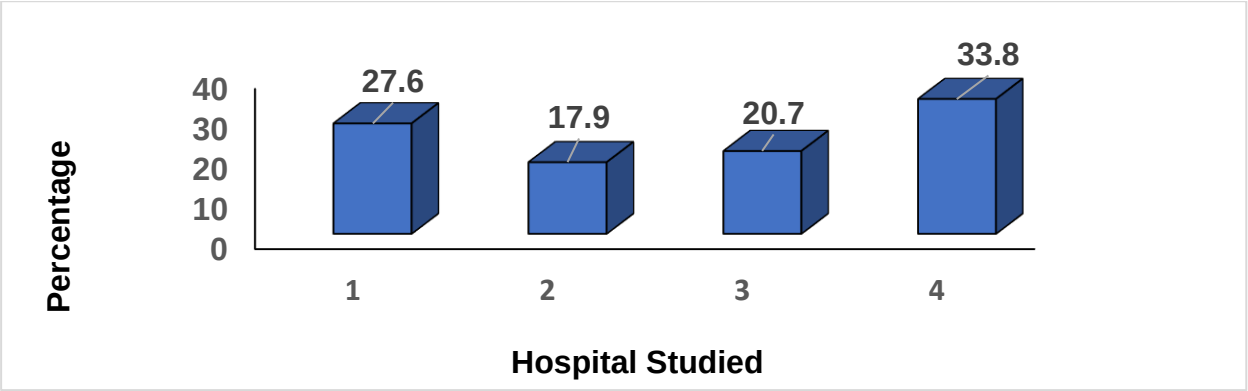

Figure 5.7 Chart of the hospitals studied

Above findings revealed that women in hospital 1 and 4 (n=40; 27.6%) and (n=49; 33.8%), have shown substantial interest in participating in the study data collection. This may be linked the positive encouragement from their midwives, however in some instances, women felt that participating in this research will have an impact on their experiences and dissatisfaction about the service deliver. Respondents in hospital 2 and 3 (n=26; 17.9% and n=30; 20.7%) were less interested to participate because they felt there have nothing to share with the study. Compare with the qualitative phase, the midwives in these hospitals were reluctant to participate in this study. Furthermore, some of the midwives would deliberately interject in the data collection process of women.

5.5.4 Construction of performance score

For additional understanding of the dynamics in the level of performance of the subjects, Score are computed for overall score by calculating the percentage score for individual respondents.

5.5.4.1 Scores by age group category

The table below presents the summary scores by age group category of the respondents.

Table 5.23 Summary of score by age group category

Age category	Stats	Attitude	Appearance	Monitoring of labour	Structural factors	Physical Surround-ding	Overall
15-19 years	N	13	13	13	13	13	13
	Mean	89.4	61.5	89.2	92.3	84.6	85.5
	Se (mean)	3.4	5.1	3.7	4.4	7.7	2.5
20-29 years	N	68	68	68	68	68	68
	Mean	86.0	65.7	92.7	89.7	84.6	85.2
	Se (mean)	2.4	3.0	1.8	2.4	2.5	1.4
30 and above years	N	64	64	64	64	64	64
	Mean	87.3	57.8	90.6	84.0	83.9	83.2
	Se (mean)	2.6	3.1	1.9	3.4	2.3	1.8
Total	N	145	145	145	145	145	145
	Mean	86.9	61.8	91.5	87.4	84.3	84.4
	Se (mean)	1.6	2.0	1.2	1.9	1.7	1.0

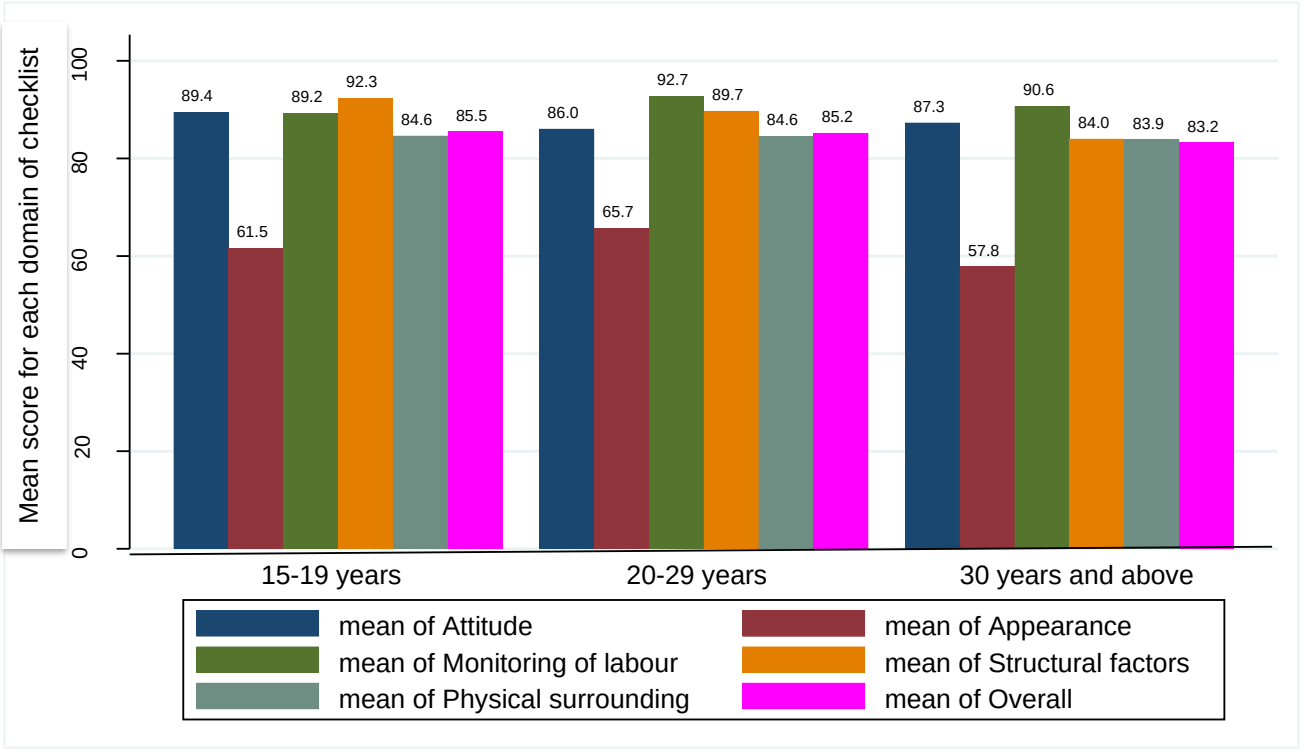

Figure 5.8 Bar chart of mean scores for each domain of the checklist by age group of respondents.

The findings in Figure 5.8, above decrees that age influences how women perceive the maternal healthcare they receive when admitted in the public hospitals. From this data analysis, it clear that in general attitude, monitoring of labour and structural factors are considered key in the delivery of maternal health than the appearance of midwives.

Table 5.24 Description of age category 15-19 years

Variable	N	Mean	Standard error	(95% Confidence interval)
Attitude	13	89.4	3.4	81.97-96.88
Appearance	13	61.5	5.1	50.40-72.70
Monitoring of labour	13	89.2	3.7	81.25-97.51
Structural factors	13	92.3	4.4	82.78-101.83
Physical surrounding	13	84.6	7.7	67.90-101.30
Overall	**13**	**85.5**	**2.5**	**80.10-90.90**

The findings in the Table 5.24, suggest that the appearance is less significant, with the confidence interval of [50.40 to 72.70] in the provision of the maternal healthcare. This may explain why young women would not be interested in whether the midwife is in her uniform or not, but they are concerned about the attitude of the midwife. With respect to the structural factors, confidence interval of [82.78 to 101.83] indicated that the teenage women are finding it difficult to relate with facilities as the structure does not give them the privacy. The young mother and their babies were sharing beds and basinets, hence they felt that it is greatly contributing towards maternal healthcare.

Below table sought to measure who this age group will respond to the variables listed below.

Table 5.25 Description of age category 20-29 years

Variable	N	Mean	Standard error	(95% Confidence interval)
Attitude	68	86.0	2.4	81.33-90.72
Appearance	68	65.7	3.0	59.80-71.60
Monitoring of labour	68	92.7	1.8	89.11-96.18
Structural	68	89.7	2.4	85.00-94.41
Physical surrounding	68	84.6	2.5	79.70-89.50
Overall	**68**	**85.2**	**1.4**	**82.5-87.9**

The Table 5.25 above, suggest that the respondents who were in 20 to 29 years age category *Ci* [89.11 to 96.18]), reported that monitoring of labour was performed comprehensively during their admission. The study findings revealed that this category also reported well on the structural factors, attitude and physical surrounding with overall confidence interval between [82.5 to 87.9].

Table 5.26 Description of age category 30 years and above

Variable	N	Mean	Standard error	(95% Confidence interval)
Attitude	64	87.3	2.63	82.04-92.56
Appearance	64	57.8	3.10	51.70-64.00
Monitoring of labour	64	90.6	1.88	86.85-94.78
Structural factors	64	84.0	3.40	77.18-90.79
Physical Surrounding	64	83.9	2.30	79.30-88.40
Overall	**64**	**83.2**	**1.80**	**79.60-86.89**

As compared to the above finding in the age category 20-29 years, there is no significant difference between the two age categories. Table 5.26 above, the findings revealed that women between 30 and above are reporting that the monitoring of labour is significant in the maternal healthcare, with the *Ci* [86.85 to 94.78]. Appearance of the midwives being very less significant at the *Ci* [51.70 to 64.00]. This could be attributed to the level of maturity and understanding that they are high-risk for obstetric complications, hence monitoring of their labour is important. These other variables are not that critical to this group.

5.5.4.2 Respondents' scores by parity

Table 5.27 below summarised the findings that overall scores on appearance did not matter most in all women categories despite their parities.

Table 5.27 Summary of scores by parity

Parity	Stats	Attitude	Appearance	Monitoring of labour	Structural factors	Physical surroundings
None	N	20	20	20	20	20
	Mean	88.8	60.0	91.0	91.3	89.2
	Se (mean)	5.0	5.2	2.7	3.7	4.4
1–2	N	84	84	84	84	84
	Mean	85.7	63.9	92.4	87.2	82.9
	Se (mean)	2.1	2.5	1.6	2.5	2.3
3–4	N	33	33	33	33	33
	Mean	89.0	58.3	93.3	88.6	85.9
	Se (mean)	3.2	4.4	1.9	4.1	2.9
5–6	N	8	8	8	8	8
	Mean	85.9	58.3	75.0	75.0	79.2
	Se (mean)	7.3	12.2	9.1	12.5	7.6

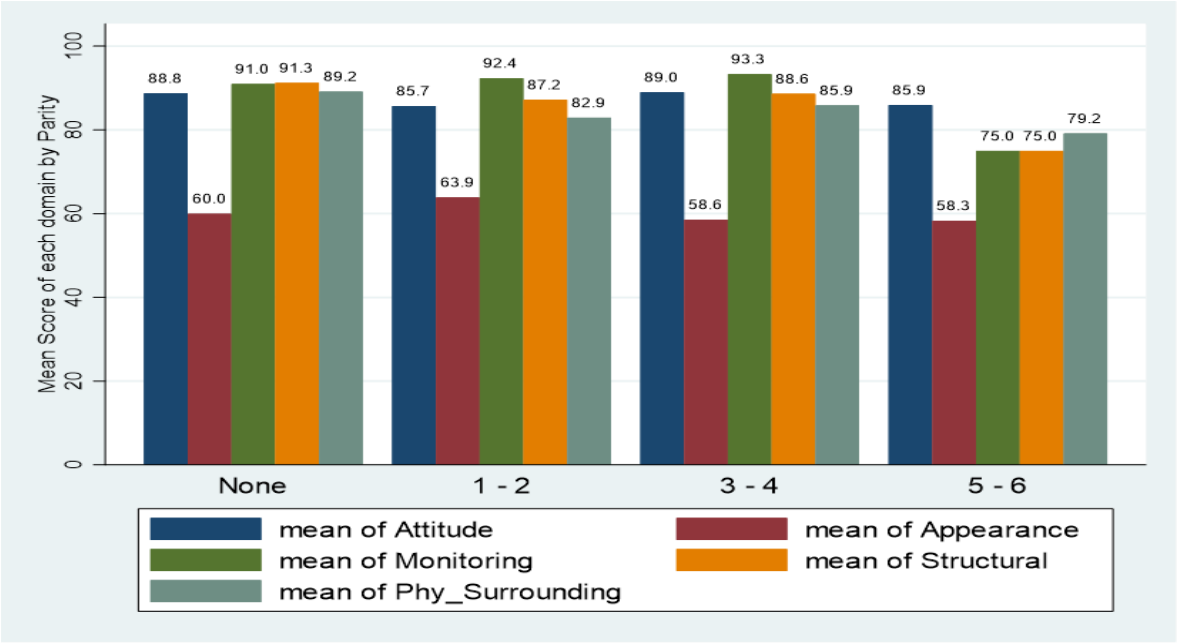

Figure 5.9 Summary of scores by parity

The evidence suggests that women with lower parity of 1-2 children (n=84) were more in numbers than other women. The nulliparous women (n=20), 1-2 children and those with 3-4 children (n=33) were concerned about labour monitoring than other domains, as compared to those with high parity (75.0%). The findings shown that women with more than four children (85.9%) raised attitude as a concerning variable as compared to all other variables. The more the average number of children a woman have, the more the expectation of intense care during labour is anticipated. This could be the results of the past experiences of labour.

5.5.4.3 Respondents' score by education

The respondents could select from multiple response regarding the level of their education, to determine how education could impact on how women seek healthcare during perinatal care.

Table 5.28 Summary of scores by education category

Parity	Stats	Attitude	Appearance	Monitoring of labour	Structural factors	Physical surrounding	Overall
Primary Grade	N	12	12	12	12	12	12
	Mean	81.3	69.4	88.3	81.3	94.4	84.3
	Se (mean)	6.1	6.4	5.2	8.8	3.1	3.9
Secondary Grade	N	99	99	99	99	99	99
	Mean	87.6	61.3	92.3	88.6	82.8	84.5
	Se (mean)	2.1	2.5	1.3	2.3	2.1	1.3
Tertiary Grade	N	27	27	27	27	27	27
	Mean	89.4	63.0	92.6	86.1	82.7	84.9
	Se (mean)	2.6	3.7	2.9	4.1	3.6	2.0

The findings in Table 5.28 indicated that women in general were minimally bothered about the appearance of the healthcare providers. Those with primary education (n=99) were concerned about the physical surrounding (94.4%), monitoring of labour (88.3%), attitude and structural both (81.3%) with appearance being the least of their problem. Same as women with secondary education. Whilst those with tertiary education (n=27) were mainly concerned about monitoring of labour (92.6%), attitude (89.4%), then appearance at 63.0%.

5.5.4.4 Summary of scores by employment category

As compared to the education category, unemployed women may be associated with women in possession of the primary and secondary grade. Table 5.29 below summarised the scores.

Table 5.29 Summary of scores by employment category

Employment	Stats	Attitude	Appearance	Monitoring of labour	Structural factors	Physical surround	Overall
Employed	N	44	44	44	44	44	44
	Mean	87.8	64.4	93.6	85.8	78.8	83.8
	Se (mean)	2.9	3.7	2.1	3.8	3.5	1.9
Unemployed	N	101	101	101	101	101	101
	Mean	86.5	60.7	90.5	88.1	86.6	84.6
	Se (mean)	2.0	2.4	1.5	2.2	1.8	1.2

Table 5.29 shown that employed women (n=44) were very much concerned that their labour process be monitored (93.6%), the attitude (87.8%) as compared to unemployed women (n=101), their interest was on the monitoring of labour (90.5%) and structural factors (88.1%). whilst appearance was rated low in both categories.

5.5.4.5 Summary of scores by nationality

The section summarised the nationality of the women, referred to their place of origin.

Table 5.30 Summary of scores by nationality category

Nationality	Stats	Attitude	Appearance	Monitoring of labour	Structural factors	Physical surrounding	Overall
SA National	N	114	114	114	114	114	114
	Mean	88.9	61.7	92.1	88.2	84.2	85.2
	Se (mean)	1.6	2.2	1.2	2.0	1.9	1.1
Foreigner	N	31	31	31	31	31	31
	Mean	79.4	62.4	89.0	84.7	84.4	81.3
	Se (mean)	4.8	4.6	3.8	5.0	3.3	2.8

Table 5.30 above revealed that the nationality of the women does not play a major role, both South Africans and foreigners were concerned of the monitoring of labour. Not much of the percentage difference in the physical surrounding (0.2%). Other two variables, structural factors (88.2%) and attitude (88.9%) revealed that they are critical to South African women than it is for the foreigners, whilst appearance (61.7%; 62.4%) seemed to be almost of the same concern.

5.5.4.6 Summary of scores by maternity unit

Maternity is classified in three levels. The units comprise of antenatal, labour and postnatal wards, the researcher collected data in two units (antenatal and postnatal) of each hospital for this phase.

Table 5.31 Summary of scores by maternity category

Maternity unit	Stats	Attitude	Appearance	Monitoring of labour	Structural factors	Physical surrounding	Overall
Antenatal	N	125	125	125	125	125	125
	Mean	89.1	62.4	91.8	89.6	84.3	85.5
	Se (mean)	1.5	2.0	1.2	1.8	1.8	1.0
Postnatal	N	20	20	20	20	20	20
	Mean	73.1	58.3	89.0	73.8	84.2	77.1
	Se (mean)	6.1	7.2	4.2	7.1	4.3	4.3

Table 5.31 shown that monitoring of labour was key in both women with antenatal (91.8%) and postnatal units (89.0%) during delivery. Followed by structural factors (89.6%; 73.8%), mainly based on women's lived experience of sharing beds and basinets in the current hospital admission. Appearance (62.4%; 58;3%) was scored low in both maternity categories.

5.5.4.7 Summary of scores by hospital level

This study findings explored the delivery maternal healthcare services across all levels of care. Table 5.32 summarised the performance of hospitals with regards to maternal health.

Table 5.32 Summary of scores by hospital category

Hospital	Stats	Attitude	Appearance	Monitoring of labour	Structural factors	Physical surrounding	Overall
1	N	40.0	40.0	40.0	40.0	40.0	40.0
	Mean	91.6	64.2	89.5	94.4	73.8	84.3
	Se (mean)	2.8	3.7	2.3	1.9	4.0	1.6
2	N	26.0	26.0	26.0	26.0	26.0	26.0
	Mean	88.9	65.4	96.9	95.2	91.7	89.3
	Se (mean)	3.6	4.3	1.8	2.0	2.5	1.6
3	N	30.0	30.0	30.0	30.0	30.0	30.0
	Mean	77.9	63.3	84.7	69.2	83.3	77.4
	Se (mean)	4.6	5.4	3.8	5.6	3.4	3.0
4	N	49.0	49.0	49.0	49.0	49.0	49.0
	Mean	87.5	57.1	94.3	88.8	89.5	85.9
	Se (mean)	2.3	3.2	1.5	3.4	2.2	1.7

Table 5.32 above suggest that findings discovered that the overall scores in hospital 2 − a tertiary provincial (89.3%) is higher than other hospitals. It exhibits a good score in monitoring of labour (96.9%), and low score in appearance at 65.4%. Followed by hospital 4 with overall performance of (85.9%) with almost the same trend. Hospital 1 shown overall performance of (84.3%). Structural factors dominated with (94.4%) and this hospital is new as compared to the rest. It is for the first time that attitude (91.6%) is has been good and high in all hospitals. It means midwives are doing well with regard to professional ethics. Followed by monitoring of labour (89.5%), physical surrounding (73.8%) lastly appearance at 64.2%. Hospital 3 revealed an overall performance of 77.4% monitoring of labour (84.7%), physical surroundings (83.3%), attitude (77.9%), structural factors (69.2%) and appearance at 63.3%.

5.5.5 Summry of checklist scores

Table 5.33 below presents the summarised outlook of scores obtained from the checklist for each of the domains.

Table 5.33 Summary of checklist scores

Stats	Attitude	Appearance	Monitoring of labour	Structural factors	Physical surrounding	Overall
N	145.0	145.0	145.0	145.0	145.0	145.0
Mean	86.9	61.8	91.4	87.4	84.3	84.4
Se (mean)	1.6	2.0	1.2	1.9	1.7	1.0

The above findings in Table 5.33 showed the overall score of (mean=84.4 ± 1.0), the breakdown of scores is as follow: that the perinatal women viewed appearance (mean=61.8 ± 2.0) as a lower predictor of maternal healthcare service. Mean value for monitoring of labour shows a positive and high score (mean=91.4 ± 1.2%), structural factors (mean=87.4 ± 1.9), attitude (mean=86.9 ± 1.6), and physical surroundings (mean=84.3 ±1.7) may be attributed to what women would normally check when they seek maternal healthcare. This revelation may suggest that there is a need for more consistent measures to be initiated in order to achieve quality maternal health (Adom et al., 2018).

5.5.6 Checklist description

The checklist comprised with five domains, attitudes, appearance, monitoring of labour, structural factors and physical surrounding. Table 5.34 illustrated the questions asked under each domain.

Table 5.34 Description of the checklist

	Action and interaction	Yes		No		Missing	
		(N=)	(%)	(N=)	(N=)	(N=)	(%)
	Attitudes						
1	Are midwives always on time?	126	86.9	18	12.4	1	0.7
2	Did midwives treat you with respect?	136	93.8	8	5.5	1	0.7
3	Did midwives show you courtesy?	124	85.2	21	14.5	0	0.0
4	Did midwives take time to assess and treat you?	118	81.4	27	18.6	0	0.0
5	Do the midwives have good reputation?	128	88.3	17	11.7	0	0.0
6	Do midwives respond immediately to the call of the patients?	119	82.1	25	17.2	1	0.7
7	Do midwives communicate with you or other women in the appropriate language?	125	86.2	19	13.1	1	0.7
8	Are midwives caring when providing midwifery care to the patients?	132	91.0	12	8.3	1	0.7
	Appearance						
9	Were midwives identified with the nametags?	102	70.3	39	26.9	4	2.8
10	Were you able to identify midwives'	131	90.3	14	9.7	0	0.0
11	Were midwives always in their uniform?	36	24.8	106	73.1	3	2.1
	Monitoring of labour						
12	Were you done physical examination?	128	88.3	14	9.7	3	2.0
13	Was your temperature taken?	136	93.8	9	6.2	0	0.0
14	Was your blood pressure taken?	141	97.2	4	2.8	0	0.0
15	Was your urine tested?	138	95.2	6	4.1	1	0.7
16	Did midwives discuss treatment plan with you?	20	82.8	24	16.6	1	0.7
	Structural factors						
17	Is facility accessible to women?	132	91.0	11	7.6	2	1.4
18	Is facility generally clean?	126	86.9	17	11.7	2	1.4
19	Is the facility accommodating the admitted patients?	125	86.2	18	12.4	2	1.4
20	Layout of facility user friendly?	124	85.5	17	11.7	4	2.8
	Physical surroundings						
21	Are the toilets clean?	116	80.0	29	20.0	0	0.0
22	Are beds having clean linen?	135	93.1	10	6.9	0	0.0
23	Are meals served on time?	120	82.8	23	15.9	2	1.3
24	Are meals serve at appropriate temperature?	119	82.1	20	13.8	6	4.1
25	Are meals prepared according to the women's medical condition?	117	80.7	25	17.2	3	2.1
26	Do receive sanitary supplies when you request?	126	86.9	16	11.0	3	2.1

Table 5.34 above provides the summary of the responses on each of the questions in the subsections. The general response indicated a high degree of completeness from overall responses to the questions categorised into domains, namely attitudes, appearance, monitoring of labour, structural factors and physical surroundings. Each domain contained sub-questions. The findings shown that following:

5.5.6.1 Attitude

According to the study findings, out of 145 perinatal women; a high percentage of (women 86.9%) stated that midwives were always on time for their care duties. Almost 12% reported the opposite about the midwives. In addition, a majority of the women (93.8%) reported that midwives were treating women with respect during their admission in the hospitals. There was evidence of inappropriate communication (13.1%) between women and midwives. In this regard, there is a need for communication improvement strategies. On the other hand, 82.1% of the respondents were satisfied about the responsiveness of the midwives to their calls.

5.5.6.2 Appearance

The findings supported that 70.3% of midwives have always put on their nametags while on duty. This proved that most of the respondents did not perceive appearance as core when accessing care. About 90.3% of the respondents were able to identify their midwives amongst other categories of healthcare workers despite their being not in uniform. The findings further revealed that not all midwives were caring, and that 25% were always shouting at women.

5.5.6.3 Monitoring of labour

The findings showed that 88.3% of the respondents underwent physical examination by the midwives. About 93.8% of the women patients reported that vital signs were monitored, which is contradictory from the result of document analysis. This proved that 82.8% of the midwives were able to discuss the midwifery plan with their patients, despite that communication was reported to be unpalatable.

5.5.6.4 Structural factors

The findings showed that (91.0%) of the respondents found the healthcare facility to be accessible and generally clean. As opposed to 12.4% of the respondents, 86.2% felt that the facility could accommodate women admitted at a given time, and that the layout of the facility was user-friendly, despite the observation made by the researcher during data collection.

5.5.6.5 Physical surroundings

Physical surroundings present an appealing image of a place. In the context of this study the respondents attributed cleanliness as a characteristic to determine their view of physical surroundings of the healthcare facilities at which they were admitted. Respondents also attributed physical surroundings to cleanliness. The findings showed that 93.1% and 80.0% of the women received clean linen daily and had clean bathrooms during their admission in the respective hospitals. A very small percentage reported soiled and unclean surroundings. There was evidence of receiving meals according to their health conditions, and the meals were served in an acceptable standard. The findings showed that 86.9% of the women were supplied with sanitary requirements on request, whilst 11.0% disagreed.

5.5.7 Checklist correlational analysis

The checklist correlational analysis sought to address any degree of correspondence or interdependence between and among the five co-variables or unit of analysis summarised in Table 5.34 (Kumar, 2014; Marshall & Rossman, 2011). Accordingly, the researcher assessed and evaluate the degree of association between the scores of the checklist. The intention was to assess whether the prevalence score in one checklist domain affected the other in the same or another domain, as shown in Table 5.35 below.

Table 5.35 Correlation analysis scores of the checklist

Item		Attitude	Appearance	Monitoring of labour	Structural	Physical surroundings
Attitude	*r*	1.000				
	n	145				
Appearance	***r***	**0.2565***	1.0000			
	pr	0.0184				
	n	145	145			
Monitoring of labour	***r***	**0.3206***	0.2088	1.0000		
	pr	0.0008	0.1172			
	n	145	145	145		
Structural	***r***	**0.4309***	**0.2327***	**0.3163***	1.0000	
	pr	0.0000	0.0485	0.0011		
	n	145	145	145	145	
Physical surroundings	*r*	0.0980	0.0813	0.1301	**0.2714***	1.0000
	pr	1.0000	1.0000	1.0000	0.0096	
		145	145	145	145	145

Key:

n − Sample size
r − size of correlation
pr −level of probability
* presents the size of the correlation

Extrapolated from Table 5.14 above, is that there is evidence of association between 'attitude' and 'appearance' (***pr<0.02***) on the one hand; and 'attitude' and 'monitoring of labour' (***pr<0.000***) on the other hand. Similarly, attitude (***pr=000***), appearance (***pr<0.05***) and monitoring (***pr<0.001***) are associated with structural factors although to different degrees of significance. The findings as indicated above, highlighted the variability of association between hospitals.

As shown in Table 5.36 below. A comparison was undertaken using a non-parametric equivalent of one-way test to compare scores by hospitals. Table 5.36 shows a summary comparison of the checklist domains.

Table 5.36 Checklist domain comparison

Checklist	K-Wallis Chi-Square [d.f. =3]	Probability	Significance
Attitude	**11.3**	**0.010**	Significant
Appearance	2.7	0.44	Non-significant
Monitoring	**11.7**	**0.008**	Significant
Structural	**24.0**	**0.000**	Significant
Physical surrounding	**14.9**	**0.002**	Significant
Overall	**14.0**	**0.003**	Significant

A comparison of the checklist showed significant differences between the hospitals with respect to all the checklist performances, except for the scores in ‘appearance’, where there was a general low score in all the hospitals.

5.5.8 Proportion estimation

Table 5.37 below depicts the proportion estimation in terms of successful and unsuccessful degrees of comparison among the different key variables represented in Table 5.36.

Table 5.37 Overall proportional category

Age category	Proportion	Standard error	Logit {95% Conf. Interval}
Successful	.6898552	.0384197	.6091407 .7601157
Failure	.3103448	.0384197	.2398843 .3908593

Table 5.37 shows that the degree of proportionality (68.9%) was successful (meets the cut-off), while 31% did not satisfy the cut-off mark. The result was compared against hospitals and showed an association between ‘Success’ and Hospital as shown in the Table 5.38 below using cross-tabulation.

Table 5.38 Comparison of success by hospital

Overall category	Hospital				Total
	1	2	3	4	
Successful	**26**	**22**	**15**	**37**	**100.0**
	26.0	22.0	15.0	37.0	100.0
	65.0	84.6	50.0	75.5	69.0
Failure	**14**	**4**	**15**	**12**	**45**
	31.1	8.9	33.3	26.7	100.0
	35.0	15.4	50.0	24	31.0
Total	**40**	**26**	**30**	**49**	**145**
	27.6	17.9	20.7	33.8	100.0
	100.0	100.0	100.0	100.0	100.0

Fisher's exact=0.028

In terms of Table 5.39, there is significant association between 'success' and 'hospital' (*pr*=0.028). Table 5.39 below is a further representation showing proportionality in terms of Success/Failure by hospital.

Table 5.39 Proportion of success by hospital

Outcome	Hospital 1	Hospital 2	Hospital 3	Hospital 4
Success	0.65	0.85	0.50	0.76
Failure	0.35	0.15	0.50	0.24
Std. Err.	0.075	0.070	0.091	0.061
[95% Conf. Interval.]	[0.49-0.78]	[0.65-0.94]	[0.33-0.67]	[0.61-0.86]

The summary Table 5.39 above indicates the proportion of respondents who were successful by the hospital at which they were admitted. Accordingly, Hospital 2 scored the highest success rate of (85; [*Ci* 0.65-0.94]), Hospital 4 (76; [*Ci* 0.61-0.86]). Hospital 1 (65; [*Ci* 0.49-0.78]) and Hospital 3 at average (50; [*Ci* 0.33-0.67]) distribution. Hospital has equal success/failure might be influenced by the challenges experienced during the data collection process, such as staff shortages, patient overcrowding and media publicity.

As stated previously, the quantitative checklist was developed from the qualitative research instruments in Section B in conformity with the exploratory sequential MMR design of the study (McCrudden & McTigue, 2019; Saks & Allsop, 2019).

In the context of this study, then the checklist was a quantitative mechanism by which the perinatal women's qualitative inputs provided in the FGDs and in-depth interviews were

triangulated to provide a more holistic perspective regarding their perceptions of maternal healthcare service delivery in the four Gauteng Province hospitals that served as the research sites.

Furthermore, it is this triangulated approach that enabled the researcher's thematic comparison and correlation of the critical variables against which the perinatal women's views, perceptions, and knowledge were utilised as a framework of the evidence needed in the study. The next section presents a discussion pertaining to the questionnaire-based findings derived from the researcher's interrogation of the midwives' extent of using the partograph.

5.6 OVERVIEW OF QUESTIONNAIRE-BASED FINDINGS

The quantitative findings in this section were derived from the questionnaire as the researcher's preferred quantitative data collection instrument (see Annexure N), in addition to the checklist in Section 5.5. Similar to the checklist, the questionnaire was also the product of the FGDs and the in-depth interviews that have been prominently referred to in Section B. Similar to the checklist, once again, the questionnaire was intended to maximise the midwives' qualitative inputs through the FGDs and in-depth interviews (Shannon-Baker, 2015; Tariq & Woodman, 2010). The questionnaire focused on four fundamental issues, although other related matters were not ignored insofar as maternal healthcare service provision is concerned in Gauteng Province. The four fundamental issues are: The midwives' knowledge and use of the partograph; challenges regarding the partograph; service delivery concerns; as well as the degree of work satisfaction.

The researcher issued a total of 230 questionnaires to midwives from which 142 were completely filled in and providing a response rate of about 61.7%. According to scholars such as Taylor et al. (2016) and Vaismoradi et al. (2013), such response rate (above 50%) was conducive for both the reliability and validity of the study's findings. However, Morton et al. (2012) argue that response rate alone could not be wholly relied on as the only determinant or criterion to evaluate the quality, reliability and validity of a study. The next section outlines knowledge of the partograph as one of the key units of analysis to reflect on the midwives' perceptions, knowledge, understanding and experiences concerning the state of maternal healthcare in Gauteng Province.

5.6.1 Knowledge of the partograph

Table 5.40 below is a summary of the midwives' knowledge-based responses regarding their familiarity with the content and usage of the partograph. While Table 5.40 thematically outlines the key variables and findings, Table 5.41 (overleaf) indicates the specific questions that gave rise to the thematic categories shown in Table 5.40.

Table 5.40 Summary of midwives' questionnaire-based results

Item	Domains	Number of items	Alpha
1	Demography data	79	0.86
2	Knowledge of partograph	25	0.87
3	Challenges regarding plotting of the partograph	27	0.65
	Challenges regarding provision of maternal healthcare		
4	Service delivery	11	0.67
5	Work satisfaction	9	0.87
6	Investigations	5	0.41
7	Resources	9	0.80
	Interpersonal issues		
8	Communication	5	0.66
9	Organisational factors	7	0.72
10	Community challenges	4	0.61
11	Policy and governance	7	0.27
Overall		**88**	**0.85**

The Table 5.40 above represents the questions which the researcher was interested in regarding the midwives' knowledge and use (not just familiarity) of the partograph as a helpful instrument to monitor the progress of the pregnant women admitted at the maternity units of the investigated four hospitals. It is worthwhile to note that both the domains in the questionnaire and the fundamental thrust of the FGDs and in-depth interviews intercept with each other to some degree of significance. This is not coincidental, considering that the questionnaire itself is the outcome of the qualitative data collection during Phase 1 of this study.

Table 5.41 Summary of knowledge of the partograph

	Item	Yes		No		Non-response
		(N=)	(%)	(N=)	(%)	
1	Is it important for you to plot the partograph?	142	100.0	0	0.0	0.0
2	Do you know the components or elements of the partograph?	140	98.6	1	0.7	0.7
3	Do you know why you have to record the patient biographic data?	142	100.0	0	0.0	0.0
4	Do you know when to start plotting the partograph?	141	99.3	1	0.7	0.0
5	Do you know how to distinguish the two phases of labour on the partograph?	140	98.6	2	1.4	0.0
6	Do you know how often progress of labour is plotted in latent phase of labour?	139	97.9	3	2.1	0.0
7	Do you know how often progress of labour is plotted in an active phase of labour?	140	98.6	2	1.4	0.0
8	Do you always plot initial assessment and transfer to the active phase of labour?	126	88.7	15	10.6	0.7
9	Do you know the meaning of the diagonal lines in the active phase of labour?	140	98.6	2	1.4	0.0
10	Do you know the significance of your plotting on these lines	141	99.3	1	0.7	0.0
11	Do you understand the significance of fetal heart rate before and after the contractions?	141	99.3	1	0.7	0.0
12	Can you differentiate between the types of decelerations?	133	93.7	9	6.3	0.0
13	Do you check sanitary pads for colour and smell of liquor/amniotic fluid?	131	92.3	11	7.8	0.0
14	Are you able to feel for the application of the presenting part and record according to the phase of labour?	138	97.2	4	2.8	0.0
15	Are you able to feel for the station and the presenting part?	138	97.2	4	2.8	0.0
16	Are you able to feel for the caput and moulding?	132	94.3	8	5.7	0.0
17	Do you know how to palpate for the cervical dilatation?	139	97.9	3	2.1	0.0
18	Do you know how to palpate for the cervical length?	125	88.7	16	11.3	0.0
19	Do you always plot the cervical length?	102	73.4	37	26.6	0.0
20	Do you palpate the contractions manually?	96	69.6	42	30.4	0.0
21	Do you think plotting contractions manually is a waste of time?	44	32.8	90	67.2	0.0
22	Do you know when and why to record the vital signs according to the phases of labour?	138	97.2	4	2.8	0.0
23	Do you know why you have to record the plan the care of your patient?	140	98.6	2	1.4	0.0
24	Do you always record the time of delivery?	140	98.6	2	1.4	0.0
25	Are you willing to attend workshops on the plotting of the partograph?	130	91.6	12	8.4	0.0

According to Table 5.41 above, there has been an excellent response rate from the respondents in the knowledge domain. The evidence shows that midwives have enough knowledge of the partograph of more than (98%) in general, except when asked about how often they plot the cervical length (71.8%), and whether they monitored contractions manually (67.6%). When midwives were asked whether manual palpation of contractions was time wasting, the findings indicated the lowest score of (31.0%). Interestingly, despite the high level of knowledge in the partograph, midwives were still willing to undertake more training (91.6%) regarding the partograph.

5.6.2 Challenges regarding plotting of the partograph

The researcher explored the challenges of plotting the partograph using a Likert scale of 1- (not likely) to 4 (extremely likely) as indicated in Table 5.42 below.

Table 5.42 Challenges regarding plotting of the partograph

	Item	Not likely		Somewhat likely		Likely		Extremely likely		Non-response	
		(N=)	(%)	(N=)	(%)	(N=)	(%)	(N=)	(%)	(N=)	(%)
1	Is plotting of the partograph a tedious exercise?	73	**51.4**	31	**21.8**	22	**15.5**	10	**11.2**	6	**4.2**
2	Is plotting of the partograph time-consuming?	98	**69.0**	24	**16.9**	14	**9.9**	5	**4.2**	1	**0.7**
3	Is plotting the partograph a waste of time for you?	131	**92.3**	4	**2.8**	5	**3.5**	2	**1.4**	0	**0.0**
4	Is the graphic illustration of the partograph user-friendly?	36	**25.5**	16	**11.3**	35	**24.7**	53	**38.7**	2	**1.4**

In determining the challenges in the Table 5.42 above, the midwives have experienced in plotting the partograph during labour, the questions on the Likert scale were designed and asked revealed that majority of midwives (92.3%), (69.0%), and (51.4%) across the hospitals regarded plotting the partograph as unlikely to waste time and time-consuming, and not a tedious exercise respectively. Furthermore, (38.7%) of the midwives reported that the partograph is extremely likely to be user-friendly, as opposed to those who reported that it was unlikely to be user-friendly (25.5%).

5.6.3 Service delivery

The quality-of-service delivery is the fundamental focus of this study. Tale 5.43 below is a summary of the service delivery assessment by the participants.

Table 5.43 Summary of service delivery assessment

	Item	Yes		No		No Response	
		(N=)	(%)	(N=)	(%)	(N=)	(%)
1	Are you able to deliver maternal healthcare services effectively in the wards?	59	**41.6**	82	**57.8**	1	**0.7**
2	Are you allocated enough resources in your unit?	112	**78.9**	29	**20.4**	1	**0.7**
3	Are services provided to the women of standard?	64	**45.1**	75	**52.8**	3	**2.1**
4	Are you courteous when providing midwifery care to the patients?	132	**93.0**	7	**4.9**	3	**2.1**
5	Do you communicate in the appropriate language?	105	**73.9**	35	**24.6**	2	**1.4**
6	Do you respond immediately to the call of the patients?	117	**82.4**	24	**16.9**	1	**0.7**
7	Does it take long for the Pharmacy orders to reach the unit?	71	**50.0**	68	**47.9**	3	**2.1**
9	Are medicines given to women on time?	98	**69.0**	44	**31.0**	0	**0.0**
10	Do you timeous with the ward routine?	88	**62.0**	52	**36.6**	2	**1.4**
11	Do you serve food on time?	106	**74.6**	34	**24.0**	2	**1.4**
12	Do you serve warm food in your ward?	90	**63.4**	47	**33.1**	5	**3.5**

In terms of Table.5.43 above, the midwives (93.0% and 82.4%) agreed that they were courteous and very much responsive to the health needs of the patients. Furthermore, the findings show that midwives (78.9%) were very satisfied with the allocation of maternal healthcare resources in the units, even though (20.4%) complained of lack of resources.

A degree of contradiction was noted between questions 1 and 2. Respondents indicated that they have enough resources (78.9%). On the other hand, more than half of the respondents (57.8%) stated that they were unable to render midwifery care effectively. This coheres with response from question 3, in which 52.8% of the respondents confirmed that the services provided to the women were sub-standard, compared to (45.1%) who felt that the midwifery care is of acceptable standard.

Some of the midwives (50.0%) emphasised that there is a delay of pharmaceutical supplies, which may be the reason for the questionable midwifery standard; although (69.0% and 62.0%) accentuated that they were always on time with medicine administration and ward routine respectively. Additionally, respondents (74.6%) were able to serve their patients meals on time and (63%) of them managed to serve meals still warm from the kitchen.

Respondents (73.9%) mentioned that communication with the patients was appropriate, compared to the (24.6%) who struggled to communicate with women under their care. Probably, these women were non-South Africans who could not speak any of the local South African languages and English.

5.6.4 Work satisfaction

This section examines the midwives' satisfaction likelihood with their work in the hospital, based on the questionnaire variables shown in Table 5.44 below.

Table 5.44 Work satisfaction summary

	Item	Score			
		Yes		No	
		(N=)	(%)	(N=)	(%)
1	Are you happy when you are at work?	34	23.9	108	76.1
2	Are you satisfied with work you are currently doing?	49	34.5	93	65.5
3	Are you satisfied with your current placement?	63	44.4	79	55.6
4	Is your placement aligned to your qualification?	**92**	**64.8**	**50**	**35.2**
5	Are you able to execute your operation skills to the fullest?	42	29.6	100	70.4
6	Are you satisfied with the midwifery care you are rendering to your clients?	42	29.6	100	70.4
7	Is the rendering of midwifery care of standard/quality?	33	23.2	109	76.8
8	Are you satisfied with relationship between you and operational management?	51	35.9	91	64.1
9	Are you satisfied with the relationship between you and medical staff?	46	32.4	96	67.6

Table 5.44 above indicates that midwives were generally extremely dissatisfied with their work and their happiness at work. Their midwifery welfare and performance rated lowest. Nonetheless, (64.8%) of respondents reported that they were satisfied with their work

allocation because it was based on their qualifications. However, when using the assessment of median and mean score, the results showed there was evidence of work satisfaction. The researcher observed that midwives were very affectionate about their work, despite the unhappiness from other determinants of their happiness. They seemed to be hard working.

5.6.4.1 Relative order of importance score

The response on each question and the relative performance in the score is expressed in the percentage is presented in the table below.

Table 5.45 Relative order of importance scores of questionnaire items

	Item	1	2	3	4	5	6	7	8	9	10
1	Are you happy when you are at work?	11.4	2.1	2.1	5.7	21.4	10.7	9.4	7.9	5.0	**24.3**
2	Are you satisfied with work you are currently doing?	10.2	1.4	4.9	4.2	8.5	7.4	9.2	13.4	6.3	**34.5**
3	Are you satisfied with your current placement?	10.6	4.2	0.7	2.8	9.2	4.9	4.9	9.9	8.5	**44.4**
4	Is your placement aligned to your qualification?	3.5	1.4	0.7	2.1	7.1	4.2	2.8	5.6	7.8	**64.8**
5	Are you able to execute your operation skills to the fullest?	10.8	0.7	2.2	5.8	8.6	9.5	10.9	14.4	7.2	**30.2**
6	Are you satisfied with the midwifery care you are rendering to your clients?	12.6	2.1	2.8	4.2	8.5	4.9	7.8	17.6	9.9	**29.6**
7	Is the rendering of midwifery care of standard/quality?	12.7	2.8	3.5	6.3	6.3	12.7	9.2	15.5	7.8	**23.2**
8	Are you satisfied with relationship between you and operational management?	10.7	5.0	4.3	5.7	11.4	9.3	2.1	9.3	5.7	**36.4**
9	Are you satisfied with the relationship between you and medical staff?	8.5	1.4	0.7	4.3	7.8	8.5	12.8	11.4	12.1	**32.6**

The summary entailed in Table 5.45 above evinces the participants' relative degree of work satisfaction, the greatest of which was in the placement aligned to the qualification, scored 64.8%. This confirms their response on a similar question: *Are you satisfied with*

your current placement? which generated a score of 44.4%. Responses with least satisfaction related to the question concerning the rendering of midwifery care to the clients, with score of 23.2% scoring 10; and happiness at work, 24.3%. The placement aligned to qualification generated the highest score of 64.8%, while happiness when at work and midwifery welfare rated the lowest.

5.6.4.2 Investigations

The researcher was also interested in determining the standard of the investigations conducted by midwives on their patients' progress during their admission period.

Table 5.46 Midwives' investigations of the patients

	Item	Yes		No		Non-response	
		(N=)	(%)	(N=)	(%)	(N=)	(%)
1	Are your investigations done right the first time?	112	**78.9**	27	**19.0**	3	**2.1**
2	Does it take long for the investigation results to come back to the unit?	61	**43.0**	78	**55.0**	3	**2.0**
3	Do you discuss treatment plan with perinatal women?	126	**88.7**	14	**9.9**	2	**1.4**
4	Are the investigations done right the first time?	113	**79.6**	24	**16.9**	5	**3.5**
5	Do you refer according as soon the results come back?	124	**87.3**	11	**7.8**	7	**4.9**

Based on Table 5.46 above, most respondents were satisfied with the time and the manner of investigations in the units. The majority of the midwives (78.9%) stated that the investigations were conducted correctly, and as such, it saved the hospital money when conducted correctly the first time. Additionally, 87.3% of the women were referred in time. However, there is evidence of investigations delaying (43.0%). In some instances, midwives (88.7%) were able to give treatment feedback and discuss the plans with their women patients.

5.6.4.3 Resources

This section evaluates the availability and efficiency of the resources in the maternity wards using a Likert scale. Table 5.47 below presents a summary assessment of the availability and efficiency of resources.

Table 5.47 Summary on the availability and efficiency of resources

	Item	Poor (%)	Below average (%)	Above average (%)	Excellent (%)
1	Are midwives enough for each shift?	43.9	39.0	13.5	3.6
2	Are obstetrician enough for each shift	33.3	43.3	17.0	6.4
3	Are you able to render maternal healthcare with the staff allocated in you unit?	12.1	41.4	31.4	15.0
4	Do you have enough equipment in your unit? CTG and Dina-maps	26.4	39.3	21.4	12.9
5	Are all equipment in working condition?	23.4	43.3	22.7	10.6
6	Do have enough medicines in your unit?	11.4	30.0	45.7	12.9
7	Is stationery always available in the unit? E.g. Maternity booklet and other recording charts	19.3	25.0	40.7	15.0
8	Do have enough sanitary supplies in the wards?	4.3	19.1	37.6	39.0
9	Do you have enough CSSD packs in the wards?	13.7	39.6	23.0	23.7

According to Table 5.26 above, there is evidence of constraint human resources in the units. Midwives (43.9%; 39.0%) and obstetricians (33.3%;43.3%) were in short supply in all the shifts. As such, delivery of maternal healthcare service was affected. Furthermore, respondents reported that they were expected to render services with little equipment (26.4%; 39.3%), and most of the time non-functional, stationary (19.3%; 25.0%) as well as lack of medicines (11.4%; 30.0%) constituted visible resource shortages, except for the CSSD packs (13.7%, 39.6%) and sanitary supplies were actually reported to be sufficient.

5.7 SECTION D: CONVERGENCE OF KEY QUALITATIVE AND QUANTITATIVE FINDINGS

This section demonstrates the essence of the exploratory sequential mixed-methods design in practical terms by thematically integrating the key findings from the FGDs, in-depth interviews, documentary review and analysis, the checklist, and the questionnaire.

The converged findings relate to interpersonal issues, organisational factors, community challenges, policy and governance. Refer Annexure V: Joint display juxtaposed convergence of qualitative data building into quantitative survey items in the maternal healthcare service delivery.

5.7.1 Interpersonal Issues

This section of the questionnaire is rating the level of communication as an interpersonal factor between the midwives, other multidisciplinary teams, and their patients. The summary table of the ratings is presented below in Table 5.48.

Table 5.48 Summary of rating level of communication

	Item	Poor (%)	Average (%)	Good (%)	Excellent (%)
1	How are you communicating with your colleagues and doctors?	0.7	15.1	**51.8**	32.4
2	How is the communication between yourself and your supervisors in the wards?	2.9	27.5	**39.8**	29.7
3	How is the communication between yourself and the clients in the wards?	3.6	13.0	**47.5**	36.0
4	Are you able to communicate with foreign women?	**45.2**	40.3	12.2	2.2
5	How does communication impact on the maternal healthcare service delivery on day-to-day activities?	32.4	**34.6**	22.8	10.3

From the table above, there is clear evidence of good interpersonal relations with respect to communication (51.8%) among colleagues and respondents, as well as between midwives and clients. However, communication amongst the respondents (midwives) and their supervisors was relatively fair (39.8%). Also, the communication with expatriate

women (45.2%) is poor, including communication impacting poorly on maternal healthcare services delivery with (34.6%).

5.7.2 Organisational factors

The researcher explored the likelihood of the management to respond to the needs and expectations of the midwives in the hospitals. The summary of the rating is provided on the Table 5.49 below:

Table 5.49 Summary of midwives' management expectations

	Item	Bad (%)	Average (%)	Good (%)	Excellent (%)
1	Does the management support the workers?	31.2	50.0	14.5	4.4
2	Does the management give praise to workers for the work they do?	36.2	47.1	11.6	5.0
3	Are there elements of favouritism from the managers?	23.0	44.4	18.5	14.1
4	Are workers involved in the decision-making of the hospital?	56.6	25.7	11.8	5.9
5	Does the management of the hospital meet with the workers and unions?	44.9	36.2	15.2	3.6
6	Are you able to uphold the norms and values of the department or hospital?	6.6	45.3	38.7	9.5
7	Is performance management and development done fairly	28.3	43.5	23.9	4.4

Table 5.49 clearly indicates that the assessment of the management of the organisation is generally poor. The findings suggest that there is limited, or no support from the hospital management across all hospitals under study. Respondents (23.0%; 44.4%) reported trends of favouritism from the management, especially during performance management of the workers. There is also marked association between favouritism and performance management. Respondents felt so demotivated because the managers were failing to appreciate and recognise their extra contributions with regards to the rendering of care. As a result, the respondents (6.6%; 45.3%) found it difficult to uphold the norms and standards of the hospitals. Moreover, they were not involved in some critical decision-making about their work. Respondents were stressed the fact that there were no activities going on between organised labour and the management.

5.7.3 Community challenges

The researcher assessed the responses from the midwives regarding the challenges brought about by the clients and their families to the maternity units. Table 5.50 outlines these community-oriented challenges.

Table 5.50 Summary of community challenges

	Item	Yes		No		Non-response	
		(N=)	(%)	(N=)	(%)	(N=)	(%)
1	Does the attitudes of clients and their families as they seek care affects the maternal healthcare in the wards?	114	80.6	26	19.4	2	1.4
2	Does ethnicity and tribalism affect maternal healthcare?	84	59.0	58	41.0	0	0.0
3	Does culture of the client's impact on the delivery of maternal healthcare?	93	65.5	49	35.5	0	0.0
4	Does families sometimes become violent as they come to the units?	126	88.5	16	11.5	0	0.0

In terms of Table 5.50 above, midwives (80.6%) reported attitudes from women and their families, and that issues of ethnicity and tribalism (59.0%); and culture (65.5%) affected service delivery and positive midwifery outcomes. Concerns with violence (88.5%) from the families of the women patients was also experienced in the course of the midwives' work.

5.7.4 Policy and governance

This section focuses on the converged challenges related to policy and governance of maternal healthcare services as shown in Table 5.51.

Table 5.51 Summary of the challenges related to policy and governance

	Item	Yes		No	
		(N=)	(%)	(N=)	(%)
1	Does other government departments affect you day to day work activities?	79	55.9	63	44.1
2	Does political decisions affect your day-to-day work activities?	97	68.4	45	31.7
3	Are policy and protocols implemented well in this hospital?	53	37.4	89	62.5
4	Does your hospital provide free maternal healthcare to foreign women?	70	49.6	72	50.4
5	Is the maternal health budget enough to cater the women in your catchment area?	21	14.5	1211	85.5
5	Do you think critical skills intercountry exchange of the midwives can assist the current state of maternal healthcare?	105	74.1	37	25.9
7	Do think you can work with foreign midwives from the continent?	129	90.9	13	9.1

To provide efficient maternal healthcare, there needs to be proper coordination between related government departments (NDoH, 2017a). The study findings show that politics also play a role with regard to the extent of effective and efficiently services provided. Respondents (56%) stressed that other governmental department affected their daily activities (68%). As a result, midwives were failing to implement the policies and protocols as expected (63%). Respondents (86%) also emphasised that the budget was not enough to offer services within their catchment area. About (50%) of the respondents also alluded to the fact that free maternal services to the expatriate women could be the reason for budgetary deficiencies. At the same time, 74% of the respondents appreciated the critical skills intercountry exchange of midwives to assist especially with the foreign clients seeking midwifery services in South African public hospitals.

5.7.5 Correlational analysis

The correlated analysis of the key result provides interesting interpretation. In terms of Table 5.31 (overleaf), there is significant evidence (*pr*=002) to show that good service delivery is associated with work satisfaction (r=0.2613). Similarly, Satisfactory service delivery is significantly correlated with the following: c-Resources (r=0.3425; *pr*=000); E-Organisation (0.1928; *pr*=0.024); but negatively correlated with F-Community score (r=-0.2007; *pr*=0.0187).

Furthermore, there exists high correlation between Organisation and Resources (*r=0.4563; pr=0.000*). These scores suggest that adequate resources enhance good organisation. There also exists negative, but significant correlation between Service delivery (*r=-0.2007; pr=0.0187*), Work Satisfaction (*r=-0.2113; pr=0.01*) and Resources (*r=-0.1832; pr=0.032*) with F-Community. It is to be noted that there was no correlation between Knowledge and other domain scores. Communication (inter-personal issues) correlates significantly with Work Satisfaction (*r=0.1734*; *pr=0.04*) and C-Resources (*r=0.2023; pr=0.02*).

Table 5.52 Correlated analysis of the key thematic and qualitative domains

Item	Knowledge	Service delivery	Work satisfaction	investigations	Resources	Communication	Organisation
Knowledge	1.000						
Service delivery	0.1395	1.0000					
	0.1041						
Work satisfaction	0.0269	**0.2613***	1.0000				
	0.7551	0.0020					
Investigation	0.0569	0.0357	0.0903	1.0000			
	0.5090	0.6790	0.2940				
Resources	0.1578	**0.3435***	0.1587	0.0309	1.0000		
	0.0655	0.0000	0.0639	0.7200			
Communication	-0.0273	0.1331	**0.1734***	0.1327	**0.2023***	1.0000	
	0.7518	0.1211	0.0427	0.1220	0.0178		
Organisational	0.1300	**0.1928***	**0.3153***	0.0733	**0.4563***	**0.2886***	1.0000
	0.1300	0.0240	0.0002	0.3949	0.0000	0.0006	
Community factors	-0.1524	**-0.2007***	**-0.2113***	0.1182	**-0.1834***	-0.0703	0.0049
	0.0754	0.0187	0.0132	0.1689	0.0320	0.4142	0.9547
Policy/governance	-0.0070	0.0185	-0.0465	0.0213	0.0876	0.0409	0.0275
	0.9349	0.8305	**0.5894**	0.8052	0.3088	0.6348	0.7497

5.8 INTEGRATION APPROACH

The researcher integrated the study results through a build-on approach, considering that the findings accruing from the qualitative data collection process simultaneously informed and informed the development framework of the subsequent quantitative data collection and analysis processes (Fetters, Curry & Creswell, 2013). The integrated qualitative-quantitative data collection and analysis processes were juxtaposed side-by-side through a joint display. According to Creswell and Creswell (2018), a joint display refers to a visually presented integration of both the qualitative and quantitative data for purposes of drawing out new understanding of the data from the two (qualitative and quantitative) approaches. In this regard, the table appearing Annexure-V is a visual and integrated representation of the qualitatively and quantitatively collected data during Phase 1 and Phase 2 of the study as articulated variously in different chapters of the current study.

Furthermore, the researcher also compared and analysed the study results from both the qualitative and quantitative phases using the table in Annexure V to provide better insight to the reader with the juxtaposition of the two data sets through narration, data transformation and joint displays or visualisation (McCrudden & McTique, 2019; Moseholm & Fetters, 2017).

5.9 SUMMARY

The chapter basically presented the qualitative and quantitative findings of the study in the context of literature-based interpretation. Five major themes were developed and integrated into a framework of main findings relating to the provision of quality healthcare service in the public hospitals in Gauteng Province.

Most significantly, the chapter concluded with a significant reflection in Section D, focusing on integration of the key thematic findings in Phase 1 Phase 2 of the study's data collection processes that were clearly stated in both Chapter 1 and Chapter 4 respectively. To that extent, the chapter practically demonstrated the feasibility, relevance and efficacy of integrating more than a single methodological approach in the same study (Poth, 2018; Saks & Allsop, 2019). It was largely on the basis of such integration that the researcher was able to vigorously pursue the goal of developing an improvement model to strengthen maternal healthcare provision presented in the next chapter.

CHAPTER 6

PROPOSED MATERNAL HEALTHCARE SERVICE DELIVERY MODEL

6.1 INTRODUCTION

The preceding chapter provided a comprehensive framework of the study's main findings, including the identified challenges attendant to the provision of quality maternal healthcare services in Gauteng Province. For instance, from the in-depth interviews, the midwives revealed that generally, maternal care was below expected standard due to factors such as overcrowding and shortage of staff in the maternity units. Furthermore, the responses of the perinatal women emanating from the focus groups regarding the provision of maternal healthcare services, revealed elements of negative attitude from the midwives and found to be impacting negatively towards maternal healthcare service delivery. It is precisely on account of these challenges that the current chapter details the development of a framework for the proposed model to strengthen maternal healthcare service delivery. The fundamental purpose of the proposed model is to contribute towards the improvement of the care rendered to the women seeking quality healthcare in public health facilities in pursuance of both their human and constitutional rights (SA, 1996; WHO, 2016). In fact, the proposition for the model itself is premised on the fulfilment of the following research objective and its associated research question as articulated in Sections 1.5 and 1.6 respectively:

Objective 5: To develop a model for midwives and perinatal women to strengthen the provision of maternal healthcare services in Gauteng Province.

Research question: What corrective interventions can be applied to improve on maternal healthcare service delivery in this hospital?

Accordingly, the current chapter is 'segmented' into two principal domains: the broader parameters of model development and the actual framework parameters of the researcher's proposed maternal healthcare service delivery model. The researcher asserts that the latter proposition has not been undertaken outside of the main findings

of the study as appearing in the preceding chapter. In addition, the development of the model was mainly based on theoretical (literature-based) and empirical data collected through various methods and techniques used in this study. The proposed model further details the operational guidelines in the context of maternal healthcare service delivery.

6.2 BROADER PARAMETERS OF MODEL DEVELOPMENT

Based on the eclectic context of the theoretically and empirically obtained data and information on the current study, model development necessitates a considerable degree of conceptual development and clarification. Such an orientation requires the definition, identification, and classification of main concepts relating to maternal healthcare service provision (Aliyu et al., 2015; Chinn & Kramer, 2011; Walker & Avant, 2013). Accordingly, the concepts were crafted from the extracts of the empirical data of the participants and respondents.

6.2.1 Concept clarification

Concepts are a representation of some aspect of the environment (Adom et al., 2018; Polit & Beck, 2017). Additionality, concepts are mental illustration and imagination of an internal symbols or objects representing real world views. Saks and Allsop (2019) submit further that concepts provide an intellectual map to pronounce reliably on a phenomenon, and that such reliability is afforded by contextual definitions and lexical attributes aligned to the context of research. The latter authors submit further that abstract ideas that create a conceptual framework support each other and express the phenomenon to establish a specific philosophical framework.

In this study, the identified concepts are attributed to their potential to promote maternal healthcare services. Therefore, these concepts are helpful in developing the required support for positive maternal health outcomes in the South African context. Moreover, the classification or categorisation of the identified concepts serves as a useful ‘mind-map’ for a pre-determination of the efficacy or otherwise of model development in general (Ayeleke et al., 2018; Borrelli et al., 2016).

In both the general and specific sense, strengthening maternal healthcare service provision is the most central goal to the amelioration of maternal morbidity and mortality

(Parasuraman et al., 1985; Pramanik, 2016). In the context of this study, the identified main concepts pertain to the midwife as healthcare agent; perinatal women as healthcare recipients; maternity units as healthcare units; an enabling environment; determinants and dynamics of maternal healthcare success; and the terminus/goal strengthening maternal healthcare outcomes. These broad contextual parameters are shown in Figure 6.1 below and discussed subsequently.

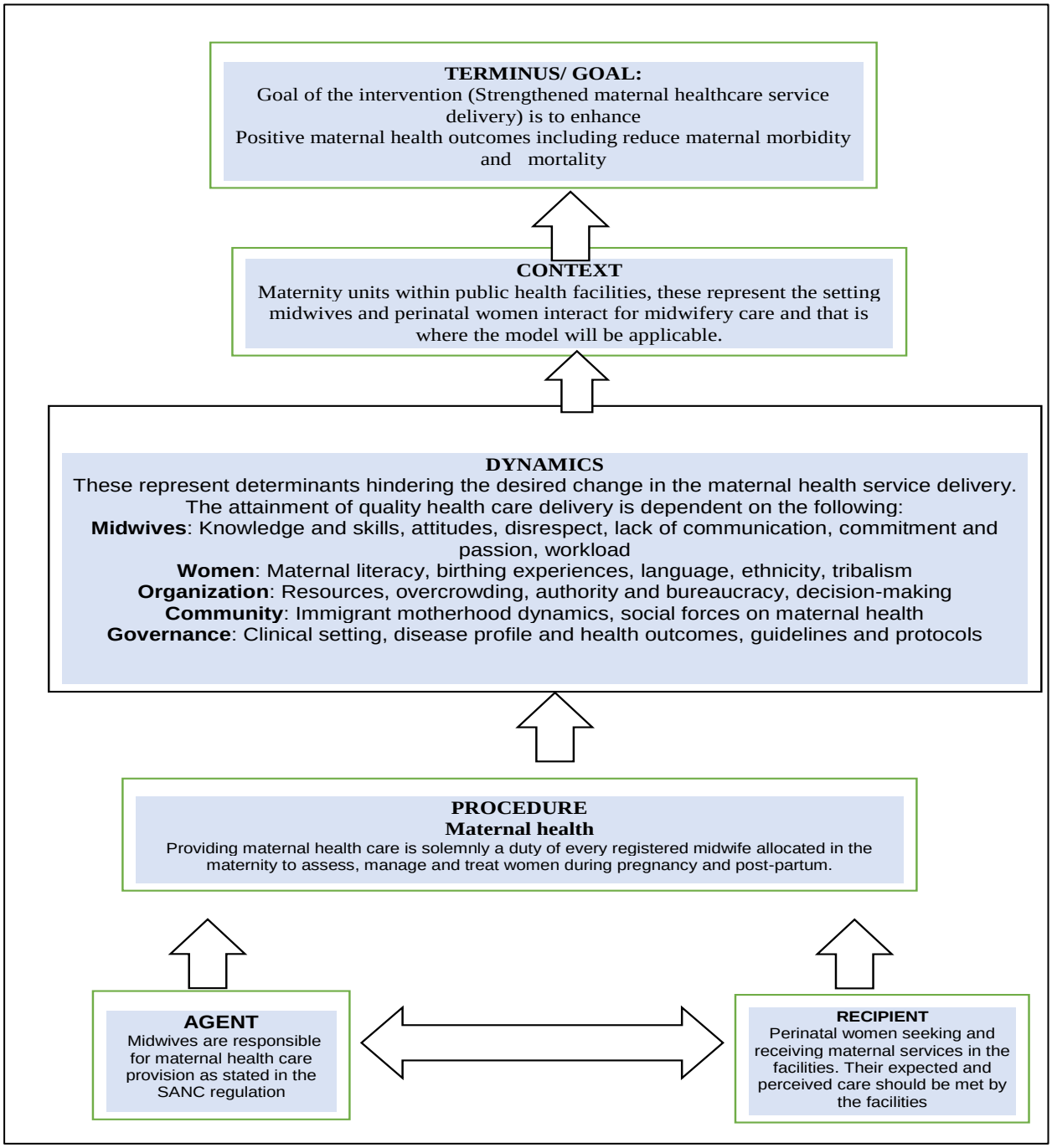

Figure 6.1 Schematic representation of model concepts

(Source: Adapted from Dickoff, James & Wiedenbach, 1968:425)

6.2.1.1 Midwife as a change agent

In this study, the midwife is the core *agent for change,* and is responsible for the rendering of maternal healthcare to the perinatal women. The role of the midwife is to provide care, treatment and support, and be available for women throughout the perinatal period (SANC, 2013a). The fundamental focus of the midwife is to practice nursing and midwifery according to the laws and regulations of the country. Additionally, the midwife should maintain a therapeutic relationship and maintain an enabling environment for ethical practice in which healthcare delivery can be served safely and optimally (SANC, 2013a). The midwives are also integral to supporting, educating and encouraging the women in their perinatal journey to achieve quality maternal health outcomes.

6.2.1.2 Perinatal women as healthcare recipients

The perinatal women are the *recipients* or beneficiaries who seek maternal healthcare service in the public health facilities. Perinatal women in this study raised their concerns about the disrespect and lack of passion as well as commitment from the midwives such as in one of their assertions: "*The problem is that nurses are very rude; and we do not have any choice. We cannot deprive ourselves healthcare services because of them and leave the clinic without receiving care".*

6.2.1.3 Maternity units as context of healthcare

The *context* is all the maternity units designated for perinatal women receiving midwifery care within the public sector in the Gauteng Province. Furthermore, the context in this study envisioned the interaction between the midwives and the perinatal women seeking maternal healthcare. Such interaction occurs in the maternity units, and may be inclusive of the women, families and the communities. The context should also provide a fulfilment and satisfaction of both agent and the recipient in the process of rendering maternal healthcare services with consideration of the patients' values, needs and preferences (Tocchioni et al., 2018).

6.2.1.4 Procedure for enabling environment and collaboration of stakeholders

The *procedure* refers to the processes of participation and collaboration from all stakeholders within the public health system to strengthen provision of quality maternal healthcare (Toccioni et al., 2018). The relationship between all stakeholders is critical for achieving the desired health outcomes. The study findings shown that the policy implementation and governance are lacking, and inter-departmental policies are non-synchronised. In that regard, intersectoral collaboration is crucial in strengthening maternal health.

6.2.1.5 Dynamics to determinants of maternal health success

The *dynamics* refer to the determinants of power and represent the success or failure of the anticipated change (Toccioni et al., 2018). The success of a model that is intended at strengthening the maternal healthcare lies entirely on these determinants or forces of power (Potluri & Angiating, 2018).

6.2.1.6 Terminus/goal for strengthening maternal health outcomes

The *terminus or health outcome* will improve the midwife-perinatal woman interpersonal interface to strengthen maternal healthcare in the maternity units. Accordingly, the perspectives of midwives and their patients in the wards are not secondary, especially on communication, organisational and community issues of both midwives and women, including policy and clean governance (WHO, 2010b).

The terminus of strengthening maternal health in the maternity units between the midwives and the perinatal women is envisioned to find an amicable and integrated approach to improve their interactions during the perinatal period. Moreover, meaningful engagement and interaction can benefit both the agent and recipient to achieve quality maternal healthcare (Belaid & Ridde, 2012).

6.3 DEFINITION OF CONCEPTS

Saks and Allsop (2019:59) defined a concept as an intellectual map used to pronounce on a phenomenon. The aim of identifying the main concept is to discover whether its

meaning is reliable (McKenna, 1997:62). The process of defining concepts was based on the exploration of several dictionary definitions of the concept. Followed by the contextual definition aligned to the context of research. After this step, the researcher then searched for the attributes of the definitions that were reduced to essential and related criteria.

Strengthening maternal healthcare has been defined as a broad concept in relation to the maternal morbidity and mortality. The researcher defined the central concept according to dictionary and explained each word in the concept "*strengthening maternal healthcare service delivery".* In the process of defining the words, pure English was used, and the literature search covered the subject matter from relevant philosophical aspects.

Chinn and Kramer (2011:94) state that the defining the listing of the concepts assist with grouping the similar attributes and isolating unrelated ones. Walker and Avant (2013) further assert that distinguishing between essential and related traits of the concepts is imperative.

The contrary case and model case consisting of the representation of the concept was then executed, and lastly, a conceptual definition was developed to outline a model. The researcher employed steps by (Chinn & Kramer, 2011:166-170) when defining the main concept. For this study, three steps will be used, namely:

- Dictionary definition
- Existing theories
- Exemplar or model case.

6.3.1 Dictionary definition

Dictionary definitions are used to come up with the descriptions of the various usages of "*strengthening maternal healthcare service delivery".* The glossaries of the specific fields were taken into consideration. The definitions were including all words it contains.

- **Definition of strengthening**

The origin of the word 'strengthen" came from Middle English word "strength-en" (*Collins English Dictionary* 2014a, sv "strengthen") define the word "strengthening" means

reinforcing (of something). Adjectively, it means an intended or helping to improve and make something stronger.

The *Free Dictionary* (2017a, sv “strengthen”) verb.to make or become stronger, give strength to. The verb: strength-ened, strength-en-ing, strength-ens. The noun – strength’ en-er.

According to the *Cambridge Dictionary* (2019c, sv “strengthen”) the word “strengthen” is a verb meaning to become effective or making something more effective. It further defines the concept of strengthen as becoming more powerful or difficult to break. To improve someone’s chance of success. In an economic context, strengthening currency means to increase in value compared to other currencies, e.g. strengthening dollar.

English Language Learners Dictionary (2020, sv “strengthen”) provided the definition of strengthens; strengthen; strengthening as:

- [+ object]: to making (someone or someone) to be more strong, forceful and effective
- [no object]: to be stronger, more forceful and effective
- *Of money*: to increase in value

Dictionary.com (2020a, sv “strengthen”) strengthening as transitive verb (used with a verb) denotes “to make or become stronger, giving strength.

- Verb (used without object)- to gain strength, grow stronger.
- Phonetics: to changing to an articulation where more effort is needed.

Merriam-Webster Dictionary (2020, sv “strengthen”), defined two verbs – transitive verb – to make stronger and intransitive verb: to become stronger.

In the *Merriam-Webster Dictionary* (2020, sv “strengthen”) further definition of strengthen has been stated as: to give support to a position or an argument to a case.

The below stated synonyms for strengthening were indicated:

- Reinforce, enhance, fortify, restore, encourage, consolidate, corroborate, bolster, increase, sustain, intensify, heighten, invigorate, stabilise, vitalise, tone up, substantiate, modify, support and toughen.

6.3.2 Contextual definition strengthening

Concept of “strengthening” in the context of this study focused on the healthcare. Researcher will discuss the concept strengthening inter-alia with healthcare.

Several literatures on the objectives of healthcare and health system have been captured, however, the limited nature of evidence on their agreement of the what is the strengthening of healthcare system has also been noted (Witter, Palmer, Balabanova, Mounier-Jack, Martineau et al 2019:2).

Van Olmen, Criel, Van Damme, Marchal, Van Belle et al (2010:65), briefly defined strengthening as making something stronger. In the context of the healthcare system meant making the current system robust. Strengthening the existing system begins with the identification of the origin of the problem. the identified challenges may be lack of resources and equipment or organisational factors (Van Olmen et al., 2010:67).

The WHO (2007) defined strengthening of health system as efforts to improve the set of six health system building blocks including the management of their interactions to realise the equitable and sustained positive health outcomes in different contexts. The six operational building blocks are service delivery, health workforce, information, medical supplies and technologies, finance and leadership and governance.

Hirschhorn, Baynes, Sherr, Chintu, Awoonor-Williams, Finnegan, Phillips, Anatole, Bawah and Basinga (2013:2) described health system strengthening as aimed at improving the health of the population through quality improvement and utilisation of the primary healthcare services within the public sector. Additionally, the authors alluded that it is critical to understand the measurement of and improvement of quality when embarking on strengthening health systems. Strengthening health system and quality are interlinked in achieving the improved health outcomes. Healthcare strengthening is

defined as initiatives and strategies that are targeted at improving the functioning of the health system permanently by maintaining quality, access, efficiency and coverage (WHO, 2007).

Chee, Pielemeier, Lion and Connor (2013:88) defined health system strengthening as "permanently reorganise the system to function at the better level rather than to bridge the gaps produce short-term outcomes". According to the WHO (2007), health system strengthening is a systematic measure taken in the identification and implementation of modifications on the policy and practice in a health system as initiatives of responding positively to the health challenges access, coverage, efficacy and quality.

In better defining health system strengthening, (Chee et al., 2013:93) emphasised on the need of understanding by the stakeholders to distinguish between the supporting and strengthening activities when evaluating the health systems to attain permanent improvement of health outcomes in all health services.

Strengthening service delivery is described as an important aspect to achieve the SDGs to reduce the maternal and child mortality, HIV and AIDS, TB and malaria. Service provision is the outcome of the inputs into the healthcare system through manifestation of allocation of workforce, procurement of the supplies and financing (WHO, 2010b).

The WHO (2010a) refers to "general service availability" as the physical presence of rendering of services that meet the minimum standards. Availability includes health workforce, infrastructure and utilisation of the service by the communities. Malakoane, Heunis, Chikobvu, Kigozi and Kruger (2020:12) made mention of the concept "fragmentation of health services, workforce shortage and cash-flow challenges" as striding over to hinderance to strengthening the health system in SA.

- **Definition of maternal**

Cambridge Dictionary (2019d, sv "maternal") defined the word "maternal" as an adjective meant behaving or feeling in a way a mother does towards her child, in a kind and loving way. In addition, the word "maternal" meant relation by the way of the mother and related to a mother's side of the family.

Collins Dictionary (2016, sv “maternal”) highlighted the word maternal as an adjective of or like mother. Maternal is used to describe the feelings or actions which are typical of those of a kind mother towards her child. Tending or wish to protect someone.

The *Free Dictionary* (2017b, sv “maternal”) defined the “maternal” as an adjective:

- of, relating to, derived from, or characteristic of a mother
- related through the mother’s side of the family

[From an etymological history, Medieval Latin *māternālis, = matern(us) mater* mother1 + *– nus adj. suffix) +-alis-al1] and* from Latin *mātern(us), from māter* mother].

Dictionary.com (2020b, sv “maternal”) adjectively denotes pertaining to, having the qualities of, or befitting a mother – also maternal instincts, it also gives a definition of relating to a mother or derived from a mother. Whilst *Dictionary.com* (2020b, sv “maternal”) defined maternal as related to mothers or to the period of their pregnancy.

Medical Dictionary for the Health Professions and Nursing (2012, sv “maternal”) provides a definition that maternal means:

- Adjective: Pertaining to the female parent
  Referring to a woman who has given birth

Macmillan Thesaurus Dictionary (2016a, sv “maternal”) defined the word “maternal” as adjective relating to be a mother. A noun as the “state of being a mother”.

Several dictionaries provided the following synonyms for maternal:

- Kindness, sympathetic, parental, affectionate, sheltering, thoughtful, gentle, caring, supportive, protective, nurturing, maternalistic, motherhood, motherly, warm, matriarchal and devoted.

6.3.3 Contextual definition of maternal

The term “maternal” refers to the overall lived experiences that are not limited to the pregnancy. However, the maternal concept cannot be isolated from the word “health” in this study. Maternal has been refined to period of pregnancy, birth, up to six weeks after delivery. The vision is that the global health be able to push maternal health agenda beyond pregnancy and childbirth to embrace the woman-centred approach for those who gave birth and those who have not (Knaul, Langer, Atun, Rodin, Frenk & Bonita 2016:e227).

The word “health” in the context of maternal healthcare may mimic the definition by WHO. However, maternal health may describe care of the women which is of substandard. Maternal health can be measured by two indicators namely mortality and morbidity (WHO, 2018).

Maternal health is defined as healthy state of and a positive experience of the women in pregnancy, during childbirth and in postpartum (WHO, 2018:12). Maternal health is perceived as a cornerstone for the healthy communities, economies and nations. Investment in maternal health should be a priority not because of fear of death in women but because women have since been drivers of economy (Africa Progress Panel Policy Brief, 2010:27).

- **Definition of healthcare**

Merriam-Webster Medical Dictionary (2019, sv “healthcare”) definition of “healthcare”: efforts made to maintain or restore physical, mental, or emotional well-being especially by trained and licensed professionals (as in medicine, dentistry, clinical psychology and public health)/healthcare providers. Whilst *Merriam-Webster Learner’s Dictionary* (2020, sv “healthcare”) offered the definitions on the word “healthcare”:

- The prevention or treatment of illness by doctors, dentists, psychologists, etc.
- Healthcare adjective always used before a noun – *healthcare workers.*

Macmillan Thesaurus Dictionary (2016d, sv, “healthcare”) defined healthcare as a noun. It is a service of looking after people’s wellbeing. Nevertheless, the *Free Dictionary* (2017c, sv “healthcare”) defines “healthcare” as:

- Noun – as the prevention, treatment, and management of illness and the preservation of mental and physical well-being through the services rendered by the medical and allied health professions.
- Adjective – of or relating to health are.

Collins English Dictionary (2014b, sv “healthcare”) stated that healthcare various services for the prevention or treatment of illness and injuries. On the other hand, *Free Dictionary* (2017c, sv “healthcare”) explains healthcare as provision of medical services.

The following synonyms were detailed:

- Public health, medical management, preventive medicine, health protection, health maintenance, wellness programme, health insurance, medicare and health-conscious.

6.3.4 Contextual definition of healthcare

Healthcare service is intangible and cannot be touched, felt, viewed, counted, or measured (Mosadeghrad, 2014). However, healthcare and quality are inseparable variables. Furthermore, “healthcare services are produced but cannot be stored for later use”. Provision of healthcare service to the patients in a competent manner which is respectful in nature, and culturally sensitive is regarded as good quality healthcare (Schuster 1998:518).

Healthcare environment is complex and dynamic, characterised by constant changes and reforms. (Ayeleke et al., 2018:89). Healthcare being broad and sometimes confusing, it has reached a stage where it may refer to every aspect, service, product or technology for taking care of own health. The services should always be of professional standards (Mosadeghrad ,2014)

Access to healthcare of quality is considered a human right. The Declaration of Alma-Ata adopted the concept of primary healthcare as a fundamental health service. Primary healthcare is the point of entry for healthcare system and it aids with coordination of people's care and their health needs to either prevent and treat illnesses, promote health and provision of rehabilitative and palliative care (WHO, 2018:4). Primary healthcare services provide coverage to a large and growing proportion of a national healthcare delivery (WHO, 2018:8). European Social Charter specified that good quality healthcare is a basic human right for every person and every community (Council of Europe, 1996).

Participation of the patients, families and the health professional and integrative and collaboration approach of all these stakeholders may yield an exceptional healthcare (Morley & Cashell, 2017:207).

- **Definition of service**

Cambridge Dictionary (2019a, sv "service") – meaning of the word "service" as a noun (public need) is defined as a government system or private organisation responsible for a specific activity, or provision of a thing that is needed by the people. e.g. *Mr Smith is working in public health services".*

In the context of dealing with people or customers – "service" noun: means the act of dealing with clients in a shop, restaurant or a hotel by taking orders, or selling them goods, etc. Additionally, "service" noun (work) refers to work someone does, or time spent working for the organisation. The word "service" noun (repair) "she booked her car for service".

In a financial context, "service" means to make a systematic payment to pay back debts, including interest (*Cambridge Dictionary* 2019a, "service").

Macmillan Thesaurus Dictionary (2016b, sv "service") described the word "service" as a noun. It is a system officially provided for public's needs. Furthermore, the word "service" meant to do work or perform duties for someone. Whilst in the context of refreshing – the word "service" can be used as a verb. Examining and repairing an object, e.g. a vehicle or machine.

“Service” as an adjective is used by the staff of a building or organisation, and not by customers or the public. In the context of service sector, “service” means aiding, information, or advice for the public in exchange for a payment.

The following are the synonyms of service:

- Work, serve, collaborate, kindness, ceremony, ministry, labour, benefit, employ, function, help, use, volunteer, assistance, obeisance, maintain, favour, utility, repair and revamp.

6.3.5 Contextual definition of service

Service in the context of health signifies the type of care delivered, including service of health promotion, prevention of diseases, diagnosis treatment and management of conditions.

Health service refers to organisation that provides care and to the product supplied to the recipient of care. These services should aim at improving the health of the people rendered in various modes and platforms depending on the settings. Furthermore, there are other terms with reference to healthcare such as “primary healthcare”. The word “service” can be used as a generic term for both health and primary healthcare.

Health services are intended to better the health without causing harm that can compromise health of the communities (WHO, 2013a).

According to WHO (2013a), health service means any type of service aimed at improving the health of or diagnosis, treatment and rehabilitation of the ill persons and not limited to medical and clinical services.

- **Definition of delivery**

The *Free Dictionary* (2017d, sv “delivery”) provides the following definitions amongst others:

- An act of conveying or delivering or delivery of something, as a ship or package.

- The act of transference. In the context of law, it refers to a formal act of transferring ownership of property to another (delivery of a deed).
- The act of throwing or discharging.
- The act of giving birth; parturition.
- Utterances or enunciation, meaning the manner of speaking or singing.

According to *Macmillan Thesaurus Dictionary* (2016c, sv "delivery"), the word delivery is defined as the process whereby personal property or letters are brought to a place. Additionally, *Macmillan Thesaurus Dictionary* (2016c, sv. "delivery") is a noun, with six-word forms used in different context.

- Bringing goods to a place
- Providing a service
- Giving birth
- Style of hit or throw
- In computing
- Speaking in public
- Goods that are brought to a place
- The process of service delivery of: *"South Africa needs to improve delivery of healthcare"*
- In the process of giving birth to an off-spring *"She had a very easy and quick delivery"*
- In the context of computing *"the process of providing information through a computer"*
- In public speaking *"the manner one speaks in the public"*
- In sporting - delivery may refer to the "skill one throws or hits the ball" (*Macmillan Thesaurus Dictionary* 2016c, sv "delivery")

Cambridge Dictionary (2019b, sv "delivery") defined the word "delivery" as the act of taking goods etc to people's residential places or places of work. Furthermore, delivery noun (birth) described as a process of birthing.

6.3.6 Contextual definition delivery

Delivery of service forms part of the health system where service users are offered treatment and supplies needed (Transparency International Health Initiative).

Healthcare service delivery can be described as the processes in which services are selected and managed, care is designed, health providers are organised, and lastly performance healthcare improves (WHO, 2010b). While the WHO (2003:76) stressed that patient-centred service delivery should be upscaled, and that health maintenance requires an active coordinated approach of continuity between preventive, primary and hospital care.

Synonyms of delivery:

- Referral, handing over, express transfer, transmission, shipment, conveyance, accouchement, dispatch, rescue, provision, distribution, redemption, salvage, supply, articulation, expression, reclamation, reformation, confinement, labour, parturition and consignment.

6.4 REDUCTION PROCESS OF THE IDENTIFIED ATTRIBUTED

The process of identification of the documented attributes in this section involved the essential and related attributes of the major concept. The researcher attempted to define the concept “strengthening maternal healthcare service delivery” commenced with the identification of the major attributes strengthening, maternal health, care, service, delivery. Lastly, the researcher recorded characteristics of the concept that were repeatedly noted.

Contribution of each criterion to the conceptualisation of strengthening of the maternal healthcare service delivery were written in italic in both dictionary and subject-related literature definitions. Criteria with the same meaning were grouped together to develop a list of essential and related criteria in strengthening maternal healthcare delivery. The defining attributes of strengthening were as stated below:

Attributes of the concept “strengthening”

- **Reinforce,** enhance, fortify, restore, encourage, consolidate, corroborate, bolster, **improve,** sustain, intensify, heighten, invigorate, stabilise, **effective,** vitalise, tone up, substantiate, modify, support and toughen.

Based on the above-mentioned list, the researcher drew up the essential and related attributes list as presented in the table below:

Table 6.1 Essential and related criteria of the concept "strengthening"

Essential attributes	Related attributes
Reinforce	• Augment • Making more effective • Making something stronger • Providing more support by adding more material to something • Increasing the power onto something • Adding emphasis
Improve	• Making something better • Bring to good condition • Making something useful • Adding value • Improve chances of success
Effective	• Success • Producing quality • Producing good results • Achievement of desired results

Definition of strengthening – improving the effectiveness of something into a firm frame to secure results.

Attributes of the concept "maternal"

- **Kindness,** sympathetic, parental, **affectionate,** sheltering, thoughtful, gentle, **caring,** protective, nurturing maternalistic, motherhood, motherly, warm and devoted

Table 6.2 Essential and related criteria of the concept "maternal"

Essential attributes	Related attributes
Kindness	• Having sympathetic attitudes towards humanity • Be friendly or cordial to others • Offer help to someone • To offer support • To be gentle at heart
Affectionate	• Feeling of caring for something or someone • Showing love • Passion • Be warm toward someone • Become attached and fond to
Caring	• Feeling empathy for others • Showing concern for people • Looking after others • Having compassion • Interpersonal relationship

Definition of "maternal" – the innate character of kindness and caring by the woman who gave birth.

Attributes of the "healthcare"

- **Healthcare delivery,** health maintenance, health protection, wellness programme, medical management, medical attendance, **well-being,** health services, medical attention, care, health coverage, provision of healthcare

Table 6.3 Essential and related criteria of the concept "healthcare"

Essential attributes	Related attributes
Healthcare delivery	• Satisfactory condition of existence • Overall state of health • Meeting health needs • Maintenance of health
Well-being	• Restoration of physical and psychological state of health • Prevention of disease • Treating illnesses and healing • Preserving and sustaining health • Improving health

Definition of healthcare – restoring state of complete well-being through healthcare delivery.

Attributes of service delivery

- **Serve,** collaborate work, kindness, ceremony, labour, benefit, employ, function, **help,** use, volunteer, assistance, obeisance, maintain, favour, utility, repair and revamp.

Table 6.4 Essential and related criteria of the concept "service delivery"

Essential attributes	Related attributes
Serve	• Render assistance or help • An act of being a servant • Performing duties of service • To be in service of work • Treating someone in a specific manner.
Help	• Availing oneself to help others • Executing of the organisational and operational duties of the department

Definition of service delivery – being a servant performing duties of service.

All above listed attributes of strengthening, maternal health, care, service delivery was then combined to strengthening maternal healthcare service delivery essential and related attributes.

6.5 CONCEPT ATTRIBUTES AND APPLICATION

The application of concepts is a logical process following the identification, organisation and clarification of such concepts or terms (Chinn & Kramer, 2011). According to the latter authors, the application of the identified critical concepts or terms is relevant for innovating any aspects of a developed model. According to Chinn and Kramer (2011) and Walker and Avant (2013), distinguishing between essential and related traits of the concepts is imperative, because such differentiation is useful for grouping similar attributes and isolating their peripheral aspects. In this regard, the researcher agrees to the essentialisation and application of the critical concepts in their disciplinary, practice and ordinary colloquial application.

The following concepts depicted in Table 6.5 are then viewed as worthy of clarification and application, especially in the context of maternal health and its attendant sensitivities: reinforce/strengthening; improve; effective; kindness; affectionate; caring; healthcare service delivery; well-being; serve; help; and maternal.

Table 6.5 Summary of essential and related attributes of the study concepts

Essential attributes	Related attributes
Reinforce	• Making more effective • Making something stronger • Providing more support by adding more material to something • Increasing the power onto something
Improve	• Making something better • Bring to good condition • Making something useful • Improve chances of success
Effective	• Producing quality • Producing good results • Achievement of the desired planned outcomes

Essential attributes	Related attributes
Kindness	• Having sympathetic attitudes towards humanity • Be friendly or cordial to others • Offer help to someone • To offer support • To be gentle at heart
Affectionate	• Feeling of caring for something or someone • Be warm towards someone • Become attached and fond to something or someone
Caring	• Feeling empathy for others • Looking after others • Having compassion • Interpersonal relationship
Healthcare delivery	• Satisfactory condition of existence • Overall state of health • Meeting health needs • Maintenance of health
Well-being	• Restoration of physical and psychological state of health • Prevention of disease • Treating illnesses and healing • Preserving and sustaining health • Improving health
Serve	• Render assistance or help • A humble act of being a servant • Performing duties of service • To be in service of work.
Help	• Availing oneself to help others • Executing of the organisational and operational duties of the department
Maternal	• Attached or linked to a mother • Care provided by the mother to her child, in a kind and loving way • Related to a mother's side of the family

(Source: Adapted from Belaid & Ridde, 2012:10); Chinn & Kramer 2011:198).

The concept of "strengthening maternal healthcare" has been reduced to its essential and related criteria. The final conceptual definition is described below:

6.5.1 Relating and structuring concepts: A mind map

Reduction process of identified attributes generated the essential criteria of the concept "strengthening maternal healthcare service" within the context of the midwifery facilities

in the public hospitals. Secondly, aimed at the formulation o conceptual definition of maternal healthcare service delivery. The concepts are simplified and designed in a schematic diagram to illustrate the existing relationships (Chinn & Kramer 2011:180).

Strengthening maternal healthcare has been described in several processes to achieve positive maternal health outcomes. The mind map illustration in figure … below was based on the study results of both qualitative and quantitative phase. Participants' change of perception of the current state of affairs would be realised from the implementation of this model to strengthen maternal healthcare towards the midwives and perinatal women.

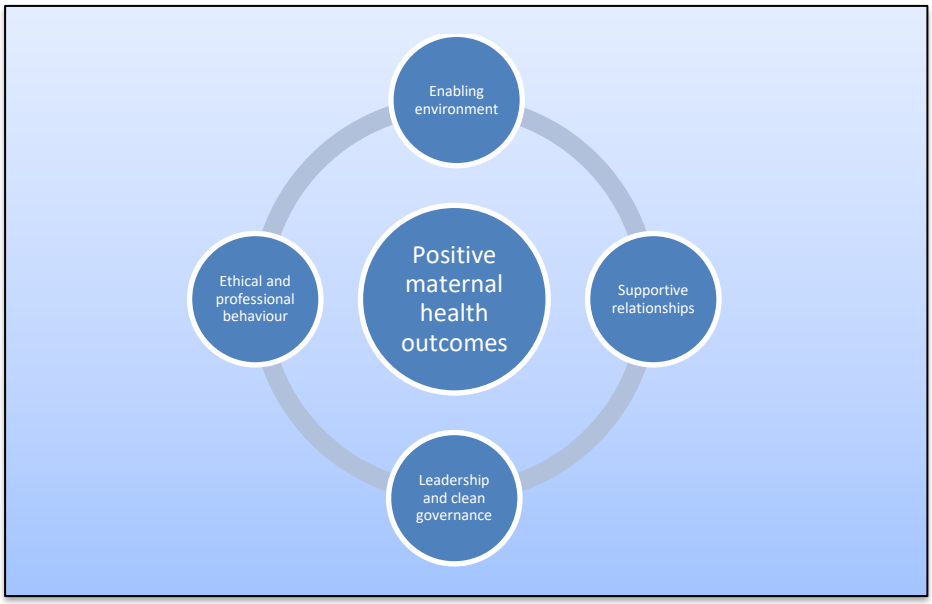

Figure 6.2 The researcher's mind map of the model

Based on the study results, model is constructed on five concepts each representing the cited sources of maternal healthcare. Hence, the study emerged with interventions to address the professional ethics, communication, resource allocation, conflict resolution and satisfaction, good and clean governance.

6.6 OVERVIEW OF RESEARCHER'S PROPOSED MODEL FOR STRENGTHENING MATERNAL HEALTHCARE SERVICE DELIVERY IN GAUTENG PROVINCE

According to Child (2010) and Walker and Avant (2013), the development of any model aims at improving the functioning, performance and efficiency of organisations. Similarly, the proposed model being discussed in this section is also intended to positively

contribute to the **strengthening of maternal healthcare service delivery** to perinatal women in public hospitals as healthcare organisations. The proposed model responds to the following objective of the study as mentioned in Chapter 1: To develop a model to strengthen maternal healthcare service delivery in Gauteng Province.

6.7 PURPOSE OF THE MODEL

The fundamental purpose of this model is to contribute towards the improvement of maternal healthcare service delivery to reduce the maternal complications and deaths. In this regard, the model makes theoretical framework reference imbued with the influence of Chinn and Kramer (2011), although other supporting references are made where necessary. It is also worth stating that the conceptual orientedness of the model does not in any way deviate from the model's intention to make a policy-focused contribution towards the increase of the user-friendliness and approachability of maternal healthcare services (Belaid & Ridde, 2012). In addition, the researcher is cognisant of the indispensable requirement to become a practical tool rather than a grandiose conceptual or theoretical 'castle in the air'. Notwithstanding, the model is also envisaged to contribute to the body of knowledge, specifically in midwifery and nursing to support the midwives in the practice of their profession. The model drew on the following main objectives:

- To strengthen delivery of maternal care and support to perinatal women to realise positive health outcomes in maternity units within Gauteng Province.
- To bridge the service gaps identified in maternal healthcare by this study, through turning the control knobs to the right direction to improve efficiency, quality and access to reduce health risk and health status of women to achieve high customer satisfaction).
- To provide the real-world interventions to support the midwives in rendering midwifery care to perinatal women.

6.8 ASSUMPTIONS OF THE MODEL

The need for model assumptions is linked with connecting statements that fundamentally premise on ideas and reasons propelling the planned model (Chinn & Kramer, 2011). For instance, the idea of Symbolic Interactionism thinking was utilised to seek better understanding of the relational patterns between midwives, perinatal women and among

individuals in the society (Meltzer et al., 2020). The following are examples of symbolic interactionism thinking:

- People act to things because of the meanings they have for them
- The meanings are created from the social interaction between people
- The interpretative process is then used to modify and handle these meanings

Therefore, this proposed model shows the symbols in which reality is constructed, and represented the individual, interpersonal and organisational challenges between the midwives and women. Generally, midwives and perinatal women need to interact harmoniously whenever healthcare is being sought to improve health outcomes.

The environmental connection between midwives and perinatal women is perceived as an interdependent system. As such, the environment is the major influence and motivating force in the delivery of maternal healthcare (Ariyo et al., 2017). The following factors underpin the interconnectedness of symbolic interactionism's assumptions in the realisation of the maternal healthcare service delivery model:

- Public maternity units are settings in which midwives and women interact amongst each other in the process of rendering maternal healthcare. During their interaction they communicate with each other in quest to delivery of maternal health.
- Maternal healthcare requires effective execution by the midwives who have excellent professional ethics and are committed, competent and highly skilled to improve delivery of healthcare that would be of quality.
- In rendering of quality maternal healthcare, collaborative engagement of and comprehensive support from all relevant stakeholders is needed to achieve positive maternal health outcomes.
- Positive maternal healthcare would be enhanced through strengthening maternal healthcare, whereby all contributing factors are handled adequately to resolve the individual, interpersonal, organisational, community and policy challenges that are existing in order to reduce maternal morbidity and mortality.

6.9 CONTEXT OF THE MODEL

The context wherein the phenomenon was experienced, and its values will provide important meaning that influences the representation of that experience (Chinn & Kramer, 2011). The model's emphasis on maternal health strengthening represented the sites – including public health facilities – in the maternity units of Gauteng Province. The study was conducted in the public hospitals, which were accredited by the Office of Health Standards (OHS) and the SANC. It is from that background that maternal healthcare services are rendered with placement of skilled personnel (midwives) to achieve the objectives of national health policies and objectives (NDoH, 2018). The midwives will also need continuous professional development (CPD) as mandated by the SANC as the statutorily established body to regulate the nursing profession to provide maternal healthcare according to the set standards. This model portrays the midwives and managers as critical in the provision and strengthening the maternal healthcare. The concepts of enabling and caring environment, professional ethics, supportive relationships and good governance are mentioned in the structure of the model.

6.10 THEORETICAL DEFINITIONS OF MODEL CONCEPTS

Theoretical definition is a statement of the meaning that conveys essential features of a maternal healthcare in a way that fits meaningfully in a theory and specifies conceptual meaning and implies the empirical indicators for the concepts (Chinn & Kramer, 2011). The concepts identified in the earlier section of this chapter are reiterated to ensure continuation and understanding when describing the model. The identified main concepts and their essential attributes were:

- Strengthening/reinforcing
- Maternal health
- Healthcare
- Service delivery/provision

6.10.1 Relationship statements of the model

Relationship statements are attributed to the structural interrelation of the concepts (Chinn & Kramer, 2011). The model contains several levels of relationship statements,

with reasonable explanation of how concepts interact. The relationship statements of this model are complex because they discuss dimensions quality, contexts and circumstances proposed.

To achieve positive maternal health outcomes for perinatal women accessing care in the public healthcare facilities, it is important to enrich *professional ethics*. Achieving quality maternal healthcare requires, inter alia, fortification of the training on the professional behaviour and ethics in the curriculum development (Borrelli et al., 2016). This will result in the modification of the attitudinal behaviour of the midwives, perinatal women and society. Finally, the midwives will become efficient in handling their behaviour when taking care of the perinatal women.

Midwives can become efficient with regards to the professional conduct, they can be able to provide an *enabling and therapeutic environment* for their patients and clients to receive customised maternal care (Borrelli et al., 2016). The therapeutic environment will also overcome the challenges presented by cultural, tribalistic and language barriers, which is conducive to building on the relationships between midwives, women and families/communities.

6.11 STRUCTURAL DESCRIPTION OF THE MODEL

Concepts must form a structural pattern to identify the relationships between them (Chinn & Kramer, 2011). Accordingly, structural connections assist with understanding of the relationships of the variable in this model, whose development is based on the study results from both qualitative and quantitative phases and logical reasoning of the researcher.

The reasoning is based on existing literature and experience in midwifery. In Section 1.5 (Chapter 1) of this study, the third objective is: *To assess current maternal healthcare practices in the context of existing policies and protocols in Gauteng Province.* It is that context that shortcomings such as implementation of policy evaluation were found to be prevalent. Similar findings were shared in Burkina Faso (Belaid & Ridde, 2012).

The model depicted in Figure 6.3 below is a schematic representation of the actual maternal healthcare service delivery framework proposed by the researcher as a

contribution towards a policy-focused improvement in maternal healthcare service delivery in Gauteng Province's public health facilities. The model further represents different dimensions based on the main concepts to provide cogent meanings relative to the discussions and understandings of the interconnectedness of the concepts. The central conceptual tenets of the model are discussed overleaf below the model itself.

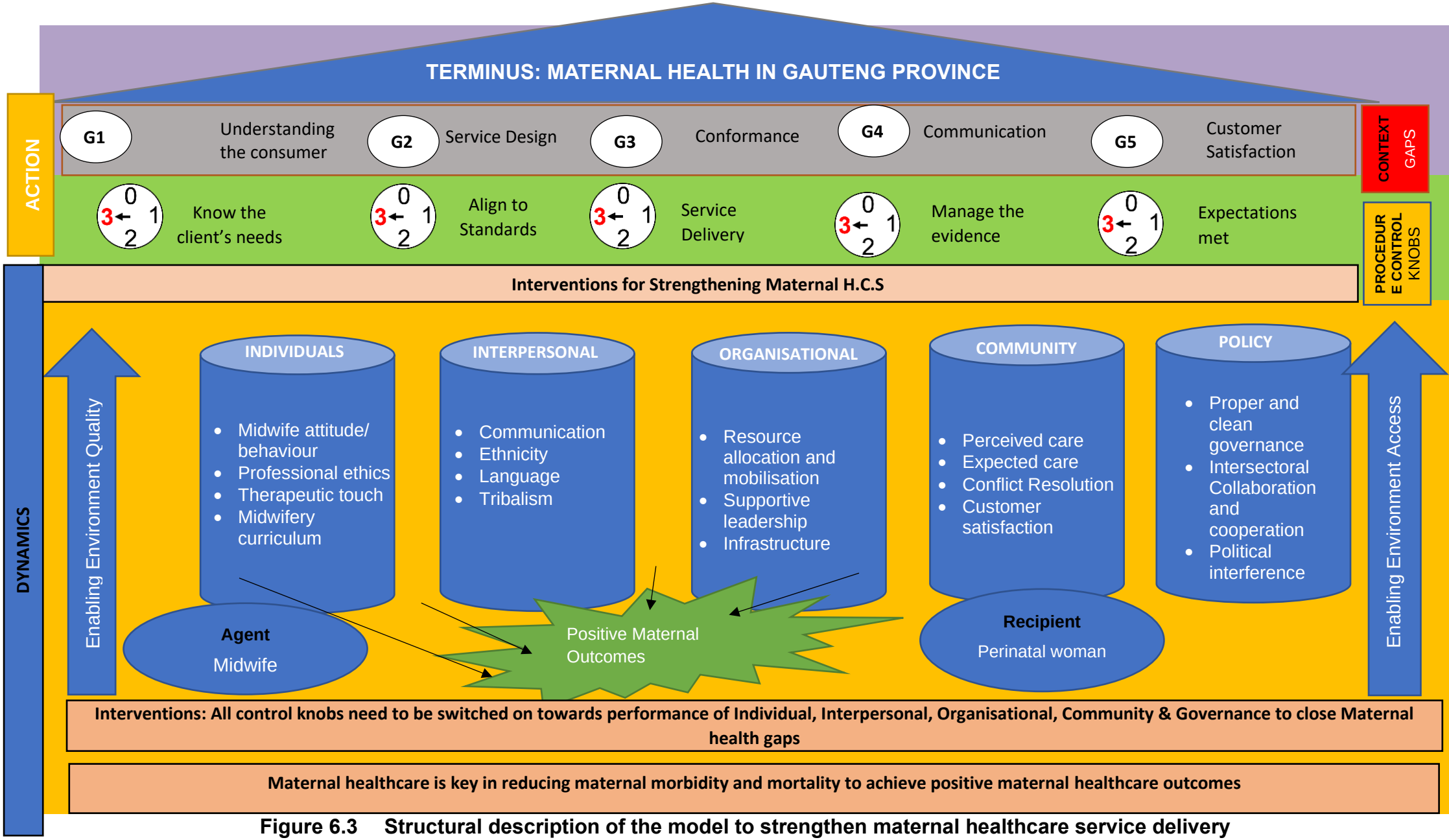

Figure 6.3 Structural description of the model to strengthen maternal healthcare service delivery

(Source: Researcher's own adaptation from various literature sources and the study's empirical findings)

- The background colour of the model is gold, which represents success and triumph in intersectoral collaboration of all stakeholders in upholding maternal health policy and guidelines as detailed by the Department of Health as the custodian of health. SANC as the regulator is responsible for public protection through implementation of professional standards and conduct. The function of SANC in the training of midwifery programmes is mainly to regulate and maintain the standard for nursing education and training including practice as well as accreditation thereof (SANC, 1985). The Office of Health Standards Compliance as the monitoring and evaluation body ensures that evaluation of health facilities is conducted, to protect and promote the service users' safety and quality of healthcare.
- The triangular roof-like top of the structure in a blue colour represents the protection and support of maternal healthcare. Blue colour in this model it is used to promote maternal healthcare.
- Grey circles represent the disconnection and the gaps in the way the human beings ought to interact with their environment. Grey is a colour of balance. The circles represent lack of trust and represent the service quality gaps identified in this study.
- The second layer with circles in green depicts the control knobs and the socio-ecological impact on the maternal healthcare service delivery.
- The colour green represents nature. It represents harmony and emotional stability. Green symbolises growth and hope. The interventions to strengthen the maternal health in Gauteng Province, as depicted in the proposed model gives hope to women and midwives in their midwifery care.
- The thunder or lightning shape (14-points explosion) in the context of this model means the ignition of the regenerative power within the midwifery field. Secondly the light blue, represent health, healing and peacefulness. In this model, light blue symbolises the peace that will be achieve by midwives and women seeking maternal healthcare services in the public hospitals.
- The two levels at the bottom, in an orange colour represent the success and happiness that is achieved, including the balance between expected and perceived services anticipated by the women as they enter the health facilities. This model endeavours to illustrate the importance of endurance and determination to render quality maternal healthcare to strengthen the healthcare systems in SA.

- The blue coloured pillars represent strength in stimulating mental thinking and producing physical energy (positive attitude) for designing effective interventions that are needed to strengthen maternal healthcare service delivery.

The structure of the model emerged from the five major concepts that define environmentally induced relational gaps between midwives and their patients, namely:

- Individual factors
- Interpersonal challenges
- Organisational challenges
- Community factors
- Policy factors

6.12 OPERATIONALISATION OF THE MODEL

The researcher proposed the following interventions to operationalise this model to improve maternal healthcare service. It will also enhance an enabling environment for both providers of care and users based on the objectives stated below:

- To explore and describe the participants (midwives and perinatal women) experiences and perspectives regarding the provision of maternal of healthcare services in Gauteng Province. The service gaps identified in maternal healthcare in this study, through turning the control knobs to the right direction to improve efficiency, quality and access to reduce health risk and health status of women to achieve high customer satisfaction. The real-world interventions to support the midwives in rendering midwifery care to perinatal women.

6.12.1 Initial phase

In this phase, the researcher identified service gaps from the conclusions of the study findings, which will be addressed in the intervention phase. This included the factors contributing to current practices of maternal healthcare provision. A critical assessment of the maternal healthcare provision to the users by providers is crucial to ensure that the researcher develops an effective model of interventions.

6.12.2 Intervention phase

After the initial assessment of the phenomenon, then the interventions to address the service gaps identified are necessary to produce positive outcomes. The assumption is that multi-pronged strategies to improve on the maternal healthcare by all relevant stakeholders will harvest a great influence on midwifery outcomes. The interventions structured towards strengthening maternal healthcare will focus on the environment, professional ethics and relationships. These interventions are aimed at achieving the main objectives and finally quality maternal healthcare.

- The study findings from both qualitative and quantitative phases confirmed that healthcare facilities confront many challenges. In Chapter 1, item 1.5 one of the objectives “to assess the current maternal healthcare practices in the context of existing policies and protocols in Gauteng province”, certain shortcomings such as implementation of policy evaluation was limited, and scarce. Below illustrate the objectives and the intermediate objectives and their interventions”.

6.12.2.1 Objective 1: To strengthen maternal healthcare service

Delivery of maternal healthcare should be safe, effective and culturally appropriate, and rendered in a manner that is respectful to women’s rights (Bulto, Demissie & Tulu, 2020). This study revealed that maternal healthcare service delivery is affected by multifactorial causes. Increasing the resources at the facility level is important to realise the global targets for maternal and neonatal health outcomes and closing the gaps of service delivery for all women (Sumankuuro et al., 2017).

South Africa is one of the countries that have invested greatly in the training of nurses and midwifery education in order to increase the numbers of the health workforce in the maternity units, but the numbers have not increased significantly yet (Austin-Evelyn et al., 2017). Additionally, the significance of developing infrastructure is crucial in the improvement of maternal healthcare (Manyisa & Van Aswegen, 2017). Dysfunctional physical environment is one of the compounding factors that hamper quality healthcare delivery in the maternity units (Lori Stalls, Rominski, 2016). In this regard, the current study revealed lack of human resources and equipment in the midwifery units as an

inhibiting cause for effective services. Table 6.6 depicts intermediate objectives of the strengthening of maternal healthcare services.

Table 6.6 Intermediate objectives for objective 1

Intermediate objective 1.1: Theme − Maternal healthcare	
Interventions	• Listen to the experiences of the midwives and perinatal women regarding maternal healthcare service delivery. • Reach out to the plight of the midwives to address their individual challenges, visibility of the managers and support have been echoed greatly in the study findings. • The management must play active role in resolving staff shortages that may have a negative influence in rendering quality maternal care. • Adequate funding through proper forecasting of budget by the NDoH must be made a priority to employ nurses on critical positions. • Develop guidelines and programmes to enhance trust midwife among women and midwives. • Identify the challenges of labour monitoring and poor documentation of labour progress by the midwives, thus, a need to design a user-friendly electronic partograph and its training budget for improved recording and maternal outcomes. • Provide enough of maternal health guidelines pocket fitting handbooks for each midwife to refer always within the midwifery facilities. • Facility infrastructural aspects should be reconstructed to allow access to all those who seek for healthcare in the public health sector.
Intermediate objective 1.2: Theme − Service delivery	
Interventions	• Leadership of the health facilities must be in a position to identify and prioritise the problems of the settings. • Improve quality of the maternal healthcare through adequate allocation of resources including the use of the health policies, guidelines and protocols in the healthcare facilities. • Re-engineer the outlook of the infrastructure of the healthcare facilities to allow comfort and privacy of the women admitted, embracing their constitutional and human rights. • Use of extrinsic rewards recognise the hard work of the midwives to improve the attitudes of the midwives and boost their self-esteem through introduction of the appreciative tokens rewards such as the “best polite midwife of the month/year”. • Call for quality improvement by health workers is crucial to meet the expected and perceived maternal healthcare by the customers. • Achieve universal maternal health coverage through implementation of the health policies to ensure that appropriate policies are implemented. e.g. free maternal healthcare.

6.12.2.2 Objective 2: To address service quality gaps in maternal healthcare service delivery

The South African health workforce is decreasing rather than increasing (WHO, 2013b). As such, WHO (2013b) estimated that more than 4 million health workers in SSA and Asia would need an increase of about 140% to meet the gaps. To date, the health workforce is still an ongoing crisis. The current study has found that there are organisational and community gaps that need to be addressed through the implementation of these interventions such as indicated in Table 6.7 below.

Table 6.7 Intermediate objectives for objective 2

Intermediate objective 2.1: Theme – Organisational	
Interventions	- The current pattern of employing the midwives clearly is not assisting to close the gap to improve maternal healthcare service delivery. COVID-19 further exposed the need to upscale the health workforce, with many healthcare workers losing their lives in the line of duty. - Thus, managers need to strengthen the staff-patient ratio through filling all vacant and critical positions eventually burnout that the midwives are reporting will gradually fade away.
Intermediate objective 2.2: Theme − Community challenges	
Interventions	- Re-established community collaborations to allow platforms to resolve conflicts between healthcare providers and communities. - Department of Health need to create the public dialogues through radio and television on maternal healthcare to allow a broader support and solidification through hospital boards, health days with public involved to a greater extend. - Plan anti-tribal and ethnic campaigns for the healthcare workers to address challenges that fuel hatred amongst health providers and users. Organising traditional days with traditional attire and dishes, thus improving on the maternal health outcomes.

6.12.2.3 Objectives 3: To support providers and users to achieve positive health outcomes

Globally, over 70% of maternal deaths are due to complications of pregnancy and childbirth (WHO, 2016). Effective prevention and management of conditions in pregnancy, childbirth and in neonatal period can reduce maternal deaths significantly. Maternal health coverage of essential interventions and maternal mortality have showed poor correlation compared to high-quality care in respect of infrastructure, staff and

commodities to maintain effective case management (WHO, 2016). Table 6.8 below is indicative of interventions that are necessary to ameliorate the state of maternal deaths in healthcare facilities.

Table 6.8 Intermediate objectives for objective 3

Intermediate objective 3.1: Theme – Environment	
Interventions	• Create an enabling environment for women seeking maternal healthcare service in the healthcare facilities. • Nursing Education Institutions (NEIs) should strengthen the curriculum and their learning outcomes in relation to culturally sensitive midwifery care. • Midwives and accoucheurs should be trained in customer relations and upscale the communication skills. • Plan programmes to embrace all culture and ethnicity despite one country of birth. • Develop clear policies such as that of language and out-of-pocket payment of the immigrant women who are in labour regarding admission to maternity units. • Furthermore, NDoH should employ interpreters to ease the midwives' frustrations brought by language barriers, thus be encouraged to respect the languages of other especially foreigners. • Employer should design programmes to support the midwives with the stressors they are facing on daily basis such as debriefing sessions conducted by a competent person.
Intermediate objective 3.2: Theme – Communication	
Interventions	• Design and display the posters and algorithms on therapeutic communication skills in the healthcare facilities to moralise the health providers of their communication rules. • Plan the programmes with ethics advisory bodies that will promote professional ethics and moral attributes of the midwives to continuously ensure positive attitudes, behaviour and values through establishing professional ethical buddies within healthcare facilities. • Enhance proper attitude on foreign reception of the front liners in the healthcare facilities. • Plan for long-term goal on the Inter- African Country Exchange of midwives to also cater for the challenges of language barriers revealed from the study.
Intermediate objective 3.3: Theme − Empowerment and Development	
Interventions	• Strengthening personal and professionalism in nursing and midwifery curriculum that seem to be inadequate, therefore, Continuous Professional Development (CPD for ethical behaviour) is imminent. • Organise coaching and mentoring programmes of on-job training and workshops to keep the midwives updated with the midwifery skills. • Develop operational plans that will embrace caring and therapeutic touch to support the affection of self-worthiness.

6.12.3 The sustenance phase

In this phase, strengthening maternal healthcare service delivery is a crucial process for sustained and improved maternal healthcare in the public health facilities. All persons of authority from government and other stakeholders need to provide resources and mobilisation thereof to strengthen maternal healthcare (Manyisa & Van Aswegen, 2017).

6.12.3.1 Objectives 4: To support an enabling maternal healthcare service delivery environment

This study has found that organisational challenges and policy factors resulted in lack of resources and equipment (79%) in the maternity units. The midwives (58%) also indicated that they were unable to render midwifery care to women. Additionally, the maternal healthcare rendered to the women was of poor standard (45%). Table 6.9 below is a depiction of interventions associated with support for an enabling healthcare service environment.

Table 6.9 Intermediate objectives for objective 4

Intermediate objective 4.1: Theme − To promote clean and good governance in public healthcare service	
Interventions	• Ensure clean and proper governance by all those charged with the responsibility to manage the healthcare facilities. • Appointing managers with relevant qualifications, skills and expertise in strategic positions of leadership to ensure smooth running of healthcare service. • Advocate for Departmental maternal health policies on free maternal healthcare despite of the nationality of the woman. Out-of-pocket payment of unemployment is denying undocumented women access to maternal healthcare. Furthermore, destabilising the SDG's 2030 of improving MCH by decreasing maternal mortality and morbidity. SA as one of custodians of WHO, surely have an obligation to uphold health polices and responsive to human rights. • SA government to prioritise health resources through strengthening the implementation of NHI regarding all-inclusive insurance schemes. Introduction of small payroll tax to complement general tax funding for health service, however evaluation and monitoring of such funding should be initiated to close possible gaps for corruption. • Advocate or adequate maternal healthcare financing for proper mobilisation of human and material resources in the maternity healthcare facilities.

	• Maintain a balance between the expected and perceived maternal healthcare through upholding the health policies, innovative and sustainable marketing strategies to promote customer satisfaction.
Intermediate objective 4.2: Theme − Political will and commitment	
Interventions	• Audit the lifestyle of the politicians and government officials to address the challenge of corrupt activities and redirect the funds to the poorest of the poor to at least receive the quality maternal healthcare.

6.13 EVALUATION OF THE MODEL

Evaluation of the model is significant for performance and quality assurance to the agents and recipients alike (Chinn & Kramer, 2011). The model shown in Figure 6.3 was evaluated by three expert academicians one specialising in model development and two in the field of midwifery. The experts reviewed the model on clarity, simplicity, generality, applicability. Evaluation of the interventions done with particular focus on the five main themes, namely: individual factors; interpersonal and organisational challenges; as well as community and policy factors. These experts then provided a written report with inputs and recommendations, which were incorporated accordingly (Chinn & Kramer, 2011).

6.13.1 Clarity of the model

According to Chinn and Kramer (2011), evaluating the model reflects on four major concepts, namely:

- Semantic clarity
- Semantic consistency
- Structural clarity.
- Structural consistency

Clarity refers to “how well the theory can be understood and consistently the ideas are conceptualised, whilst consistency refers to the manner the concepts are consistently used with their definition” (Chinn & Kramer, 2011:118).

The researcher constructed the definitions of the concepts in a sequence from identification of the main concepts, their attributes, theoretical definitions and subsequently developed the structure of the model. In the tentative model and its broad parameters (i.e. Section 6.2), clarity was obscured. However, the final model (articulated

in Section 6.8 and presented in Figure 6.3 became clearer because of the use of diagrams and the concepts were interconnected and organised into a coherent whole. The researcher removed the stand-alone concepts, and used interventions planned for each objective.

6.13.2 Simplicity of the model

Simplicity means the number of the elements in each descriptive category are minimal, rather than the complexity imposed by numerous theoretic relationships (Chinn & Kramer, 2011). In this final proposed model, essential and related attributes were grouped from the main concept and their relationship was explained. The researcher kept the model and its sub-categories less complex for the ease of readers.

6.13.3 Generality of the model

Chinn and Kramer (2011) define generality as the breadth of the scope and the purpose of the model and its applicability to a broader array of situations. This model was developed to strengthen the maternal healthcare service delivery mainly within the provincial public health facilities. This model shows a level of comprehensiveness and complementarity of maternal healthcare and positive maternal health outcomes and generated the hypothesis: "*Quality maternal healthcare leads to positive maternal health outcomes"*. Therefore, this model is viewed as having a higher degree of generality because it addressed broad concepts. The model can also be applied to other situations in which maternal healthcare is compromised.

6.13.4 Accessibility of the model

Accessibility refers to the extent to which empiric indicators for the concepts can be identified and to what extent the purpose of the model has been operationalised (Chinn & Kramer, 2011). The model explained some aspects of the practice, as the theoretic concepts were linked to the empiric indicators that are in the practice, such as the numbers of maternal deaths in the selected hospitals during data collection. Furthermore, the model achieved its purpose in a manner it suggested. Moreover, this model can be accessed for any type of clinical and relevant empirical testing.

6.13.5 Importance of the model

According to Chinn and Kramer (2011), the importance of the model is associated with the idea of its clinical significance. It is anticipated that, this model on “strengthening maternal healthcare service delivery” will generate further understanding by all stakeholders about the midwifery profession and public health broadly. It is an important framework that promotes support for achieving positive health outcomes in a midwifery environment fraught with challenges.

6.14 SUMMARY

This chapter provided an overall process of designing a model for strengthening the maternal healthcare service delivery in Gauteng Province in order to improve maternal outcomes and reduce maternal mortality. The researcher stated the systematic analysis and synthesis of the definitions of the concept “strengthening maternal healthcare”. The description covered the steps of identifying the main and related concepts, including their relationships as the context and basis to develop the model.

The theoretical definitions of concepts, visual schematic and relational statement of the identified related concepts were addressed in the beginning of the current chapter. Furthermore, the actual model represented in Figure 6.3 also addressed the guidelines for the operationalisation of the model, including its critical reflection by adhering to recommended by Chinn and Kramer (2011). The following chapter addresses the main conclusions and recommendations emanating from the collected qualitative and quantitative data as presented in Chapter 5.

CHAPTER 7

SUMMARY OF MAIN FINDINGS, CONCLUSIONS, RECOMMENDATIONS AND CONTRIBUTIONS

7.1 INTRODUCTION

The preceding chapters provided details of both the theoretical and empirical contexts of the improvement model the researcher proposed from the early stages of the study. Hence, the final objective stated in Section 1.5 (Chapter 1) of this study attests to such intention. Meanwhile, in this final chapter the researcher reports on the main conclusions' attendant to the overall findings, as well as the recommendations of the study to build on the endorsements of the planned study objectives and the research questions (Bless et al., 2014; Kumar, 2014). Furthermore, this chapter outlines the study's contribution and limitations, and concludes with the researcher's own reflections on particular aspects of the study.

The main purpose of this study (as articulated in Section 1.4) was:

- To develop a model to strengthen maternal healthcare service delivery in Gauteng Province.

The above-mentioned aim, purpose or goal was the researcher's immediate response to the research problem as detailed in Section 1.3 (Chapter 1) in this study. Therefore, the following five objectives were determined by the researcher as the most viable action-oriented means to resolve the identified research problem (Brink et al., 2018).

- **Objective 1:** To explore and describe the participants' (midwives' and perinatal women's) experiences and perspectives regarding the provision of maternal healthcare services in Gauteng Province.
- **Objective 2:** To explore, describe and analyse factors affecting the provision of maternal healthcare services in Gauteng Province.
- **Objective 3:** To assess current maternal healthcare practices in the context of existing policies and protocols in Gauteng Province.

- **Objective 4:** To identify the corrective interventions and improvement measures related to the quality of maternal healthcare services in Gauteng Province.
- **Objective 5:** To develop a model for midwives and perinatal women to strengthen the provision of maternal healthcare services in Gauteng Province.

Additional to the study objective stated above, the following research questions were answered in this study:

- What are the midwives' and perinatal women's experiences and perspectives concerning the provision of maternal healthcare services?
- Which are the factors that mostly affect the provision of maternal healthcare services?
- To what extent are the current maternal healthcare practices relate to, or link with existing policies and protocols?
- What corrective interventions can be applied to improve on maternal healthcare service delivery in this hospital?
- How should a maternal healthcare model be developed to strengthen the capacity of midwives in their provision of quality services to patients (perinatal women)?

7.2 RESEARCH DESIGN AND METHOD

The reiteration of the study's research design and methods is basically a linkage of the processes and strategies and extent of their efficacy insofar as the findings and their relevance are concerned (Chinn & Kramer, 2011; Creswell & Creswell, 2018). The study pursued a sequential exploratory MMR design approach aimed at strengthening different perspectives on maternal healthcare service delivery and eventually developing an improvement model in that regard. The study utilised theoretical triangulation by integrating the SEM and SQGM models to construct a theoretical framework of maternal healthcare service delivery in the four selected public hospital in Gauteng Province.

The 3-phased sequential MMR design approach, in conjunction with its qualitative and quantitative data collecting and analysis methods yielded critical themes in the generation of the study's framework findings. These were: individual, interpersonal, organisational, community, as well as policy and governance factors. These themes were generated through a combination of thematic, content, and convergent analytical approaches. Five

different data acquisition instruments and a heterogenous participant pool were helpful in the researcher's development of a maternal healthcare service delivery improvement model framework.

Therefore, all of the above-mentioned factors are critical elements that have critically contributed to the relative success with which the study's research design and methods was achieved.

7.3 MAIN CONCLUSIONS

The main conclusions are fundamentally a reflection of both the significance of the study and the trustworthiness of its research instruments and consequent findings (Creswell & Creswell, 2018; Marshall & Rossman, 2011). To a large extent the main conclusions are also a demonstration of the researcher's postgraduate development, in terms of which the ability to think abstractly is enhanced (Chinn & Kramer, 2011). In this study, such ability has been tested and demonstrated by the researcher's integration of theoretical, conceptual, and practice-related methods concerning institutional maternal healthcare service provision in Gauteng Province.

This study demonstrated the following aspects:

- Using MMR has been recommended based on the study findings to maximise the potential strength of both qualitative and quantitative strands, while minimising the weakness of either of the methodologies. In the qualitative phase, the aim of the researcher was to understand the phenomenon of maternal healthcare in its depth. Inclusion of the quantitative approach offered an opportunity for the researcher to validate the findings of the qualitative strand and its ability to generalise the study findings to broader settings.
- The use of different participants and respondents in various settings allowed the process of distinctions of the study's meta-inferences (Creswell & Plano-Clark, 2018). The FGDs and in-depth interview participants were sampled from the maternity units. Maximum sample variation also helped to minimise the dynamics of the healthcare settings. Midwives and perinatal women from all maternity units were purposefully selected to understand the phenomenon of institutional maternal healthcare by

different people at different times and settings. Hence, the study becoming exploratory and sequential in nature.

- The researcher used both midwives and perinatal women to present their different perceptions and experiences of the phenomenon of institutional maternal healthcare and mortality. In this regard, FGDs provided clarity about perceived and expected maternal healthcare by the women, while the in-depth interviews highlighted the midwifery care provided by the midwives. The experiences of both categories of participants on maternal healthcare provided the researcher with better understanding of socio-ecological gaps identified in the current study.
- Development of the proposed model was guided by the study findings to strengthen maternal healthcare in managing perinatal women in a holistically and comprehensively planned manner. In the event that the model is well understood and accepted by all stakeholders, its integration into the daily tasks of the midwives, then quality maternal healthcare could be achieved. This development would also contribute to the reduction of maternal complications and deaths as forecasted in the SDGs 2030.

7.3.1 Objective 1: To explore and describe the participants' (midwives' and perinatal women's) experiences and perspectives regarding the provision of maternal healthcare services in Gauteng Province

This study objective was achieved in the qualitative phase through FGDs and in-depth interviews with both midwives and perinatal women. They provided better understanding of the maternal healthcare services in Gauteng Province as demonstrated in the Interview guides and annexures.

Summary: The qualitative findings indicated that there are challenges in the provision of maternal healthcare services in all four public hospitals. The different excerpts from the different participants revealed that there are several gaps in maternal healthcare services, and that care rendered in the maternity units is of poor standard. The major causes of poor services were, amongst others, the attitudes and behaviour of the midwives; lack of passion towards their work and organisational factors. The quantitative findings indicated that the midwives were knowledgeable about midwifery practices, based on the responses of perinatal women through the checklists. However, the use of the partograph

was poorly utilised in all four hospitals, and non-recording was associated with organisational issues.

Conclusion: The findings showed that there is a need for the Department of Health to address the causes of organisational gaps in order to improve the quality of maternal healthcare. Such a development will have a positive impact on the attitude and behaviour of the midwives, as supported by (Nakua et al., 2015).

7.3.2 Objective 2: To explore, describe and analyse factors affecting the provision of maternal healthcare services in Gauteng Province

The study achieved this objective through the survey from the responses of the questionnaire conducted with midwives (see questionnaire Annexure N) to describe factors contributing to maternal healthcare service delivery.

Summary: The questionnaire responses revealed that there are quite several factors affecting maternal healthcare provision. These responses indicated that challenges of partograph recording are due to shortage of personnel and overcrowding in the maternity units. In addition, midwives still perceive that overcrowding contributes to workload and psychologically induced burdens. Furthermore, the midwives believed that the challenges were caused by the hospital management's failure to replace retired and resigned midwives. On the other hand, the qualitative data findings revealed that other causes were linked to, culture, language and ethnicity, especially from the foreign women as impacting on the provision of maternal healthcare.

Conclusion: The findings indicate that there is a need to appoint managers who have good leadership skills and are decisive in taking prompt steps to improve maternal healthcare in order to reduce maternal morbidity and mortality in the health facilities. The same findings were shared by (WHO, 2018).

7.3.3 Objective 3: To assess current maternal healthcare practices in the context of existing policies and protocols in Gauteng Province

The qualitative findings had more weight, while the quantitative results validated the same findings (Creswell & Plano-Clark, 2018). This objective was optimally achieved as

revealed by both the qualitative and quantitative responses which revealed that issues such as poor communication between patients and midwives and lack of understanding community and cultural values, were likely to affect the effective delivery of maternal healthcare services. Such concerns are addressed by authors such as Abbasi and Younas (2015) and Ampah and Ali (2019).

Summary: Both the qualitative and quantitative responses of the midwives and perinatal women revealed convergently that the state of maternal healthcare service delivery could be affected drastically if public healthcare facilities do not reform their policies to transform the perceived poor quality of such services.

Conclusion: The findings from the quantitative phase were able to validate and corroborate the qualitative findings insofar as there were gaps in the delivery of maternal healthcare services in Gauteng Province.

7.3.4 Objective 4: To identify the corrective interventions and improvement measures related to the quality of maternal healthcare services in Gauteng Province

This objective was realised through the collected data from the responses of the midwives represented in the questionnaires. The indication was that the existing maternal health polices, protocols and guidelines are poorly implemented in the public healthcare facilities. The midwives further indicated that there were many issues which interfered with their daily duties, such as synchronisation of tasks, political decisions and social security aspects. This range of emergent issues is supported by authors such as (Dimova et al., 2018:752).

Summary: The findings indicate that policies and other related legislative frameworks were mostly not followed when rendering care to women seeking maternal health. Midwives are supposed to render midwifery care guided by the scope of practice as stipulated by the SANC R.687 (SANC, 2013a).

Conclusion: Both qualitative and quantitative data revealed that midwives are not offering maternal care due to issues such as co-occurrence of tasks in the units. Therefore, the study concludes concluded that current practises in the units were not in conformity with

legislation. Implementation of policies and guidelines should improve quality of maternal healthcare (WHO, 2010b).

7.3.5 Objective 5: To develop a model for midwives and perinatal women to strengthen the provision of maternal healthcare services in Gauteng Province

This objective was fully achieved through the researcher's developed model (see Chapter 6) to enhance the reduction of reducing maternal mortality and thus promoting maternal health.

Summary. Both the midwives and the perinatal women recognise the need to improve the poor quality of healthcare in general, and maternal mortality in particular.

Conclusion: Based on the study findings, a model was developed as a contribution to strengthen maternal healthcare service delivery and reduce maternal complications and deaths.

7.4 STUDY LIMITATIONS

- Conducting research in only four public hospitals within Gauteng Province could pose limitations of generalisability considering the many public and private hospitals in the province.
- The emergence of Covid-19 pandemic prolonged the execution of the quantitative data collection of the study. As such, the researcher's access to the healthcare facilities was limited. However, the pandemic did not impact much on the one qualitative phase, majority of the research processes because the study was already undertaken prior to the advent of the Covid-19 pandemic.
- In addition, midwives were experiencing difficulties insofar as completing the questionnaires due to the familiar shortage of personnel. Others were not keen to support the study data collection, more sample could have been reached, if they were willing to participate. Thus, leading a limited sample size and difficult to achieve intensity sampling (Polit & Beck, 2017).

- The topic under study has been perceived as sensitive and coupled with elements of embarrassment, midwives and perinatal women may not be willing to share their experiences and as such sample size may be affected.
- In-depth interviews were limited to seven, due to issues related to maternal healthcare delivery. Such interviews may influence data quality. However, because of participants were good informants and able to articulate their experiences effectively, therefore saturation can be achieved with relatively small sample (Polit & Beck, 2017).
- The other limitation was gender related due to the predominance of females in the midwifery profession. The study had more female midwives (139) than males (8).
- Only midwives were involved in this study. The perspectives of other health professionals would have benefitted the study.

7.5 RECOMMENDATIONS OF THE STUDY

Recommendations are basically the researcher's own propositions based on a prevailing state of affairs (Bless et al., 2014; Kumar, 2014) Accordingly, the recommendations in this section are fundamentally a reflection of the researcher's own propositions for improvement in maternal healthcare service delivery.

The existing space constraints in the public healthcare facilities cannot continue in the present conditions. Similar to spatial expansion in healthcare facilities during the Covid-19 pandemic, the same approach should be pursued can be followed to expand maternal units in the public sector healthcare facilities to mediate the challenge of persistent overcrowding. This will in turn elevate the idea of Primary Healthcare Re-engineering plan not only through the renovations but also through building and other infrastructural expansions.

Based on the conclusions, the researcher agrees with the criticality of policy implementation across all sectors and governmental departments. Obsolete policies are as inimical to transformation as the lack of decisive leadership contributing to the current state of health affairs and its maternal morbidity and mortality (Kilpatrick & Ecker, 2016). Furthermore, non-implementation of policies compromises the vision of the SGDs 2030.

To achieve the strength anticipated to improve maternal healthcare delivery in South Africa, all stakeholders involved in the delivery of maternal health are encouraged to respond to the identified service delivery gaps identified in this study: individual, interpersonal, organisational, community and policy and governance challenges in relation to provision of these services.

Based on the above conclusions, the researcher's recommendations promote the provision of free and fair maternal healthcare to all women seeking services despite their nationality. Additionally, government should support activities to upscale the availability of resources, equipment, capacity building at the level of leadership and strengthen policy implementation. Maternal healthcare in South Africa requires intersectoral collaboration and cooperation for delivery of improved the outcomes.

7.5.1 Recommendation relating to South African Government

- The government is commended greatly for its existing legislative frameworks. However, the implementation thereof is poor.
- Maternal health policies, protocols and guidelines as well as their compliance should be an obligation to custodians in order to achieve the healthcare strategic goals of the government.
- Government should continue to engage in the collaborative efforts with other public sectors to encourage women and young females in accessing Maternal Health and Sexual and Reproductive Healthcare services, and plan for inter-ministerial platforms to increase accessibility and coverage of maternal health service. These platforms are inclusive of Health, Social, Women and Youth, Home-Affairs and Social Security departments.
- Furthermore, government should support implementation of Sexual and Reproductive Health Policy and the solidification of the literacy of the reproductive and sexual rights of the women and adolescent girls starting at the foundation stage, and at primary school level. Education on the corporeal autonomy and access to SRH services amongst adolescent girls will reduce teenage pregnancy and ward off possible maternal complications.
- Government should become responsive to the needs of expatriate women, since their health needs are the same as those of South African women.

7.5.2 Recommendation relating to the Ministry of Health

- The study recognises the work achieved by the Minister of Health on free maternal health, and great strides were noted with the launch of campaigns to combat the rates of new infections amongst adolescents. However, some gaps have been identified as ensnaring the free maternal service to all mothers seeking healthcare services in the public sector and strive to implement the Constitutional mandate as stipulated in the Bill of rights.
- Strengthening of health executive management and leadership development in the public sector should be undertaken through training programmes and partnership with the international higher education sector to build on local capacity for improving service delivery.
- The Department of Health should pay attention to the attitude and morale of healthcare workers. This study revealed that midwives relate poorly with their clients. Thus, it is important to 'turn the control knobs' for improved midwife behaviour and all other public servants in other sectors.
- Additional developmental programmes should be institutionalised to reduce maternal deaths. Designing ethical and professional seminars and circles of coaching buddies for each midwife is mooted. These coaching seminars should be aimed for development of personal and professional goal offered by experienced professionals in the field of coaching. The design of these circles should be well planned and have specific objectives as part of performance management, rather than broad objectives addressing a range of issues. As the universe is moving towards 4IR, these seminars can be offered online after working hours to avoid disruption to healthcare service delivery.
- On the other hand, the Department of Health and regulating bodies should review the nursing and midwifery curriculum and incorporate professional ethics in the syllabus; as a module that is taught in sections across all levels of nursing programmes. Thus, separating ethics and distributing it across the programme, will ingrain the concepts of the module amongst the nursing and midwifery students. Disembodying teaching and learning of professional ethics and behaviour from other subject fields and embed in the midwifery curriculum will guarantee intensive teaching and assessment to integrate theory and practice.
- The improvement of partograph recording and utilisation is crucial in the reduction of maternal complications and deaths. The directorate of maternal health in the Ministry

of Health should benchmark the use e-partographs with countries that have started using e-partographs. Challenges encountered with paper partograph should be addressed to improve labour monitoring and prompt decision-making. A technology application could be installed on midwives' smart or android phones to advance this objective with the assistance of technology companies. This idea may address the challenges related to utilisation of partograph and reduce maternal complications and improve on positive outcomes.

- The Ministry of Health has endorsed the language policy. However, its implementation is somewhat questionable. This study recommends that language should be taken seriously as it does impact on communication of midwives and women who cannot speak the communal language of a certain setting.

7.5.3 Recommendation relating to Ministry in the Presidency responsible for women and youth

This Ministry should:

- Strengthen the implementation of existing mandates on women in to eliminate poverty as a direct confounding variable to the NDP outcomes on maternal healthcare.

7.5.4 Recommendation relating to the Ministry of Home Affairs

- This Ministry is performing well in terms of birth registrations within thirty days. However, the Department should strengthen the management of the border posts to ensure that immigrants are accounted for, and proper forecasting of the health budget.
- The Ministry needs to develop effective and stricter strategies in dealing with corruption within the Department, especially since the open border posts have an enormous impact on the delivery of maternal healthcare.

7.5.5 Recommendation relating to the Ministry of Basic Education

- The minister should support the adolescent girls to achieve their basic education through special programmes for reducing school dropout rates and rendering

maternal healthcare services within the school environment in the context of the integrated school health programme.

7.5.6 Recommendation relating to the Ministry of Labour

- This Department should develop long-term programmes of learner-internship for socio-economic empowerment and capacity building specifically focusing on women and girls to reduce the rate of unemployment in South Africa, rather than short-term programmes for young females. Women will be able to independently negotiate their reproductive and sexual rights against their intimate partners. These programmes will combat gender inequality and overcome social and economic exclusions and improve on outcomes related to poverty and eventualities of maternal health complications.
- The UIF seems to be weakened in terms of execution of the funds for women when they are without any income. Emphasis should be placed on the financial support for women in the domestic sector as they are prone to poverty during maternity leave.
- Create enabling organisational environment for women should allow for the use of public resources to promote socio-economic empowerment and to achieve positive maternal outcomes. This should include expatriate women as a committed response to the Diaspora mandate.

7.5.7 Recommendation relating to the Ministry of Public Works and Infrastructure

- The Ministry should expedite implementation of existing plans and guidelines with clear turn-around times to improve service delivery towards intergovernmental coordination.
- Facility management of existing state-owned buildings is critical. Reactive or unscheduled maintenance is a challenge. This study recommends that clear guidelines be developed for maintaining public hospitals and their surrounding environment and sanitation in adherence to Occupational Health and Safety (OHS) standards. Non-functional and blocked ablutions might be the source of infections for women admitted in the hospitals.
- Adequate financial forecasting and regular maintenance of health facilities towards responding to poor facility conditions is recommended.

- Scaling-up of innovative software and technologies to improve maternal health outcomes within the health facilities is an urgent need. This will also enhance tele-communication and referral systems between institutions of various levels of care.

7.5.8 Recommendation relating to the Ministry of International Relations and Cooperation

- Through the Ministry's bilateral and multilateral interactions, foreign policy objectives need further engagements with other countries, especially in the African continent on the issues of maternal healthcare of the expatriate women.
- South Africa is a signatory to several international agreements and treaties. There is a need for formulation of maternal health policies and transnational agreements on the cost implications caused by undocumented perinatal women. This will ensure better midwifery care for the expatriate women.

7.5.9 Recommendation relating to African Union (AU) and human rights

- Human rights indicators of all women should be respected as enshrined in the Constitution of South Africa.
- The AU has to play its major role with regard to refugees and undocumented immigrants. South Africa is a destination of choice to legal and illegal immigrants seeking a better life. Therefore, open discussions should be held in relation to maternal healthcare.
- The South African government should act swiftly on the registration of new-born children of mothers with illegal status. It should not be decided by the courts of the country, but rather be concluded governmentally for effective implementation and proactive responsive to the rights of Africans.

7.6 AREAS FOR FURTHER RESEARCH

- Further research should be conducted on the multiple validity of an integrated data collection involving five different methods. While it does not constitute a limitation, the effect may compromise the findings if implemented erroneously.

7.7 PERSONAL REFLECTION

Undertaking this research study was a stimulating journey and experience, considering the era of COVID-19 pandemic. Many challenges were experienced during data collection and model development. After vigorous stages of data collection and analysis, the model was eventually developed. It is my prayer that this model will become a meaningful contribution to the strengthening of maternal healthcare services in the facilities. Quality maternal healthcare can be achieved through consideration of this model when providing care to perinatal women. The findings of this study and the recommendations make me feel effectual that as a researcher, I have attained a level of personal, professional and academic development indeed.

7.8 CONCLUSIONS

This study explored and described the experiences of the midwives and perinatal women regarding the delivery maternal healthcare services in Gauteng Province, South Africa. Based on the sequential exploration research design adopted by the study, and its rational for choosing the design, ensured the achievement of the study objectives. Using data collection methods, FGDs, in-depth interviews and documentary analysis, as well as survey from questionnaires and the checklists, the researcher managed to develop a model from the study findings and results from different approaches used in this research.

In the first phase, the findings concluded that disgraceful maternal health service has been rendered in the public maternal health facilities. The study found that midwives were knowledgeable about their practice. However, their unbecoming attitudes led to undesirable relations with their clients. Organisational factors led to compromised maternal healthcare service delivery. Cultural and linguistic power, ethnicity and tribalism were found to be fundamental in improving maternal health outcomes. Chronic poor leadership and contaminated governance were critical, and interventions are needed to turn the control knobs in the right direction in order to improve policy and protocols. Quantitative findings confirmed the qualitative results on the knowledge of midwives on their practice and attitudinal behaviour needed an action to execute.

The purpose of this study was to develop a model and provided a description to strengthen maternal healthcare service in Gauteng Province, South Africa. This study

intended to provide the South African healthcare system with a useful model to improve the current situation in the facilities. The model was based on the data accruing from both the qualitative and quantitative findings and available literature. The concepts of the model development were derived from five thematic variables namely: individual postulate, interpersonal relations, organisational context, community factors and policy and governance. This completed chapter presented and outlined the study findings, limitations, recommendations for practice, policy making and future research.

In conclusion, despite good health policies in the country, there is still evidence of limited achievement of quality maternal healthcare services. This study has shown that many perinatal women are still receiving poor maternal healthcare services, and some are even dying and losing their babies in the facilities due to obstetric related complications, human resource-related factors as well as the organisational factors.

The study findings will be published in accredited journals and project presentations at international forums.

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INTERNET SOURCE FOR MAPS

From: https://sawx.co.za/province-district-municipality-maps/.

ANNEXURES

ANNEXURE A: Researcher's curriculum vitae

PERSONAL PARTICULARS	
Surname	Nkoane
First Name	Naomi Lorrain
Marital Status	Married
Number of kids	Three (03)
Gender	Female
Home Address	255 Calvyn Road Silverton Pretoria 0184
Work Address	University of South Africa P.O Box 392 Unisa 0003
Telephone numbers	(012) 429- 6059 (W) 083 463 5215 (C)
Date of Birth	1973- 12- 06
Nationality	RSA
EDUCATIONAL QUALIFICATIONS	
High school attended	Alfred-Maubane High
Highest standard passed	Standard 10
TERTIARY QUALIFICATIONS	
Name of Institution **Programme** **Year**	University of South Africa (UNISA) Master's in Nursing Science 2016
Name of Institution **Programme** **Year**	University of South Africa (UNISA) Post Graduate Diploma in Public Health 2012
Name of Institution **Programme** **Year**	Chris-Hani Baragwanath N. College Diploma in Ophthalmology 2005
Name of Institution **Programme** **Year**	Potchefstroom University Advanced University Diploma (Education & Man) 2002
Name of Institution **Programme** **Year**	University of North-West Bachelor of Nursing Sciences 1998
WORK EXPERIENCE	
Organisation **Duration**	Ga-Rankuwa Nursing College (Gauteng) 2017-2018
Organisation **Duration**	SG Lourens Nursing College (Gauteng) 2005-2017
Organisation **Duration**	Gelukspan District Hospital (North West) 2001-2005
Organisation **Duration**	Greater Mafikeng District 1998-2001
Name **Institution** **Position** **Contact**	Prof MM Matlakala University of South Africa (UNISA) Chair of the Department Health Studies 083 757 7633
Name **Institution** **Position** **Contact**	Mr SW Seabelo College Principal Ga Rankuwa Nursing College 063 691 1184

ANNEXURE B: Ethical Clearance Certificate from the Department of Health Studies, Unisa

UNISA university of south africa

RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES
REC-012714-039 (NHERC)

1 March 2017

HSHDC/654/2017
Mrs NL Nkoane
Student: 4893-694-4

Supervisor: Prof O Makhubela-Nkondo
Qualification: Doctorate Harvard University
Joint Supervisor: -

Dear Mrs NL Nkoane

Decision: Ethics Approval

Name: Mrs NL Nkoane

Proposal: Model for health care workers and users to improve provision of health care services in Gauteng.

Qualification: DPCHS04

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 for the duration of the research period as indicated in your application.

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on 1 March 2017.

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

Open Rubric

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
www.unisa.ac.za

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) *[Stipulate any reporting requirements if applicable].*

Note:
The reference numbers [top middle and right corner of this communiqué] should be clearly indicated on all 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 L Roets
CHAIRPERSON
roetsl@unisa.ac.za

Prof MM Moleki
ACADEMIC CHAIRPERSON
molekmm@unisa.ac.za

ANNEXURE C: Approval letter: Dr George Mukhari Academic Hospital

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

Dr. George Mukhari Academic Hospital

Office of the Director Clinical Services
Enquiries : Dr. C Holm
Tel : (012) 529 3691
Fax : (012) 560 0099
Email:Christene.Holm @gauteng.go.za
keitumetse.mongale@gauteng.gov.za

To Mrs NL Nkoane
Department of Health Studies
University of South Africa
City of Tshwane
PO Box 392
UNISA
South Africa
0003

Date : 23 January 2019

PERMISSION TO CONDUCT RESEARCH

The Dr George Mukhari Academic Hospital hereby grants you permission to conduct research on "Model for health care workers and users to improve provision of health care services in Gauteng" at Dr George Mukhari Academic Hospital

This permission is granted subject to the following conditions:

- ☑ That you obtain Ethical Clearance from the Human Research Ethics Committee of the relevant University
- ☑ That the Hospital incurs no cost in the course of your research
- ☑ That access to the staff and patients at the Dr George Mukhari Hospital will not interrupt the daily provision of services.
- ☑ That prior to conducting the research you will liaise with the supervisors of the relevant sections to introduce yourself (with this letter) and to make arrangements with them in a manner that is convenient to the sections.
- ☑ Formal written feedback on research outcomes must be given to the Director: Clinical Services
- ☑ Permission for publication of research must be obtained from the Chief Executive Officer

Yours sincerely

DR. C. HOLM
ACTING DIRECTOR CLINICAL SERVICES
DATE: 23/1/19

ANNEXURE D: Approval letter: Kalafong Provincial Tertiary Hospital

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

KALAFONG HOSPITAL
PRIVATE BAG X396
PRETORIA
0001

ENQUIRIES : MS NT LEDIGA
TEL : 012 318 6995
FAX : 012 373 6791
EMAIL : Nelly.Lediga@gauteng.gov.za
REF : KPTH 02/2019

TO: MRS NL NKOANE

RE: PERMISSION TO CONDUCT RESEARCH

TITLE: MODEL FOR HEALTH CARE WORKERS AND USERS TO IMPROVE PROVISION OF HEALTH CARE SERVICES IN GAUTENG

Permission is hereby granted for the research to be conducted at **Kalafong Provincial Tertiary Hospital**.

This is done in accordance to the "Promotion of Access to Information Act. No 2 of 2000".

Please note that in addition to receiving approval from the hospital research committee, you are still required to seek permission from the relevant departments.

Furthermore, collecting of data and consent for participation remains the responsibility of the researcher.

You are also required to submit your final report or summary of your findings and recommendations to the office of the CEO.

Approved:

DR K.E LETEBELE-HARTELL
SENIOR MANAGER: MEDICAL SERVICES
DATE: 02/02/2019

Open Rubric

ANNEXURE E: Approval letter: Tembisa Provincial Tertiary Hospital

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

TEMBISA PROVINCIAL TERTIARY HOSPITAL
PR NO: 5602793
Cnr Flint Maibuko Dr & Rev Namane, Olifantsfontein, 1665
Private Bag X 07, Olifantsfontein, 1665
Tel: 011 923 2320 | Fax: 011 926 2719
Enquiries: Dr. LM. Mogaladi
E-mail: Lekopane.Mogaladi@gauteng.gov.za

To : **Naomi Lorrain Nkoane**
Subject : **Permission to Conduct Research at Tembisa Provincial Tertiary Hospital Research Committee**
From : **Dr LM Mogaladi, Chief Executive Officer, Tembisa Provincial Tertiary Hospital**
Date : **18 December 2019**

Mr/Ms/Dr/Prof Naomi Lorrain Nkoane

This is to notify you that you have been granted provisional permission to conduct research in our institution for the following study:

Study Title: Model for health care workers and service users to improve provision of health care services in Gauteng province.
NHRD Reference Number: GP_2017RP46_163

GDoH Research Committee Reference Number GP_2017RP46_163
Provisional permission subject to:
Permission to conduct your research will be finalised upon submission of the following:

Documents	Received	N/A	Pending
1. Ethics Clearance Certificate	√		
2. NHRD Registration	√		
3. GDoH Research Committee Approval	√		
4. Faculty approval of research if applicable	√		

Permission with the following restrictions:
Full permission will be granted once the above documents are submitted. Once we have all the documents we will specify the restrictions for the data collection. **Pease note that the hospital does not have space for you to conduct your focus group interviews, so please make alternative arrangements.**

Permission to conduct research as per study protocol
Please note the institution requires for all data collection and interaction with staff; patients or records to be as outlined in the study protocol and within the constraints of ethics approval obtained for this study. Should any of these parameters or professional conduct be violated at any stage then

the Tembisa Research Committee reserves the right to review and change the decision to allow the researcher to conduct research at the institution.

Please report to the undersigned chair of the Research Committee with all your documents on the first day at the institution for further instructions and introductions.

Recommended by:
Dr Relebohile Ncha

Rotating Chair of Tembisa Provincial Tertiary Hospital Research Committee

Signature: _____

Date: **18 December 2019**

Approved by:

Dr LM Mogaladi

CEO, Tembisa Provincial Tertiary Hospital

Signature: _____

Date: 18/12/19

ANNEXURE F: Approval letter: Mamelodi Regional Hospital

To do his research on: Model for health care workers and service users to improve provision of health care services in Gauteng Province.

Other Comments or Conditions prescribed by the Clinical Manager:

1. Register research on Gauteng Research data base.
1. Report outcome of research to the hospital.

M.S Mokoena Mokgojo

Signature:
Clinical Manager

Date: 04/12/2018

Open Rubric

ANNEXURE G: Consent forms in-depth interview

UNISA

AGREEMENT FOR PARTICIPATING IN THE IN-DEPTH INTERVIEWS

This agreement requests for your consent to participate in the proposed research study to be conducted by NL Nkoane toward a PhD qualification in Nursing Science at the University of South Africa. The research is about the "**Model to strengthen maternal healthcare delivery in Gauteng Province.**

Participation in this study is voluntary and can be terminated at any time and the researcher will not provide any form of incentives to the participants All responses will be treated with the utmost confidentiality by the researcher, and all participants will remain anonymous. The names of the organisations participating in this research study will not be mentioned Transcribed interviews will be kept in a secure place for a period of three years as required by the university rules. Thereafter, the transcribed interviews will be destroyed.

Your participation in this focus group interview will be highly appreciated, always respected and valued. Data will be collected from February and March 2020, and the findings of the study will be communicated to you on request.

Any concerns or enquiries regarding this particular study should be directed to:
Ms NL Nkoane at 083 463 5215/ 012 804-6189
Thank you in advance

.....

I.....(Full Names and Surname) am willing to participate freely in this interview of the study regarding maternal healthcare services in Gauteng Province without any coercion and threat.

.....	.....
Signature – Participant	Signature – Witness
.....	.....
Date permission granted	Date permission witnessed

ANNEXURE H: Consent form focus group interviews

AGREEMENT FOR PARTICIPATING IN THE FOCUS GROUP INTERVIEWS

This agreement requests for your consent to participate in the proposed research study of the University of South Africa and NL Nkoane toward a PhD qualification in Nursing Science. The research is about the "**Model to strengthen maternal healthcare service delivery in Gauteng Province.**

Participation in this study is voluntary and can be terminated at any time and the researcher will not provide any form of incentives to the participants All responses will be treated with the utmost confidentiality by the researcher, and all participants will remain anonymous. The names of the organisations participating in this research study will not be mentioned. Transcribed interviews will be kept in a secure place for a period of three years as required by the university rules. Thereafter, the transcribed interviews will be destroyed.

Your participation in this focus group interview will be highly appreciated, always respected and valued. Data will be collected from February and March 2020, and the findings of the study will be communicated to you on request.

Any concerns or enquiries regarding this particular study should be directed to:
Ms NL Nkoane at 083 463 5215/ 012 804-6189
Thank you in advance

.....

I.....(Full Names and Surname) am willing to participate freely in this interview of the study regarding maternal healthcare services in Gauteng Province without any coercion and threat.

.....	.....
Signature – Participants	Signature – Witness
.....	.....
Date permission granted	Date permission witnessed

ANNEXURE I: Consent form checklist

UNISA

AGREEMENT FOR PARTICIPATING IN THE SURVEY CHECKLISTS DATA COLLECTION

This agreement requests for your consent to participate in the proposed research study to be conducted by NL Nkoane toward a PhD qualification in Nursing Science at the University of South Africa. The research is about the "**Model to strengthen maternal healthcare delivery in Gauteng Province.**

Participation in this study is voluntary and can be terminated at any time and the researcher will not provide any form of incentives to the participants All responses will be treated with the utmost confidentiality by the researcher, and all participants will remain anonymous. The names of the organisations participating in this research study will not be mentioned Transcribed interviews will be kept in a secure place for a period of three years as required by the university rules. Thereafter, the transcribed interviews will be destroyed.

Your participation in this focus group interview will be highly appreciated, always respected and valued. Data will be collected from February and March 2020, and the findings of the study will be communicated to you on request.

Any concerns or enquiries regarding this particular study should be directed to:
Ms NL Nkoane at 083 463 5215/ 012 804-6189
Thank you in advance

.....

I.....(Full Names and Surname) am willing to participate freely in this survey of the study regarding maternal healthcare services in Gauteng Province without any coercion and threat.

.....	.....
Signature – Respondent	Signature – Witness
.....	.....
Date permission granted	Date permission witnessed

ANNEXURE J: Consent form questionnaire

ANNEXURE J: CONSENT FORM QUESTIONNAIRE

UNISA

AGREEMENT FOR PARTICIPATING IN THE SURVEY QUESTIONNAIRES DATA COLLECTION

This agreement requests for your consent to participate in the proposed research study to be conducted by NL Nkoane toward a PhD qualification in Nursing Science at the University of South Africa. The research is about the "**Model to strengthen maternal healthcare delivery in Gauteng Province.**

Participation in this study is voluntary and can be terminated at any time and the researcher will not provide any form of incentives to the participants All responses will be treated with the utmost confidentiality by the researcher, and all participants will remain anonymous. The names of the organisations participating in this research study will not be mentioned. Transcribed interviews will be kept in a secure place for a period of three years as required by the university rules. Thereafter, the transcribed interviews will be destroyed. All computerised notes will be stored on a secure, password-protected computer. Transcribed interviews will be kept in a secure place for a period of three years as required by the university rules. Thereafter, the transcribed interviews will be destroyed.

Your participation in this focus group interview will be highly appreciated, always respected and valued. Data will be collected from February and March 2020, and the findings of the study will be communicated to you on request. Any concerns or enquiries regarding this particular study should be directed to:

Ms NL Nkoane at 083 463 5215/ 012 804-6189

Thank you in advance

I……(Names and Surname in full) am willing to participate freely in this survey of the study regarding maternal healthcare services in Gauteng Province without any coercion and threat.

……	……
Signature – Respondent	Signature – Witness
……	……
Date permission granted	Date permission witnessed

ANNEXURE K: Information brochure for the study

MRS NL NKOANE is extending the invitation to you to participate in this research project, titled "**Model to strengthen maternal healthcare service delivery in Gauteng Province.** You will gain understanding of what is presented to you by the researcher. Furthermore, the document will provide detail information on this research project. It is of great importance that you clearly understand what this project entails and how does it affect you as individual.

Please note that your participation in this research project is voluntary and at any given time, you feel like you want to terminate your participation then you are free to withdraw from the study. Such act will not affect you in any way or of any kind.

The above titled study has been approved by the **University of South Africa (UNISA) Health Research Committee in the Department of Health Studies (HSHDC/654/2017).**
The researcher will ensure that this research project is conducted in accordance with the ethical guidelines mandated by Section 72 of the National Health Act 61 of 2003, National Health Research Ethics Council (NHREC).

What does the study entails?
This study will be conducted in the four (4) hospitals in Gauteng province. The objectives of the study are as follow:

- To explore and describe the provision of maternal healthcare services in Gauteng Province;
- To describe the perceptions of the nurses, midwives and postnatal women regarding the provision of maternal healthcare services;
- To determine factors affecting the provision of maternal healthcare services as described by the nurses, midwives and postnatal women;
- To analyse and interpret data on provision of maternal healthcare services as described by the nurses, midwives and postnatal women;
- To evaluate the current practices in the provision of maternal health services in Gauteng Province;
- To investigate the causes of the maternal healthcare services in Gauteng Province;
- To identify the corrective interventions and or measures to improve the quality of maternal healthcare services in Gauteng Province;
- To develop a model for midwives and women to improve the maternal healthcare services in Gauteng province; and
- To validate the study findings through involvement of the field specialists using Delphi technique.

The study involves participation in either focus group discussions, in-depth interviews and participants observations, or survey, where questionnaires and checklists are distributed for completion.

During the focus groups/ in-depth interviews, questions relating to the maternal healthcare services will be asked and these focus groups may take about 1 to 2 hours long at most. In the observation, the researcher will be observing midwives and women as they interact whilst midwifery care is rendered.

Why this invitation?

The researcher extended the invitation for your participation in this study because you have met the inclusion criteria to participate such as being either a midwife or a woman who is:

- Midwife who is registered with the South African Nursing Council;
- Midwife who is working in the hospitals for at least one year;
- Pregnant woman at 20 weeks gestation to six weeks postnatal who is accessing maternal healthcare services at the targeted hospitals; and
- Both cases who were willing to participate in the study.

You may be excluded if you are meeting the above criteria as stipulated.

What is expected of you?

The researcher strongly believe that you have valuable information that you can share in this study. You are expected to either participate in the focus group discussions, In-depth interviews and participant observations by the researcher, or complete the questionnaire and checklist.

What are your benefits?

As a participant, you have an opportunity to share your experiences as a midwife or the recipient of the maternal healthcare services. You will benefit because this research is solemnly focused on the improvement of the maternal healthcare delivery. The study findings will be recommended to the Department of Health Gauteng in the Directorate of Maternal and Child health to improve where the gaps have been identified to reduce maternal mortality.

Any risks that you might face?

The risks in this study are moderate and if such happens, the researcher have arranged for psychological intervention to be rendered with immediate effect. Referral to the social worker or psychologist in the hospital will be sought. Data collection might cause the decline of service delivery in the units however, the

researcher will respect the agreed time schedule and maintain conducive environment for the focus group discussions and filling of the questionnaires and checklists.

Who will access the information that you have shared in this study?

The researcher will ensure that anonymity is always maintained throughout the phases of this study. No personal identification will be linked to the instrument used for data collection. Data will be kept safe and in a secured place, printed materials will be under a lock and key in the researcher's office. Soft copies will be kept as university property with a protected password. Data will be stored for at least five years.

How will the information you have shared be managed?

The information will not be used against the participants and respondents, will be handled as private and confidential for the research purpose only. The participants will partake voluntarily and freely. Furthermore, and they have the right to withdraw from the research study any time they feel uncomfortable.

Will you be paid for participating in this study?

The researcher will not provide any form of incentives to the participants and respondents. The role of the participants and respondents will be highly appreciated, respected and valued throughout the interviews.

When is your participation envisioned?

Data will be collected from February and March 2020, and the findings of the study will be communicated to you on request.

How will you know about the study findings?

The researcher will disseminate the findings through presentations at different hospitals where this project was conducted (five hospitals). Report will be written to the Department of Health Gauteng and scientific reporting on the accredited midwifery and nursing journals for publication of the articles from this study.

Do you have anything else to ask or know about this study?

Any concerns or enquiries regarding this study should be directed to:

Ms NL Nkoane at 083 463 5215/ 012 804-6189

Thank you in advance

Declaration

I freely declare that I have:

- Read this information brochure and I am consenting to participate after I have understood the content herein explained
- The information brochure was written in a language that I understand and comfortable with.
- I have been given answers where I had clarity seeking question, and I am able to participate voluntary so.
- I may terminate my participation at any time I feel so, without any coercion and threat.

I.....(Names and Surname in full) am willing to participate freely in the (.....) of the study as titled above.

.....	.....
Signature – Participants	Signature – Witness
.....	.....
Date permission granted	Date permission witnessed

ANNEXURE L: Qualitative in-depth interview guide

ANNEXURE L: QUALITATIVE IN-DEPTH INTERVIEW GUIDE

Research Topic: Model Development to Strengthen Maternal Health Care Service Delivery in Gauteng Province.

Introduction
Welcome

- The researcher and her assistant introduced themselves;
- They welcomed the participants to the session;
- The researcher gave an overview of the topic and the purpose for the session; and
- The aim of this interview is to describe and explore the in-depth and rich information to ensure development of a model strengthen maternal healthcare delivery in Gauteng Province.

Guidelines

- Feel free to share your information with me (the researcher).
- The information that will be gathered from this interview will be treated as confidential and will be kept only for this study.
- Snacks and sweets will be offered to the participant to promote a relaxed atmosphere. **Not as a measure of providing an incentive.**
- The conversation will be recorded, your permission is requested.
- Participants are requested to sign the consent form before the commencement of the interview.
- If you have any question, please feel free to ask now.
- Please switch your cell phone to silent mode.
- Feel free to elaborate on the phenomenon in the language you understand better.
- **The information leaflet was read to the participant.**
- The session will be last for at least 30 to 40 minutes

Grand question

1. How have you experience the maternal healthcare services you have rendered to the perinatal women in this hospital?

Follow -up questions

2. How do you perceive the current practices on maternal healthcare in this hospital?
3. What do you think are the contributing factors to compromised maternal healthcare services?
4. What can be done to improve quality maternal health in relation to service delivery in this hospital?

Probing questions

1. Tell me more about…
2. What did you mean by…?
3. Is there anything that you think is worth mentioning and we did not mention in this session?

Conclusion

1. Thank you for taking time and participated in this interview.

ANNEXURE M: Qualitative focus group interview guide

ANNEXURE M: QUALITATIVE FOCUS GROUP INTERVIEW GUIDE

Study Title: A Model to Strengthen Maternal Health Care Delivery in Gauteng Province

Introduction

- The researcher and her assistant introduced themselves.
- Welcome the participants to the session.
- Allow the participants to introduce themselves.
- Introduce the topic and the purpose of the session.
- The aim of this focus groups interview is to describe and explore the in-depth and rich information to ensure development of a model strengthen maternal healthcare delivery in Gauteng Province.
- The sessions will be conducted for at least one to two hours per group of about eight (08) participants at the given time.
- The researcher anticipates conducting at least six (06) or eight (08) focus groups.

Guidelines

- There is no right or wrong answer, feel free to share your information.
- The information that will be gathered from this session will be treated as confidential and will be kept only for this study.
- Participants were reminded not to talk over each other.
- Snacks and sweets were offered to the participants to promote a relaxed atmosphere. Not as a measure of providing an incentive.
- The conversations of this session will be recorded, your permission is requested.
- If you have any question, please feel free to ask now.
- Please switch your cell phone to silent mode.
- Feel free to elaborate on the phenomenon in the language you understand better.

Grand question

1. How have you experience the maternal healthcare services you have rendered and received in this hospital?

Follow -up questions

2. How do you perceive the current practices on maternal healthcare in this hospital?
3. What do you think are the contributing factors to compromised maternal healthcare services?
4. What can be done to improve quality maternal health in relation to service delivery in this hospital?

Probing questions

1. Tell me more about…
2. What did you mean by…?
3. Is there anything that you think is worth mentioning and we did not mention in this session?

Conclusion

1. Thank you for taking time and participated in this focus group interviews.

ANNEXURE N: Questionnaire for the midwives

ANNEXURE N: QUESTIONNAIRE FOR THE MIDWIVES

Study Title:

"A model to strengthen the maternal health care services in Gauteng province" HSHDC/654/2017

Introduction

The purpose of this study is to describe, explore and develop a model to improve the provision of maternal health care services in Gauteng province. The questionnaire has been developed for **midwives only**. It comprises of **seven (07) sections** and survey will last for at least 20 minutes.

General rules

- Carefully read the instructions and questions before attempting to answer.
- Please use the correct tick as indicated (√) not otherwise
- Please give a brief elaboration where it is indicated as such, explanation will provide a deeper understanding on the information provided.

Background of the questionnaire

Section A: Demographic data

This section deals with the demographic data of the respondents. This information will assist to understand the knowledge of the midwives who provided the information. To allay the participants' anxiety, the information will not be made public and will maintained as highly confidential. In this section, the researcher will ask **nine (09) questions.**

Section B: Ability of record the Partograph data

This section focuses on the service-orientated issues of the health care workers. The information is valuable in the sense that issues that may affect the provision of health care services will be identified and described to the researcher. The section consists of **twenty-nine (29) questions** which are on Likert scale, yes or no and some will need further elaboration from the midwives.

Section C: Challenges regarding provision of maternal health care in general

This background will inform the researcher on how these challenges might impact on the delivery of the maternal health care services. The section consists of forty (40) questions. This section emerged during data collection and analysis as described by the midwives and perinatal women during the focus group discussions and in-depth interviews.

Section D: Communication

This section relates to the interpersonal challenges amongst midwives, other multi-disciplinary team and the client's results. This section has five (05) questions.

Section E:

This section relates to the organisational factors within the hospitals. This section has seven (07) questions

Section F: Community challenges

This section relates to the challenges of the community, that impact on the delivery of the maternal health. This section has four (04) questions.

Section G: Policy and Governance

This section deals with the health policies and governance in supporting the delivery of the maternal health care. This section comprises of seven (07) questions.

NB: The following will be analysed:

This section responds to the biographic information of the respondents. Please tick (√) in the relevant box:

A. DEMOGRAPHIC DATA										
1. Age	20-29		30-39		40-49		50-59		60-65	
2. Gender	Male		Female							
3. Occupation / position held			Midwife		Advanced Midwife				Others	
4. Ethnicity	African		Coloured		Asian		White			
5. Income level	R100.000-R300.000		R301.000-R400.000		R401.000-R600.000		R601.000-R1000.000			
6. Marital Status	Married		Single		Widowed		Divorce			
7. Number of dependents	01		02		03		04 +			
8. Level of Education			Diploma		Degree		Masters		PhD	
9. Years of service / worked	0 - 10 years		11 - 20 years		21 - 30 years		31 - 40 years			

B. KNOWLEDGE

This section focuses on the knowledge of the midwives on the partograph.

Please tick Yes or No

	B. KNOWLEGDE	**Yes**	**No**
10	Is it important for you to plot the partograph?		
11	Do you know the components or elements of the partograph?		
12	Do you know why do have to record the patient biographic data?		
13	Do you know when to start plotting the partograph?		
14	Do you know how to distinguish the two phases of labour on the partograph?		
15	Do you know how often progress of labour is plotted in latent phase of labour?		
16	Do you know how often progress of labour is plotted in an active phase of labour?		
17	Do you always plot initial assessment and transfer to the active phase of labour?		
18	Do you know the meaning of the diagonal lines in the active phase of labour?		
19	Do you know the significance of your plotting on these lines		
20	Do you understand the significance of fetal heart rate before and after the contractions?		
21	Can you differentiate between the types of decelerations?		
22	Do you check sanitary pads for colour and smell of liquor/amniotic fluid?		
23	Are you able to feel for the application of the presenting part and record according to the phase of labour?		
24	Are you able to feel for the station and the presenting part?		
25	Are you able to feel for the caput and moulding?		
26	Do you know how to palpate for the cervical dilatation?		
28	Do you know how to palpate for the cervical length?		
29	Do you always plot the cervical length?		
30	Do you palpate the contractions manually?		
31	Do you think plotting contractions manually is a waste of time?		
32	Do you know when and why to record the vital signs according the phases of labour?		
33	Do you know why you have to record the plan the care of your patient?		
34	Do you always record the time of delivery?		
35	Are you willing to attend workshops on the plotting of the partograph?		

Comments

1……

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2……

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B-1 Challenges regarding plotting of the Partograph

Researcher explored the challenges of plotting the partograph.

	B-1 Challenges regarding plotting of the Partograph	Not likely	Somewhat likely	Likely	Extremely likely
36	Is plotting of the partograph a tedious exercise?				
37	Is plotting of the partograph time-consuming?				
38	Is plotting the partograph a waste of time for you?				
39	Is the graphic illustration of the partograph user-friendly?				

Comments

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2……

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C. CHALLENGES REGARDING PROVISION OF MATERNAL HEALTH CARE IN GENERAL

C-1 Service Delivery

Item 40 to 49 focuses on the challenges related to provision of maternal health care services. **Please tick Yes or No.**

	C-1 Service Delivery	Yes	No
40	Are you able to deliver maternal health care services effectively in the wards?		
41	Are you allocated enough resources in your unit?		
42	Are services provided to the women of standard?		
43	Are you courteous when providing midwifery care to the patients?		
44	Do you communicate in the appropriate language?		
45	Do you respond immediately to the call of the patients?		
46	Time taken to respond to the health needs of service users:		
47	Less than 60 minutes.		
48	More than 60 minutes.		
49	How long does your orders from Pharmacy take to reach the unit?		
50	Less than 2 hours.		
51	More than 2 hours.		
52	Are medicines given to women on time?		

53	Do you timeous with the ward routine?		
54	Do you serve food on time?		
55	Do you serve warm food in your ward?		

Comments

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C-2: Work Satisfaction

This section – Item 56 to 64 examines how likely are the midwives satisfied with their work in the hospital. **On a scale of 1 to 10,** 1 being not satisfied and 10 being extremely satisfied. Please score your work satisfaction.

	C-2 Work Satisfaction	**Score**
56	Are you happy when you are at work?	
57	Are you satisfied with work you are currently doing?	
58	Are you satisfied with your current placement?	
59	Is your placement aligned to your qualification?	
60	Are you able to execute your operation skills to the fullest?	
61	Are you satisfied with the midwifery care you are rendering to your clients?	
62	Is the rendering of midwifery care of standard/quality?	
63	Are you satisfied with relationship between you and operational management?	
64	Are you satisfied with the relationship between you and medical staff?	

Comments

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C-3 Investigations

Item 65 to 70 assess whether investigations are done with standard.

Please tick Yes or No.

	C-3 Investigations	**Yes**	**No**
65	Are your investigations done right the first time?		
66	How long do the investigation results come back?		
67	Less than 2 hours.		
68	More than 2 hours.		
69	Do you discuss treatment plan with perinatal women?		
70	Are the investigations done right the first time?		
71	Do you refer according as soon the results come?		

Comments

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C-4: Resources

This section evaluates the availability and efficiency of the resources in the maternity wards using a Likert scale. Please tick item 72 to 80 using a scale of 1- (Poor) to 4 (Excellent).

	C-4: Resources	**Poor**	**Below average**	**Above average**	**Excellent**
72	Are midwives enough for each shift?				
73	Are obstetrician enough for each shift				
74	Are you able to render maternal health care with the staff allocated in you unit?				
75	Do you have enough equipment in your unit? CTG and Dina-maps				
76	Are all equipment in working condition?				
77	Do have enough medicines in your unit?				
78	Is stationery always available in the unit? E.g. Maternity booklet and other recording charts				
79	Do have enough sanitary supplies in the wards?				
80	Do you have enough CSSD packs in the wards?				

Comments

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INTERPERSONAL ISSUES

D-1 Communication

This section of the questionnaire is rating the level of communication between the midwives to other multidisciplinary team and their patients. Please tick item 81 to 85 using a scale of 1- (Poor) to 4 (Excellent).

	D-1 Communication	Poor	Average	Good	Excellent
81	How are you communicating with your colleagues and doctors?				
82	How is the communication between yourself and your supervisors in the wards?				
83	How is the communication between yourself and the clients in the wards?				
84	Are you able to communicate with foreign women?				
85	How does communication impact on the maternal health care service delivery on day-to-day activities?				

Comments

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ORGANISATIONAL FACTORS

The researcher explores the likelihood of the management to respond to the needs and expectations of the midwives in the hospital. Please tick item 88 to 92 using a scale of 1- (Poor) to 4 (Excellent).

	Organisational factors	Bad	Average	Good	Excellent
86	Does the management support the workers?				
87	Does the management give praise to workers for the work they do?				
88	Is there elements of favouritism from the managers?				
89	Are workers involved in the decision-making of the hospital?				
90	Does the management of the hospital meet with the workers and unions?				
91	Are you able to uphold the norms and values of the department or hospital?				
92	Is performance management and development done fairly				

Comments

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COMMUNITY CHALLENGES

Item 95 to 99 focuses on the challenges coming along with clients and their families to the maternity units. **Please tick Yes or No.**

	Community challenges	**Yes**	**No**
93	Does the attitudes of clients and their families as they seek care affects the maternal health care in the wards?		
94	Does ethnicity and tribalism affect maternal health care?		
95	Does culture of the client's impact on the delivery of maternal health care?		
96	Does families sometimes become violent as they come to the units?		

Comments

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G: POLICY AND GOVERNANCE

Item 99 to 105 focuses on the challenges related to policy and governance of maternal health care services. **Please tick Yes or No.**

	Policy and governance	**Yes**	**No**
99	Does other government departments affect you day to day work activities?		
100	Does political decisions affect your day-to-day work activities?		
101	Are policy and protocols implemented well in this hospital?		
102	Does your hospital provide free maternal health care to foreign women?		
103	Is the maternal health budget enough to cater the women in your catchment area?		
104	Do you think critical skills intercountry exchange of the midwives can assist the current state of maternal health care?		
105	Do think you can work with foreign midwives from the continent?		

Comments

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THANK YOU FOR YOUR PARTICIPATION

ANNEXURE O: Hospital 1 Interview (1) 200216 0053 (42:41min)

ANNEXURE O: 200216 0053 (HOSPITAL 1 INTERVIEW 1) 42:41MIN

Researcher: Good afternoon sister

Participant: *Good afternoon madam*

Researcher: How are you?

Participant: *Good, how are you?*

Researcher: I am good. I am Mrs Nkoane, a PhD candidate with Unisa conducting a research in maternal health care service delivery in the province,

Participant: *Ok*

Researcher: I choose you to come and to participate because I know you do have valuable information, you do have a lot to share with me because you are working with the perinatal women, and as a midwife in this hospital you do have a valuable information that you can share, this study is mainly for PhD studies, and nothing more. There are no incentives that I am going to get, or I can assure you of, it is just pure for my career-pathing. If you are willing, do you allow me to record this conversation? Hence, I requested permission to record. I still need to transcribe and analyse.

Participant: *Yes, I do allow you to record the conversation.*

Researcher: Thank you, the study is about developing a model in which both midwife and a woman will be supported through strengthening the maternal healthcare I got the permission from UNISA, Department of Health, from your hospital and I also got permission from your area manager. I assure you that confidentiality and privacy will be maintained. there is no way I would compromised anonymity the hence I will address you as a "sister". **NO IDENTIFICATION WILL BE ATTACHED TO** you. The main purpose of this study is to explore and describe and have an in-depth understanding of what is happening in terms of maternal healthcare service.

Participant: *Ok*

Researcher: The risk might be that you become emotional along the way because you are the one who is experiencing the very healthcare in here, so if that happens just indicate to me and say that you cannot go further and allow to you can terminate at any time you want to and will respect that, and in terms of benefit, there is no monetary benefit but I think the recommendations that will come out of this study will improve the status that is happening currently.

Researcher: Are you OK?

Participant: *I am OK.*

Researcher: Thank you very much. The first question that i want you to tell me more about it is, how do you perceive the maternal healthcare that you are delivering to the patients?

Participant: *Aaahh, in our case, our unit is small because we have 42 beds but instead we end up admitting more than 50 and we are short staffed. Every day is 2 sisters and 1 nurse on the normal vaginal delivery side, and we have c/s side, also is 2 sister and 1 staff nurse. And mind you we care for the mother and baby and sometimes there are twins, it is not like you are caring for one patient. one is two for us. it is strenuous for us especially with this influx of the foreigners because a lot of our patients are from Mozambique, Malawi, Zimbabwe. they do not have papers, language barriers is a problem and every time you have to explain yourself and you*

feel like you want to scream (angry face). they end up. But because it is the career we have chosen. the other thing is that is happening in this unit we do admit the ANC's and it makes very if difficult for you as a midwife, you are the only midwife or two and you have this woman who is (PPH) bleeding and there is one telling you that I am feeling labour pains. when you do cardiograph, you find decelerations and you see that foetus is in distress and who are going to prioritise?

Researcher: Ohh

Participant: *This is bleeding and the other one the baby is in danger and sometimes you end up being in a dilemma and you do not know who to attend first, it is very strenuous. we have babies - you have to check their glucose, the work is overwhelming, it is too much for us. we just carry on and ...*

Researcher: what do you think is the cause of all these problems,

Participant: *The influx, these people do not pay and when you ask the foreigner where they are coming from, they speak of a certain guy who transports them from the border. He just collects money and he drops them at the gate of the hospital. It looks like everyone knows that when you are in Mozambique or Zimbabwe, this is the only hospital where foreign women come and deliver. No papers and no money needed. For them is easy and We are not allowed to chase them away. If they can do something about their papers it would be better, in some institutions they pay, and proper papers are demanded and that why they do not go there. Here they are all just treated. Sometimes we encounter problems because they are many and we use our medications and sometimes we have no route to health chart, the budget is for South Africans. but now if you have 10 -South Africans, 6 Mozambicans 16 Zimbabweans, where is the budget is coming from? Remember they even not paying, If they were paying it would be easier because that money would take that money and use it to buy the resources that we need*

Researcher: Are you saying because they are not recorded anywhere, they are depleting the South African health budget?

Participant: *Yes, a lot, a lot. (Smiling) blood transfusion plus minus every foreign woman who comes here to deliver, they come with complications such as low haemoglobin and we have to transfuse. Remember they do not donate blood in SA but they use our blood. They come with complications go for C/S imagine how much is c/s if they had to go to private hospital. they just get it free. If you can go to over records you will see that our SA are not even making half of the admissions.*

Researcher: How does this make you feel?

Participant: *Sometimes I can see that I am xenophobic (Laughing) True. The things that they do... sometimes for example you are giving Vitamin A to the mother to chew, when you turn around you and her giving it to the baby. the language is a challenge it is frustrating because they do not understand. They do not understand English.*

Researcher: It is very serious.

Participant: *They take traditional medicines (Ostrich egg) to induce labour themselves so that when they get here they deliver. They do not understand our languages, and some even do not understand English that lead to neonatal complications and we end up with Full NICU. This will make you want to strangle them because now you want to safe the baby and this woman is doing somethings.*

Researcher: What do mean by doing some things

Participant: *Maybe you instruct her to push and she will be looking at you. Push, then she will say Yes "Mamelodi" Who are you? Mamelodi. then she will close her legs, and such frustrates a lot.*
Researcher: You mentioned complications? what do see most as complications that will warrant the country to use a lot of budget
Participant: Sometimes they come with the squeeze or two litre bottles full of water with *traditional medicine and use it for labour induction. Then your CTG will begin to have deceleration meaning foetal distress now they will not deliver normal and then c/s will be an option. Others have low haemoglobin and need blood transfusion, babies are affected because they are not cooperating leading to prolonged labour and unnecessary episiotomies.*
Researcher: How do you manage PMTCT? Because you said the come in active labour already.
Participant: *Yes (with raised eyebrows). It is done in labour ward and I do not know how midwives do it. but when they come to our unit we do PCR*
Researcher: How are results?
Participant: *Mostly the results negative but we do it once at birth. We do know the results at six weeks because after delivery they go back home. We are not sure if they give babies correct doses of AZT because they do not understand what midwives are saying.*
Researcher: What do think can be done with this problem? the communication line between you and your patients
Participant: *Interpreters but not sure if it will work because it is another budget. however, there are foreign women who have been in SA for the longest time and they try explaining to others.*
Researcher: What measures can be done?
Participant: *Eish, maybe the government or our CEO, in some institutions, there are policies that stipulates that all non-South African have to pay... i think if this hospital can make them to pay, it might change the situation. there was incidence, they used to pay R300, there was this white woman who brought her helper to deliver who was in labour, the white lady insisted that no woman has to pay for maternal healthcare and requested such policy and the was no policy and that trend of making foreigner to pay stopped.*
Researcher: how were the stats when they were paying?
Participant: It was much better.
Researcher: What can you tell your perception on the issue of attitude of the midwives
Participant: *You know when you are tired, burnout ... I will not refer to it as an attitude rather but sometimes you become overwhelmed because all these people are looking for ...the mothers and babies, pregnant women, the families and as midwife you "one". You end up answering as if you were not thinking and it depends on the approach. Calm speaking person, you will respond in a correct manner. Unfortunately, other come to the hospital with their preconceived attitude from the communities. Some will be pushy and. and it is not only from the mothers and their families... staff as well are having attitudes against each other. It is worse (Laughing)*
Researcher: Do you think midwives are still passionate about their work.
Participant: *Eish I would say it is 50/50. We are short staffed, and women are so many. Previously it was nice but now as you are busy with one woman, the other*

one comes or screaming because she is delivering, and you end up losing your ... This is not the problem of this hospital alone.

Researcher: Why do say so?

Participant: *Our mangers are saying so. Shortage is everywhere. and we should not complain about shortage rather complain of resources, so you must survive with what you have. For example, today these women that we are admitting, they delivered in the morning around 9' o clock in the morning, but they just came in this unit because the midwife in labour was alone, other midwives had to go to theatre, other midwife worked in the review, other one in delivery. After delivery she could not write the records because of other women delivery, now the records are packed. the women were sitting there waiting for the midwife to record on their files. at the end of the day, you end up not recording some of the things and record keeping is affected because you are in a hurry to deliver another baby.*

Researcher: How can we improve the maternal healthcare despite all these challenges?

Participant: *Staff, staff, staff*

Researcher: In terms of policies? Do you think you are implementing the policies?

Participant: *(Shaking her head with laughter) Here? You know with policies.*

Researcher: Do you have them? in this unit?

Participant: *We'd have in the file in the office, but it is locked as we speak. it is a challenge, there are alto of things that we are doing in this unit are outdated. Policies are written by Dr so and so who left 20 years ago. when we have a problem, we do not have anything to cover yourselves. For example, women who undergone c/s must receive Pethidine. we are told that we give 2 doses o Pethidine to c/s and from there we give Panado but there is nothing written. There is a lot of thumb-sucking. Just like Kefzol is the same.*

Researcher: When you raise these concerns with you managers, what are they saying?

Participant: *They say we will tell the Dr, we are just working like you are in your house.*

Researcher: How do you feel about working here. Tell me more, I am interested

Participant: *I am not happy, before I was but not I feel my distinguishing devices are in danger. We are not protected. You just work, today is this rule tomorrow it changes. We are admitted ANC's in the postnatal ward. back then C/S was done for a valid reason. But now C/S is on fashion. elective caesarean section might be 10 a day. these c/s cases pile in the ward. doctors do not want to take the responsibility. No one want to discharge them home*

Researcher: Do I understand you to say all these problems are upon the midwife?

Participant: *YES, midwife is the one who has to endure all these. And this is postnatal ward. As we speak now, 7 ANC's are in that room. All these leftovers will be added by those that are coming on Monday.*

Researcher: When you say leftovers, what do you mean?

Participant: *It means they were not done C/S, they will be shifted to Monday and others will be admitted adding up to the list. Worse part one woman will come, and my waters have broken, and it means she is in labour. Midwife will leave all that she is doing and concentrate on this antenatal case that is labour.*

Researcher: Aren't you taking them to labour ward?

Participant: *It should be like that but not here. I complications are identified then you prepare for c/s you leave everything.*
Researcher: You mentioned that your epilleuttes are in danger... What do you mean?
Participant: *(Laughing with long face) Anything can happen. incident happened 3 or 4 weeks ago, woman was in labour from 23h00 at night and the doctor was in theatre because they had this complication until in the morning by the time the c/s was done at 09h00 the following day, the woman got a fresh stillbirth. Woman was tossed between labour ward and postnatal ward*
Researcher: How does attitude affect the maternal healthcare, where are your supervisors in this situation?
Participant: *We once had a similar case; this woman was moved up and down the labour and postnatal ward until she was then fully dilated and delivered in the postnatal. Remember, we do not have delivery bed and delivery pack in postnatal and the blame was put on the midwife who delivered the woman.*
Researcher: Do you want to be here?
Participant: *(Laughed with sarcastically) No, we got a chance to choose to move out of postnatal ward.*
Researcher: Thank you for sharing, is there anything that you need to tell me more that you have?
Participant: *At least today I have shared with you, When I ask whether this ward is Antenatal or postnatal? On Wednesday had 12 ANC's, none of these women went to theatre because they were busy with an emergency. When we asked the answer is the "infrastructural issue". Just like with PCR,*
Researcher: Is there no room for change?
Participant: *Even with PCR it should be done in labour ward but in this hospital is done in postnatal ward.*
Researcher: Where is the problem?
Participant: *(Pointed up) It is upstairs managers,*
Researcher: What do you mean by upstairs?
Participant: *I mean between managers*
Researcher: Am I sensing a bit of favouritism, am I correct?
Participant: *I could say that, because I have raised why PCR is done in Postnatal? PCR in other institutions is done in the labour. The answer was you are not test the women, or do you want to test them both (test mothers and PCR). Why this demarcation? Those women admitted in here, delivered at 09h00 but came to the ward at 17h00 and we just did PCR now at 17h00.*

Researcher: And they have been breastfeeding.

Participant: *Sometimes the woman will delivery at 06h00 in the morning in the labour ward and she will be there because of the complications happening such as postpartum bleeding, and what about the time gap and the was told that as long as it was before 72 hours. Last week, I ended up calling the CEO because i felt this is too much for us. Kangaroo room has been swapped.*

Researcher: Am I correct if I say you are not implementing the policies because KMC is one of the policies and it is not existing in this hospital?

Participant: *That is why I say we are just working.*

Researcher: Thank you for sharing with me. Hope one day things will change.

Participant: *Hope so, because we have lost hope.*

Researcher: Why are you losing hope?

Participant: *We have been talking in the meeting, but nothing is happening. There is no follow up on issues. You have to keep on pushing because these managers are not doing anything. I feel I must just move out and go to Psychiatry.*

Researcher:

Thank you

THE END

ANNEXURE P: Example of Focus Group Transcript 200203 0062 FGD

ANNEXURE P: EXAMPLE OF FOCUS GROUP TRANSCRIPT 200203 0062 FGD.

Researcher: Good morning ladies

All: *Good morning mam*

Researcher: How are you.

All: *We are good.*

Researcher: I am Mrs Nkoane. What language do you prefer

All: *Setswana*

Researcher: Are good are you all fine with says one

All: *yes*

Researcher: I am a nurse. I am currently conducting a research in maternal health care services In Gauteng. When I speak about maternal health care I am referring to the care that midwives are you giving to women who are pregnant and giving birth and have a new born. My topic is titled development of a model to strengthen maternal health care Gauteng province. I am doing this research because I am passionate about this field. the reason I have invited you was because I believe that you have valuable information that you can share with me. For the mere fact that you are pregnant, and I admitted in this hospital you become a legible participant for this study. What I require from you is honesty information and the openness to communicate. I just want you to know that I will maintain your privacy, anonymity and confidentiality. There is no way I will disclose your names. Kindly note that you are not to mention your name during this interview. I will hand out cards written on them participation numbers that will be designated to all of you. The University of South Africa, the Department of health Gauteng and this hospital have given me permission to conduct this study. Do I have your consent to conduct this interview and your signature to indicate that you are not intimidated to conduct this Interview? The signed consent forms will be kept private and safe.

All: *Yes mam.*

Researcher: Before we begin, here are some ground rules for this interview. I would like to request that all phones put on silent or switched off. Secondly, there is no wrong or right answer. Maybe also be quiet when other participants are given the responses. This participation card that I am handing to you will be to assist you and remind you that you should not in any way disclose your identity. When you speak, you start off by saying your participation number. Please participate to your fullest. May we now begin? For my first question, how do you experience the maternal health care that you have received in this hospital?

P7: *Some days the care we receive is good but on other days it seems like the nurses are in a bad mood.*

Researcher: Does this mean that it some days and not all days?

P8: *Yes.*

Researcher: Can you share with me your experience.

P8: *When they start their shift on a happy mood it is a national audience that it will be a good day. On other days they shout at us for simple things. For example, when we ask for clean linen.*

P8: *When they start their shift on a happy mood it is a national audience that it will be a good day. On other days they shout at us for simple things. For example, when we ask for clean linen.*

P4: *I agree with participant eight. For example, yesterday there was a woman who is experiencing labour pain and exhausted who ended up going to the lady's bathroom and when she got there she couldn't walk out. She called out for help from the bathrooms and one midwife brought her a wheelchair, but the other midwife was insisting that she must walk herself out of the bathroom. There was no way she was going to be able to walk herself out of the bathroom without any help. I have been in this world for five days and I can confirm that not all with midwives are the same or acted this way. The dress that I am wearing right now I have been wearing it for the past three days to the fact that they refuse to give us clean clothes. Even after asking, they will still not give you clean close but would only tell you that there is a routine to be followed. One other thing, when you report to the midwife that you are in pain she will respond by saying "why did you not tell this to your doctor?". With all that being said, not all midwives out the same. Some of them have that personality. For example, the midwife who took the Wheelchair to their struggling lady in the bathroom never shouted at her she only helped her wheelchair to their struggling lady in the bathroom never shouted at her she only helped her.*

Researcher: Okay I understand.

P5: *Most ladies in this ward I'm not happy with how the minnows communicate with them. We do not deserve such treatment. Worst part, she is a young midwife.*

P6: *Nurses already rude to us. The last time I needed to get a Blood transfusion, I told one of the nurses that my drip was not flowing well her response was that I mind my business She knows what she is doing. I asked the other nurse and she nicely help me.*

P8: *When you ask for help from other nurses their response will be that they are not the only nurse on duty.*

Researcher: According to your own observations how do these nurses relate to each other? (Everyone speaks at once)

P8: *The nurses sometimes have arguments about the number of duties they have performed on patience. And while this is happening patients are being neglected. When these arguments happen nurses will be seated on the desk. The nurse's routines contradict with how we were told to take our medication at home. If you were taking your medication at 8 am in the morning at home I should also do the same when I'm in hospital but that is not the case. They tell us the medication will come at 10 am only to find that we will receive it hours later. For example, I inject myself with Clexane and the nurses will always be late with my medication.*

P1: *I suggest that the nurses leave their stresses at home and not bring them to work. We need the help which is why we come here we depend on them. Some of us as fast type mothers rely on the nurses advise on how to take care of a baby. There is not a need for them to be rude to us we do not have the experience. We do understand that we do not pay their salaries so we rely on the advice to do things right. We are not*

trying to tell them how to do their job, we just need them to help us with what we do not know. There is no need to fight one another we know why they are her

Researcher: What do you mean by rude?

P1: *One incident when I was being given a drip I jumped due to pain and the nurses shouted at me for reacting saying that I shouldn't act like that. How do you say something like that to someone who is experiencing pain?*

R: thank you for your contribution.

P3: *I agree with this because before me, they are correct. The treatment we get here is bad. With the treatment we get here you end up thinking of retaliating with unkind actions. You even get the feeling off you shouldn't be at the hospital but rather At home. And that impact on how we communicate with them. Sometimes you even afraid to communicate about certain things experiencing in your body because of the attitude we receive. They even disclose other patient's health conditions in front of everybody else, and that makes us to not feel free when we have to tell them what we are experiencing with our bodies. Nurses go to the extent of asking us about what is written in our hospital files.*

P2: *What I have experienced since I came to this hospital was discrimination. Oneness referred to one lady who was not from South Africa as a "ghirigamba" (slang for foreigners). Because surely couldn't understand our South African Vernacular language Because that lady only understood English. This made me feel so bad for the lady as I feel we have issues of tribalism is they would refer to other people using their tribal groups. Nurses made fun of the foreign lady saying that her blood pressure was up because she was scared of South Africans. It was clear to us that it was really the case that the foreign lady could not understand anything they were saying.*

P4: *There is also a situation where the nurses would make a joke and say the lady is now loud due to labour pains, but she was quiet when she was with her husband. I was admitted on Tuesday but only got my first medication on the Thursday. Wendy collected information for their reports the only rely on stickers without checking the files. Nurses couldn't see that I was not getting my medication since I got here. The doctor asked me where my prescription was and I told him I haven't received medication since being admitted. He then asked me how I survived, and I told him it was due to the medication I got from the clinic which I was drinking while in hospital.*

Researcher: *did they know you had your medication with you?*

P4: *No, they did not. That is a set situation because it clearly indicated that they do not give patients attention. They spend most of the time chatting and laughing.*

P1: *With regards to the issue of discrimination I feel like it is our duty as women to support one another regardless of where you come from. It is not right to take advantage of someone only because they do not speak your language. It actually is xenophobic. This will result in how we may receive care from the nurses. It's clear that we do not respect each other as women. This will result in how we may receive care from the nurses. It's clear that we do not respect each other as women.*

P2: *We mostly have to endure the treatment we received from midwives because all we are thinking of is getting the best care and healthy babies. Midwives have a bad attitude.*

Researcher: Do you mean all midwives have bad attitude?

P8: *Yes, they do have a bad attitude. They make us feel as though we are a burden. I have also gathered that they do not love what do you do. We sometimes feel scared to tell them what we are going through yes, they will give Responses and ruin your day. The hospital environment is also a bad environment in general which doesn't help when they are terrible nurses that make us feel small. Some of us are admitted for bed rest but we are here being stressed outmost of the time. During the night it's worse. Because you call for help and they will take forever to respond. What about the patient that's bleeding what's going to happen.*

Researcher: You said it's like they're not about their work. Can you elaborate more.

P8: *What I mean is that it's like you're annoying them when you call. They don't care they just talk and laugh. They even go to extend of telling us that we are annoying.*

Researcher: How do you perceive the skill in the knowledge of the midwives?

P4: *Midwives do have a skill and knowledge. If they didn't have the skill and knowledge, we wouldn't have been satisfied about the care from some of them. There are those you wish that they do not go off. You that you would spend all the time with them. When you ask questions about pregnancy you'll get satisfactory.*

Answers: Some will take care of us to the best of their abilities Sam is the opposite. So they do have skills and they know what they're doing. Unfortunately they're not the same some of them become on duty with the aim to come and make us feel sad it, Come to work with a positive mind.

P8: *They make us feel that we are nothing in that they are much more important because they are working and they look down on us. To them we are just me and uneducated and unworthy people. I feel that sometimes the class as patients. When Some of us complain, Complains are not taken seriously but Some of us they don't give a damn. It appears as if the person's background and status count a lot in here*

P1: *I believe that they do have skill and knowledge but to me passion it's important. I believe one must be passionate about what he or she is doing. If you're not passionate of what you doing I don't see there is and why you do it from the beginning. You have to love your work especially when you are dealing with people. I also believe that Patience also I know the same. We do have different personalities. Midwives should have the psychology of dealing with patience. They do have skills and knowledge because they were trained they do have qualification as midwives. They should be able to deal with people.*

Researcher: You ladies mentioned passion as a major aspect in healthcare settings. Can other elaborate on the matter?

P8: *Passion is not key here. Because some of them can't wait to leave for better working conditions somewhere else. They would verbalize that they even got job offers somewhere in the private hospitals. And you would ask yourself whether I'll be here by force or by love. I sometimes feel like they can't wait for the time off. To show that they are not passionate they can't even explain simple things about your condition, when you ask your always refer you to your doctor. I think maybe idiot exhausted In the work conditions they find themselves in and the lack of resources.*

Researcher: How do?

P7: *I believe the resources are available.*
P8: *Sometimes your find that we do not have a toilet paper in the ward. They would be expected that the toilet paper should last the whole day despite the number of the ward. They would even asked to call back home so that they bring all those items. When coming to the menu I don't think they are nutritious for pregnant women. Sometimes they have food look like they are spoiled. You find the red meat is that a dark.*
P1: *I think the usage of resources it's a bit problematic. Sometimes it's not that they're not enough, I feel they have been wasted. I believe when the stock is insured from storeroom they have made count of the patience in the ward. In the know for how long will the last us in the ward. But then but then I think even though we at this maybe we shouldn't be deprived of toilet paper. It depends on how often we use the ladies room. Unlike having a toilet without a toilet paper.*
Researcher: Now tell me, are we following the mandate of the government in terms of policies.
P8: *The way nurses treat us one and think of Batho-Pele.*
Researcher: Mmm
P2: *Nurses do not the Batho-Pele principles. I remember in the labour ward one midwife told one lady that she doesn't care… on the payday, she gets her pay.*
Researcher: What happened?
P2: *Just because that woman had bleeding after giving birth, then she just told her that stay in that the blood "I get my salary on my payday". I believe that bleeding after giving birth is normal. She could have assisted in clean up the bed. That is typical of attitude. There is not courtesy. there is no Batho-Pele, truly speaking. That make me feel so sad because I'm also coming for delivered. So will be telling me the same words and we are not here by choice. Some of them they always have long faces and they are approachable. You already know that the answer that is going to come out of her it's going to raise your blood pressure. So, you keep quiet. I also think it would be better if you were at home.*
P5: *The treatment that I got you as a person, I was told that "you come here to deliver every two years ". That is why when I'm in pain I don't even bother to tell them because they'll tell me that I'm always here every two years. That made me feel so bad (patient started crying). These children that I have are mine.*
Researcher: This is not a nice feeling.
P1: *I think the department should organise programs to support nurses and patients, whereby we have to talk about our problems to reach an amicable solution. I think it will help because nurses perceive us as behaving very odd, on the other side we as the patients we also see nurses as behaving very bad towards us. If we can have such programs where we will be sharing our situations I think we will reach a solution.*
P4: *The problem that I have noted is respect. Nurses do not have respect for others. For example for this lady to be told that she is here every two years "doesn't need them it's not their baby". Their role is just to help us not to tell me how many kids do I have. It shows that the lack respect. For the mere fact that the midwife tells a woman to say shut up when you're in sleeping with your husband you are not making noise,*

It is a sign of disrespect. What can happen if I retaliate.? It would not be nice. We all have feelings. The attitude and disrespect that we get from some of the midwives, met some of us to wish and want to beat them up. I'm just appealing to the midwives to meet us halfway because most of the time we are trying to show them respect but ,from their site nothing is coming. Midwives are always hurting us. I think they are problem is that they are judging us. For example with this lady, midwife can just say "she is white why don't you go to net care and stop annoying us here, she is busy making babies nonstop". Some of these nurses are doing bad things to us.

P2: *I think nurses are cold-hearted. Some of the nurse's hearts are impure. I have heard that when they train they take oath. Some of them they're just nurses because they could not find employment somewhere else. That is why they would tell us that they get their salaries on the 15th. For as long as she can pay the bond, car and take her children out. I know that some are doing a good job nursing is a calling to them. Some of them are just after money. That is why, every chance she gets she is looking for the job, because she is comparing the salaries. I remember one incident in labour ward, one lady was asking for water to drink. The response from the midwife was "your sister was here during visiting time, why didn't you ask her to get you water?" Poor woman stood up to get herself water. Where is Care in such moments?*

P8: *I think midwives are not supervised enough. That is why they do is they wish. They do not have the will to wo rk. Did you have a lot of freedom just here to fill up the bank accounts. The other thing as patients we do not to complain despite the suggestion boxes available. We are you not using our Rights as patience. Maybe if we reported them to be the seniors they will charge.*

ResearcherR: So, supervision is key?

P2: *I agree. When the doctor is in the ward you see the difference we are on their toes. They will give you medication in the presence of the doctor, but if he's out of the ward is not happening.*

P8: *They give out medication, but either hour early or later. We are not conscious about time.*

P1: *I support the supervision concert. If there is a supervisor in the unit I believe the behaviour will change. I believe everyone came here to work. everyone must do their duties. There is no need to have a bad attitude, even if the patient does whatever, the role of the midwife keep to her oath at all times. Sometimes that's the reason, patients end up posting these attitudes on the social media. We can take videos and was post on Facebook. And would say look at how we have been treated. And I believe that is not necessary.*

P8: *Sometimes we don't even want to go that route because we do feel for them, we pity them. We understand the situations that they are working under. They don't even think that we can record them as they speak to us and forward it to be a MEC to Report her. Why are you and the disrespecting us when we are giving them so much respect? They can stick to time, we will appreciate. They are wasting time because of chats.*

P3: *It's good that we report them internally outside, We go outside that would dent the image of the profession*

P1: *it is so sad this that these things are happening in the government hospitals Which open and providing healthcare to a larger population. Government hospitals are helping people who are not able to afford healthcare services in the private sector, remember people are not equal in terms of socioeconomic status. People of South Africa are using government hospitals because they know that they are not expected to pay a lot of money. And I do not believe that government hospitals were meant to give less quality of care. I believe that the government is providing all the resources needed in fill. When resources are licking it becomes so distressing to the people of the country and it shouldn't be like that. To us who are dependent on the system, we feel this is not nice*

P4: *Another thing is when we report to them they might lose their jobs. For example the incident of yesterday when the woman was made to walk when she was in seriously labour pains, shouldn't have ended up on the social media, it would have given the hospital the bad name. They said the thing is very midwife would be more effective than any other person if a video can end up on social media. The best thing is such things should be dealt with internally. If the hospital is not going to take drastic measures about these nurses they will end up in trouble.*

Researcher: Do you think culture, norms and values of the society affects the maternal health care is delivered?

P8: *For me, it does not have such a great impact. Because when I come here I know I'm here for medical help and I will respect doctors 'instructions. That is why when I do not get my pills on time I start to complain. I want a healthy baby at the end of the day.*

P4: *I do not think that under normal circumstances, a woman can just come in with attitude without any apparent reason. Midwives are always starting with the attitude. Most of the time when patient retaliate they are been taken as difficult.*

P1: *Most of the time patience become difficult because they have they are own beliefs. For example some say I got some things from the church that I'm attending, so when those things get mixed with the medical interventions they tend to backfire. Before it becomes difficult for the midwives because complication before it becomes difficult for the midwives because complications tend to happen. Traditional medicine and medical intervention don't go together. Only if patient can understand that they tried those traditional medicines at home and they did not work, so when you come here follow the instructions of the doctors. There is no need to be difficult. If you feel that your traditional medicine works better, then stay at home and use them instead of causing trouble for the health care system. That's when people start of blaming the nurses when they know that the problem is caused by mixing different interventions.*

Researcher: Is the care that midwives giving you of quality?

P7: *It is definitely not of quality,*

P8: *I feel like healthcare is much better the problem is the attitude of the midwives. If they can try to render have care with love and passion I think there will be a lot of improvement.*

P3: *I think it is not bad because we do not have a choice will just have to go with the flow when I go to not just go with the flow*

P2: *According to me is not of qualified for example if they say take medication at eight you must take it at eight anything other than that is not of quality. Time is important. And If nurse can know why are they here? Regardless of how patients behave because sometimes when you are sick you do wrong things not by choice. Think about a patient who is getting diabetic injections, if you do not get them on time what will happen to her?*

P4: *It would be of quality only if all nurses can be passionate about the awake. If they can be all same as those that we said one would wish that they do not knock off, I believe the wards would be the nicest place to be.*

P8: *I just want to make mention of that not all of them are the same. Some are doing their part, and some are not.*

Researcher: ladies thank you very much, you do not know how contribution you have made to this study. I am grateful to have you as my participants.

All: *You are welcome.*

The End

ANNEXURE Q: Quantitative checklist for women

A Model to Strengthen the Maternal Health Care Services in Gauteng Province

1. Demographic Data of Participants:

Please complete is section

a. Age_____

b. Parity _____

c. Level of education_____

d. Employed: Yes _____ No_____

e. Nationality: SA nationality_____ Foreign_____

f. Maternity _____

g. Hospital no: 1_____ 2 _____ 3 _____ 4 _____

2. Check List

	Action and interaction	**Yes**	**No**
	Attitudes		
A101	Are midwives always on time?		
A102	Did midwives treat you with respect?		
A103	Did midwives show you courtesy?		
A104	Did midwives take time to assess and treat you?		
A105	Do the midwives have good reputation?		
A106	Do midwives respond immediately to the call of the patients?		
A107	Do midwives communicate with you or other women in the appropriate language?		
A108	Are midwives caring when providing midwifery care to the patients?		
	Appearance		
A109	Were midwives identified with the nametags?		
A110	Were you able to identify midwives?		
A111	Were midwives always in their uniform?		
	Monitoring of labour		
A112	Were you done physical examination?		
A113	Was your temperature taken?		
A114	Was your blood pressure taken?		
A115	Was your urine tested?		
A116	Did midwives discuss treatment plan with you?		
	Structural factors		
A116	Is facility accessible to women?		
A117	Is the facility layout new or old?		
A118	Is facility generally clean?		
A119	Is the facility accommodating the admitted patients?		
A120	Layout of facility user friendly?		

	Action and interaction	Yes	No
	Physical surroundings		
A121	Are the toilets clean?		
A122	Are beds having clean linen?		
A123	Are meals served on time?		
A124	Are meals serve at appropriate temperature/		
A125	Are meals prepared according to the women's medical condition?		
A126	Do receive sanitary supplies when you request?		

Thank you for completing the checklist

ANNEXURE R: Document analysis qualitative audit tool for partograph

	Partograph audit	Yes	No
Section A	**Patient data**		
A101	Name of the patient recorded?		
A102	Age recorded?		
A103	Gravidity recorded?		
A104	Parity recorded?		
A105	Gestation calculated and recorded?		
Section B	**Risk factors identification**		
A106	Onset of labour determined and recorded?		
A107	Time of Rupture of membranes enquired and recorded?		
A108	Type of pelvis identified and recorded?		
A109	Date and time of Latent or active phase written?		
A110	Duration in hours recorded?		
Section C	**Fetal condition**		
A111	Fetal heart rate auscultated and recorded correctly?		
A112	Liqour checked from the sanitary pad and recorded?		
A113	Application recorded?		
A114	Station recorded?		
A115	Presenting part identified and recorded?		
A116	Caput felt and recorded?		
A117	Moulding palpated and recorded?		
Section D	**Progress of labour**		
A118	Position felt and recorded?		
A119	Cervical dilatation measured and plotted?		
A120	Cervical length measured and plotted?		
A121	Head above the brim checked and recorded?		
Section E	**Contractions monitoring**		
A123	Contractions monitored and recorded correctly?		
A124	Are the contractions monitored manually?		
SECTION F	**Vital signs**		
A125	Blood pressure monitored correctly?		
A126	Pulse monitored correctly?		
A127	Temperature monitored correctly?		
A128	Urine tested?		
SECTION G	**Plan of care**		
A129	Fluids given?		
A130	Management plan recorded?		
A131	Pain relief given?		
A132	Records signed with rank indicated?		
	TOTAL = –---------- X 1/100		
	Score = %		

ANNEXURE S: Sample of the field notes for focus group

ANNEXURE S: EXAMPLE OF THE FIELDNOTES FOR FOCUS GROUP

Hospital 4: Date: 13.03.2020

Focus Group: 8 participants

P1: (Disappointment) The toilets are dirty (which leads to infections). The sisters need to explain more, never mind the fact that you have been pregnant before. (Laughing). Communication is poor and there is a lack of care. Patients resort to google to provide information that nurses are supposed to provide.

P2: *The treatment received is not nice, some patients walk while in labour while being shouted as though they are in pre-school and the nurses are mean (speak mean words). Prefer male nurses. We (patients) google for information. Fear being shouted at. (Teary and sad). There are no wheelchairs. The nurses disregard your patients. We fear speaking out about pain. It is as if when you are pregnant you are crazy (undermined). Male nurses are more sympathetic.* P5 & P2: *(left to go see the Dr) The female nurses have a 'I've also been there' mentality.*

P7: *Was booked for a c-section but had to wait (there is a list of 25 patients before having her c-section). I must wait for pains before getting attention. The beds are full, and patients end up having to sleeping on benches. There is a backlog: "we increase instead of decrease). (Frustrated) I am worried about the baby because of growth (she worried there might be complications because while she is still waiting, the baby is growing). Appeared worried. Daily check-ups include blood pressure and baby movements. Don't get feedback (regarding the c-section waiting list and when patient will be going in for their c-section). Lack of feedback creates anxiety. Laughing. "I can't tale being here and pregnant anymore". Some patients are booked (for a c-section) but end up delivering naturally. Issues with nurses: communication, rude, stigma but some are fine. (nurses) Require communication and staff*

P2 & P1 *Returned from their check ups*

P3: *Admitted 9 March. Witnessed: a patient put in their ward and not checked. The patient gave birth in the toilet and the baby died. Night staff don't work, they hit patients while in labour and they don't wear name tags*

P2: *We try remembering them by their hair styles. (Sugar- diabetes + hypertension = emergency case). C-Section patients are better (would rather be classified an emergency case). Dr prefer emergency cases over when you were admitted. Dr traumatises us, but the sisters are worse. The patients are mixed (duration and conditions) in the ward, which causes trauma (seeing someone in labour next to you is discouraging -the manner in which patients are treated).*

P7: *Laughing in agreement to the above statement. There is a difference between day staff and night staff- because the Dr are present. Night staff remain in a private place*

away from patients, we assume they are sleeping. At night, when requesting assistance, we are shouted at.

P1: *First birth in 2008. Caring is ruthless, sisters told her to fetch a wheelchair in the dark, her water had broken, and it was wet on the floor, this caused her to fall. She ended up having to have a c-section because of the sister. Disappointment. The experience (treatment) is persistent. Midwives are rude*

P8: Smiling. My water broke while at the clinic, I was brought to the hospital then discharged. My water broke again with blood coming out and she was returned. Thus far there is good treatment, but I'm worried about other patients. Laughing. The nurses tell patients to run while in labour, this causes trauma to me. One patient gave birth while in this ward and her baby passed on.

P5: *Dr serves is number 1 and informative, Laughing. Patients are being disregarded by nurses. Maybe nurses are tired, maybe we tire them. It is my first time and I am overdue, afraid to ask when feeling pain. Prefer to wait until morning. Lack of providing answers. Male nurse was sleepy (he had been working alone). Patients are afraid to ask to be checked even after being induced. Laughing. Turn to google for answers*

P1: *People (nurses) do this job because of unemployment rates. When assisted by the older nurses in the ANC ward – they are loud but they are patient, caring and gentle with you and they provide information, Adamant While the young nurses are rude. They must employ older nurses. Older nurses do it for the love and young nurses do it for the money*

P2: *Older nurses make you feel stupid. They all have skills but lack caring skills. All Laugh. Patients just pray to God to give birth and leave with your baby (alive). Student nurses tell patients (who mention they have degree's or know people) their degrees will help them give birth. Frustration*

P5: *In public hospitals, what is happening here happens everywhere. Raising voice. It is a national problem. Her relative lost two babies at a different public hospital. Wonders where the problem is.*

P7: *Yesterday a patient file was lost. The student nurses where handling it and now the patient can't be assisted. (Recording and archiving systems)*

P2: *The nurses lack of love, they only looking for money. Maybe we pregnant woman take out the love of their work. You (patient), are being told by nurses, you wanted the baby, where must it come out*

P5: *We as patients come with a 'they say' mentality, which creates fear. Some nurses are nice. Haii: shock and irritation. I was checked in a manner which was uncomfortable. All Laughing. Drs. Explain. (midwives don't have a healing and caring hand). They need a gentle hand. (Smiling)*

P7: *Maybe this thing (treatment of patients by nurses) is caused by workover load 1/100: staff vs patients.*

P2: *It's not the patient's fault, its lack of companion. In some cases, I blame the midwives for baby's deaths. 60% are good but 40% are rotten.*

P7 *Laughing. Lack of love creates risk, we proposed more care while training nurse. Now and then they (nurses) should have counselling or be reminded of how to treat patients. Laughing. Hygiene, the eating facilities are dirty or wet. All Laughing. We don't get filling food.*

P1: *Treatment is fair, we just have to do what they tell you, don't ask question. The suggestion boxes are not checked rather we have sit down chats or surveys by the HOD.*

P1, P2, P7: *In agreement (nodded their heads). All pregnant women at hospitals are the same*

P7: *There are payments for registration, admission and check ups*

P1: *R621 for admission and R360 for checkups for non-South Africans, if you fail to pay the then hospital keeps your birth documents.*

P2: *The reason there are payments is for overcrowding, South African's pay R65.*

P7: *Reason for making foreign nationals pay is because in Zimbabwe, patients pay for services. Laughing. Zimbabwean women hid their pregnancy to give birth in South Africa, the payment is to reduce patients.*

P5: *Where does the money go?*

P7: *The service is the same (for non-South Africans and South Africans)*

P2: *Patients are given mattresses (to sleep on the floor with) or sleep on bench*

P7: *They are right that foreign nationals must pay, it will decrease border activity. But the money must be used to improve services*

P2: *Resources are enough, the problem is care. (Raising voice when talking about care)*

P5: *Laughing. Foreign nationals are ignorant regarding money contributions at hospitals*

P8: *Smiling, Laughing. There is a lack of washing facilities, the shower are blocked which contributes to easy infections. The cleaning lady only cleans once in the morning*

P7: *There is only one cleaning lady*

P2: *We are overcrowded, we go in groups of 10-15 people to go bath in the basin all at once*

P5: *Laughing. Speaking of the possible infection of corona virus (due to lack of hygiene). It becomes the patient's responsibility to clean.*

P 6, P4…*out Laughing. The white basin is now brown*

P1: *Since 2008 (her firs birth) the bath and shower has never worked. We use a small bowl (one you could eat out of) to bath (and can't put in both your feet). You have to clean after yourself.*

P5: *The bath is working, it's just dirty. You have to wash and spray (disinfect) it first. Some patients have been here since February and have been bathing in the basin or bowl. The 1cm theory: the nurses always say you are 1cm away, we get hurt and end up giving birth while being told they are 1cm. Concerned look. Mixing patients (duration and conditions) produces trauma.*

P2: *We are overcrowded. They count us, but the food is not enough for everyone. They need to separate us. They should do workshops to teach the nurses compassion (looking concerned)*

Researcher: Ladies thank you very much, you do not know how contribution you have made to this study. I am grateful to have you as my participants.
All: *You are welcome.*

ANNEXURE T: Letter − statistical support

B²NP RΣSEARCH CONSULTING

227 Corobay Street
Waterkloof Glen 0181
Pretoria, South Africa
www.b2np.co.za

February 11, 2021

LETTER OF STATISTICIAN'S SUPPORT

This letter is to confirm that the Researcher, with the **Name(s) NAOMI LORRAIN NKOANE (48936944),** a PhD Researcher studying at the department of Health Sciences, UNISA discussed the Project with the title "***Model to strengthen maternal health care services delivery in Gauteng province***" with me.

I hereby confirm that I am aware of the project and also undertake to assist with the Statistical analysis of the data generated from the project.

The study aims to explore and describe the absorbing provision of health care services in Gauteng province. It is envisaged that a model will be developed to support both health workers and users to achieve value-added health care services in the Gauteng province. Details have been provided in the Protocol. Mixed-Method has been adopted for the study design. The quantitative aspect will be administered using Checklists and semi-structed questionnaire to be administered to the Midwives

Initial analysis will descriptive summary, frequencies analysis will be presented present summary statistics presenting the performance scores for each sub-domain used to assess competences by Comparison will be undertaken by Facility and across the year Where necessary, correlations analysis will be undertaken. Descriptive summary, frequencies analysis will be presented. Cross-tabulations will be used to evaluate association between the categorical measures. In addition, the Kruskal-Wallis or analysis of variance methods to compare either qualitative or quantitative attributes as will be determined by the Biostatistician to achieve the objectives. Excel, Stata 16/SPSS 27 will be the tool to be used for the all the analysis. Excel 2016 will be used to capture the data.

Sample Size Calculation

In the context of standard Sample size calculation from Finite population. The relation is given below.

$$n = \left[z^2 * p(1-p)/e^2\right] / [1 + \{z^2 * p(1-p)/e^2 N\}]$$

$Z\alpha/2$ is the Critical value of the Normal distribution at $\alpha/2$ (e.g., for a confidence level of 95%, α is 0.05 and the critical value z is 1.96. e is defined as the margin of error, p is the sample proportion, and N is the finite population size of the Midwives in the four hospitals from which sample will be calculated is (N=316).

Using a sample proportion of p=0.5 as the estimated proportion and choosing the acceptable margin of error as ±3.5%.

Using the relation above, the computed Sample size n=241. Allowing a dropout of 5%, the final estimated sample size was 254. This was allocated to the hospitals in proportion to the population size of the hospital (Table 4.10) in the protocol to achieve the objectives.

Biostatistician: SAS Oboruaju [PhD]

Specialist Biostatistician

Tel/Cell: (012) 234 2556/0725928427

Signature.....

ANNEXURE U: Editor's letter

PROOF OF ACADEMIC EDITING

This serves as proof of my involvement in the comprehensive academic editing, language control, text redaction, research methodology compatibility, and technical compliance of the **Doctoral** thesis manuscript of **Mrs Lorrain Naomi Nkoane (Student Number: 48936944)** submitted to me as part of her fulfilment of the requirements for the PhD (Nursing Sciences) degree registered with the University of South Africa (UNISA), and entitled:

Model to Strengthen Maternal Healthcare Service Delivery in Gauteng Province, South Africa

In my capacity as an independent academic editor, I attest that all possible means have been expended to ensure that the final draft of **Mrs L.N. Nkoane's** thesis manuscript reflects both acceptable research methodological practices and language control standards expected of doctoral research studies.

In compliance with conventional ethical requirements in research, I have further undertaken to keep all aspects of **Mrs L.N. Nkoane's** study confidential, and as her own individual initiative.

Sincerely.

TJ Mkhonto
BA Ed: North-West University, Mafikeng (1985)
MEd: School Administration; University of Massachusetts-at-Boston, USA, Harbor Campus (1987)
DTech: Higher Education Curriculum Policy Reform, Design & Management; University of Johannesburg, (2008)

All enquiries:
Email: mkhonto9039@gmail.com
Cell: +27(0)76 035 2929

Signed: _____ **Date:** 11 June 2021

Dr TJ Mkhonto dd/mm/yyyy

Independent Academic Editor

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Themba J Mkhonto
Associate Member

Membership number: MKH001
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076 035 2929
mkhonto9039@gmail.com

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ANNEXURE V: Joint display Juxtaposed comparison of qualitative data building into quantitative survey items in the maternal health care service delivery

Research objectives	Themes	Qualitative findings presented as quotes	Documentary analysis	Quantitative results presented using statistics	Crystallization/meta-inferences of all data sets
To explore and describe the experiences of the midwives and perinatal women regarding the delivery of maternal healthcare services	1. Individual challenges: 1.1 Midwife perspective	**Hosp1 P6** "Some of the sisters will just look at you when you call for assistance". "They will not respond to whatever you have requested her to do for you, they rather postpone your request. "Such delays compromise the health of our babies".	Partographs revealed poor recording across all hospitals. In some audited partographs there is an evidence that the women were induced but the partograph were not recorded	Knowledge of the partograph by the midwives was highly scored (100 %). **Service delivery:** Midwives (82.4%) reported that they respond immediately to the needs of the women under their care.	• The findings of both FGDs and Documentary analysis data sets were inconsistent, with consideration of midwives and women with conflicting results. • In view of maternal health care service delivery scores and means, the qualitative data set revealed a comprehensive and distinctive disagreement.
	1.2 Midwife profile	**Hosp 3 P4** "The problem that I have noted is respect. Nurses do not have respect for others. For the mere fact that a midwife would tell a woman who is in labour to shut up and stop making babies, it is a sign of disrespect".		Attitudinal scores: N=145 Mean=86.9 SE(Mean)=1.6%	• Seemingly the FGDs and Checklists have shown some inconsistency with regards to respect. Considering the attitudinal scores in the checklist is dissimilar to the narratives captured in the FGDs. • All age categories of the perinatal women seeking maternal health care in the facilities commented positively on the attitudes of the midwives in all hospitals.

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					• This observation was captured mostly from the antenatal and postnatal units.
		Hosp1 P6 "They are not passionate enough even though they are not all the same".	Poor recording of partograph may be associate with lack of passion in their work.	Checklists revealed that 93% of midwives were courteous.	• The variable was also noted in the recording of the partograph, suggested that midwives were not committed in keeping record of labour progress of the women to achieve SDG 3.1 good maternal health outcomes despite the admission time.
	1.3 Patient profiling	**Hosp 3 P1** "When you ask a question … you taken very light and ignored".		Questionnaire shown a mean of 83. % with confidence interval [84.4-85.9] of communication with the women in the units.	• The in-depth interviews with midwives suggested a difference finding relating to provision of health information. • Midwives confirmed that they give health education and information to women and record of such education sessions is kept the health education book. • A difference confirmed lack of trust on midwives compared to reliance of women on media for health information.
		Hosp 3 P1 "Google gives us all the facts and answers that were supposed to given by the midwife."			

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		Hosp 3 P8 "They make us feel that we are nothing and that they are more important because they are working and educated, that is the reason they are looking down on us. To them we are uneducated and unworthy people".		• Most women N=99 (71.74%) have achieved secondary grade education.	• The findings were consistent in both qualitative and quantitative. • A very low percentage have a qualification, still busy with or dropped out of tertiary education. • A need for awareness to address the concept of "Ubuntu" and being civil with each other is kind and caring. • Good professional ethics and practices, including therapeutic touch need to be strengthened in the context of maternal health.
To describe factors affecting the provision of maternal healthcare services as described by the nurses, midwives and postnatal women	2. Interpersonal relations 2.1 Communication	**IDI** "Communication is so frustrating, because they only know "Shona". It becomes a problem because you must think for them".	Poor recording of the partograph from 50 audited partographs.	• Questionnaire revealed that communication affected the delivery of maternal health care services. (34.6). **Interpersonal relations** with: • Women – 47.5% • Foreigners – 45.2%	Interpersonal relations have shown consistency in the in-depth interviews and questionnaire as the scores are average and below. Furthermore, checklist attitudinal scores in relation to age, parity, employment, education and nationality category remained aligned in all hospitals.

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				• Colleagues/ obstetricians- 51.8% • Managers – 39.8% • Checklist shown a high score in communication with all women despite their country of birth 86.2%.	• Partograph as a tool to identify possible obstetric complications, can also be a communication tool amongst midwives and obstetricians. • Partographs have been incompletely and inaccurately recorded in most health facilities. An alignment non recording different risk classifications of women admitted in the health facilities has been noted.
		IDI "It is important that others are treated well and astonishingly, it is not just foreign nationals even South Africans. If someone is speaking Venda, then the midwife will refuse to speak Venda. They will say here we are speaking Pretorian language".		The questionnaire revealed that midwives (59%) are tribalists, not only xenophobic to foreign women.	• The findings were consistent in both qualitative and quantitative. • Foreign languages make service delivery difficult, therefore a need is imminent for the department to implement the language policy.
	2.2 Impact on maternal health	**Hosp 3 P2** "I was so scared when I witnessed the lady who just gave birth before me. When we scream for help probably they think we		Questionnaire shown a poor score in the allocation of midwives in the units per shift with 44% of staff allocated.	• The findings were similar in both qualitative and quantitative.

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		are screaming for no apparent reason".			
		IDI "We do not record the partographs in most cases, due to the lack of time and busyness of the units".	Generally, partograph in GP hospitals is incorrectly and non-comprehensively recorded and such resulted in a negative impact on the interpretation and analysis of progress of labour, thus delayed referral for further obstetric management.		• The findings were consistent in both techniques and methods. Failure to record the partographs during labour becomes hinderance to achieving Sustainable Developmental Goals 2030.
		IDI "For the mere fact that we had 13 cases of maternal deaths from December 2019 to February 2020… the service that we provide to these women, I would give it less than 50% in terms of quality".		Questionnaire emphasized the inadequate allocation of human resources (15%) to provide maternal care. Equipment availability (13%).	The impact of maternal health shown alignment between the in-depth interviews and questionnaire as the scores of 15% and 13% as excellent provision of resources in the units.
	2.3 Clinical functioning	**Hosp 3 P7** "I was told to stand up and I had per vaginal bleeding which messed up the floor. There was nothing that I could do because it was just coming		Questionnaire shown (only average of 45% and 10% as excellent) inability of upholding the norms and values	The findings were consistent in both FGDs and questionnaires.

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		out. I was instructed to clean the floors myself in that state of health".			
To assess the current practices in the provision of maternal health services against the policies and protocols in Gauteng province	3. Organizational context 3.1 Workload	**IDI** "It is difficult because we are short".		Allocation of the midwives per shift is only (44%).	The findings were consistent in both qualitative and quantitative
		IDI "When you go home at the end of the shift, you are a "zombie". You leave some of the things not done because you forgot and felt tired.		Questionnaire shown that despite that midwives were overworked, they able to keep up with documentation (99%) they can record on time.	The findings were consistent in both qualitative and quantitative. Midwives are tired and overworked however, still do their work.
	3.2 Resources	**IDI** "During night shift, it is only two midwives taking care of 41 patients". **IDI** "If medicines are not available there is nothing we can do. We always supplement with Paracetamol because it is always available, and it depend on the prescription".		Questionnaire shown (79%) of resources availability.	Inconsistency has been noted.
	3.3 Helm of organisation 3.4 Lack of support	**IDI** "We never see them unless there is a problem. When there is a problem, will see them being quick to judge".		Questionnaire shown lack of support. 94% of the midwives believed the	The findings were consistent in both qualitative and quantitative

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		IDI "Management expects us to be productive, but they are not supportive and invisible, this leads to frustration".		management are not regularly available	
	3.5 Decision making power	**IDI** "It is not easy, what are you supposed to do when you do not have resources but at the same time you are expected to give quality care". **IDI** "The management promised to employ new nurses to reduce the problem of workload, and to this day it has no happened instead midwives are resigning".		• Questionnaire shown decision making by the management is lacking. Furthermore, organized labour is also sabotaged. 94% of midwives reported decision making power by management as poor.	The interviews and questionnaire revealed similarities in the decision making.
To identify the corrective interventions and or measures to improve the quality of maternal healthcare services in Gauteng province	4. Community factors 4.1 Immigrant mother dynamics 4.2 Maternal- baby interface	**IDI** "Immigrant mothers come to the units unbooked, and we do not know anything regarding their pregnancies". **IDI** "We come to SA for economic reasons, we are to work because at home there are no work opportunities, unfortunately the only thing we do is fall pregnant in SA".		Unemployment rate (70%) in SA and foreign women.	Findings revealed an alignment in both qualitative and quantitative data**.**

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	4.3 Psychological impact and work-induced burden	**IDI** "Midwives are finding it difficult to deal with the large number of the patients in the units daily". **IDI** "Some of the midwives verbalise that the reason they are booked off is due to the fatigue and frustration".		Allocation of the midwives per shift is only (44%).	The interviews and questionnaire revealed similarities.
	4.4 Generational patterning of maternal health	**IDI** "There is no midwife-woman relationship because what we do best is to deliver the babies without being therapeutic to the women, this is due to the conditions we find ourselves in".		Checklist shown staff attitudinal score of (87%) Questionnaire revealed service user attitudinal score (81%)	Connection between the data sets does exist.
To evaluate the implementation of the maternal health policies and protocols in Gauteng province	5. Policy and Governance 5.1 Unstructured clinical immigration	**IDI** "Midwives end up being exhausted and become frustrated as they have no idea to deal with overcrowding and are blamed for negligence".		• Survey from midwives indicated a significant correlation between service delivery (pr=0.2007; pr-0.0187) and work satisfaction (pr=0.2113; pr=0.01) as well as resources (pr= 0.1832; pr=0.032).	Consistency in both strands have been noted.

Research objectives	Themes	Qualitative findings presented as quotes	Documentary analysis	Quantitative results presented using statistics	Crystallization/meta-inferences of all data sets
	5.2 Disease profile	**IDI** "Some of these women end up with intrauterine deaths whilst in hospital that performs caesarean sections. It is frustrating to know that the woman came in with an alive foetus and leaves the hospital with a dead baby".		• Questionnaire observed the marginal differences (pr=0.09) between education levels of the midwives in respect to knowledge performance. • Knowledge of midwives has scored 95 % confidence interval [83.9 – 86.3).	Uniformity on the category for both qualitative and quantitative has captured. Midwives with higher qualifications are concerned about the disease profile on maternal and neonatal morbidity and mortality.
	5.3 Guidelines and protocols	**IDI** "I personally feel that we are not giving enough health care to women. We are not following all the national guidelines because firstly, we are overcrowded and with few nurses to attend to the patients. We attend to the patients just to finish as we know there are many still coming to deliver, so we just do it to finish not because of we enjoy and put all efforts on what we do".		Questionnaire shown that midwives (63%) reported guidelines and protocols were adhered to.	Alignment in qualitative and quantitative data sets has been observed.

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	5.4 Synchronisation of co-occurrences	**IDI** "You write the time when you drop off that box and they are dispensing on the first box received approach not because in the ward there is someone screaming. They work according to their rules. At the end it becomes chaos in the ward".		The question in the questionnaire "Does it take long for the Pharmacy orders to reach the unit? about 50% of midwives stated that orders take long to reach the wards.	Consistence has been noted from both qualitative and quantitative phases, where midwives indicated that there are a lot of disruptions impacting on smooth delivery of care.
		IDI "The other challenge is the shortage of staff. In many cases I must leave my position as a shift leader and assist with the operational work in the unit due to overcrowding and working with less staff. How do I account for the three midwives having to take care of 104 patients at a given time, this is so frustrating"?		Questionnaire revealed that 43.9% midwives are not enough for each shift.	Similar results have been noted between qualitative and quantitative findings.

Annexure X: An exemplary or model case

Walker and Avant (2013:42) described a model case as a clear example of critical attributes of the concept. In this section the researcher defined all attributes (McKenna 1997:64). A model case presents a real-life experience usage in a concept (Walker & Avant 2013). It is an example of a real expression of the concept that represented all the defining attributes (Garnett, Ploeg, Markle-Reid & Strachan 2018:8)

Ms Susan Carrot, 23 years old of age, accompanied by her fiancé to the maternity unit of public hospital. She complained of lower abdominal pains and headache since last night (**seeking maternal health care)**. Midwife Deliwe offered both chairs to sit before commencing with Ms Susan's admission process. She then asked for her antenatal card so that she can assess the state of this pregnancy. The answer she got from Ms Carrotis " *I do not have an antenatal card*" **(no access to antenatal care)**. Midwife Deliwe showing disappointment asked why? Instead Mr. Siyabonga (Ms Carrot's fiancé) answered that "she never attended the clinic because where we are staying there is no clinic nearer, she needs to board a taxi or a bus to visit the clinic".

Midwife Deliwe calmly continued with the admission process. She presented herself with good professional ethics and communicated well with the patient (**midwife-woman relationship**) Ms. Carrot responded by saying "we are both not working, and we have no money for transport to the clinic as we are from Zimbabwe. We also have no legal documentation to find work in South Africa. Midwife Deliwe stood up, went to the cupboard, took out the maternity register and commenced with history-taking. While collecting the obstetric data, she realizes that this was Ms. Carrot's second pregnancy. Midwife Deliwe also noticed that Ms. Carrot delivered her first baby at home where complications occurred that resulted with her losing the baby (**lack of health care services contributed to poor maternal health care outcomes**).

As she continues with history taking, midwife Deliwe asked Ms. Carrot when her last date of menstrual period was, so that she can the expected date of delivery? Carrot does not recall her last menstrual period.

Then after she completed history taking, midwife Deliwe asked Ms. Carrot to climb on the bed so that she can monitor her vital signs, perform a comprehensive physical assessment and abdominal examination. While Ms. Carrot stood up from the chair, a gush of water come out from her vagina. She also experienced frequent strong abdominal pains. Midwife Deliwe quickly assisted Ms. Carrot to climb on the bed and change her attire into the hospital gown. She also placed Ms. Carrot on the cardiotocograph to monitor fetal well-being and contractions. Midwife Deliwe screamed for help, and her two colleagues (Midwives Lebo and Midwife Amo) left their working stations and rushed to the first stage of labour room where she was calling from (**team work**). Midwife Deliwe then gave instructions to her colleagues as follows:

Midwife Lebo, please call Dr Sebueng immediately and Midwife Amo, please prepare an intravenous line of Ringers Lactate 1000ml so that I can put up a drip. Midwife Lebo ran to the

nursing station to beep Dr Sebueng, unfortunately the doctor was busy in general theatre with the removal of hernia from a female patient who is from surgical ward. Midwife Lebo thought of calling Dr Botsang who is second on call and found that she is busy in Casualty with gunshot case and motor vehicle accident patients **(Human resource gap)**.

Midwife Deliwe and Midwife Amo are managing the emergency crisis, the cardiotocograph is showing prolonged decelerations, they then positioned Ms. Carrot on the left lateral and administered oxygen also advise her to exercise deep breaths with each contraction (**knowledge**). They decided to continue with routine investigations (laboratory tests). Midwife Amo drew blood for (Haemoglobin, RPR- Rapid Plasma Reagin Test, Blood grouping, Rhesus actor) whilst Midwife Deliwe is putting up a urinary catheter and immediately she asked the nursing assistant to test Ms. Carrot' s urine. Nursing Assistant reported 3+ of protein in urine and 2+ of nitrates. The assistant nurse placed the woman on the Dina-map machine and Blood pressure is 150/90 mmHg, pulse 90 beat per minute and respiration is 24 breaths per minute.

Midwife Lebo fetches Magnesium Sulphate and administer loading dose 4g loading dose over 10 to 15 minutes intravenously to Ms. Carrot. On abdominal examination: symphysis fundal height is 32 centimetres. While Midwife Lebo is at the nurses' station, one of the patients in the ward came to her and reported that another patient in the toilet is screaming for help. Midwife Lebo left the station rushing to the toilet and she found Ms. Sithole, a primigravida who was admitted in the morning with history of labour pains in there. Midwife Lebo then asked her what is she doing in the toilet? Her reply was "I had a feeling of passing a very hard stool hence I came to the toilet because I did not want to mess up the bed. Midwife Lebo explained nicely to Ms. Sithole that it is not stools rather the head of the baby, and that she should remain on her bed. She took Ms Sithole back to her room and assisted her to climb onto the bed.

Immediately when Midwife Lebo went of Ms. Sithole's room she heard a scream from the unit. She went towards the direction of the scream and as she approached " *the baby is coming".* That was Ms. Tshegofatso in labour room who is in active labour. Midwife Lebo pulls the delivery pack from the shelve and prepares for delivery of the baby. The baby was born smoothly and took the baby to the radiant warmer where she performed immediate care of the baby. However, Ms. Tshegofatso had a retained placenta, despite passive and active management of third stage. She decided to seek the doctor's opinion after she did put up an intravenous line of oxytocin, the very doctor she could not get for Ms. Carrot.

Unfortunately, three midwives are not sufficient in a busy unit. They have been echoing need for additional doctors and midwives to their supervisor Ms. Selepe so that they are able to render quality care. Midwives have been advocating for the employment of staff or use of overtime midwives to be able to cope with the workload in the unit, albeit the circumstances they still struggling **(strengthening maternal health care).** They cannot even record the partographs on time because of influx of women in the units. Ms. Selepe indicate that she attended the management meeting last Friday, in that meeting the Chief Executive Officer – Dr. Ditlhare

reported that there are no posts from Head office in the current financial year. Midwife Deliwe responded:

"*How are we going to work with skeletal staff considering the effects of Covid-19? Midwives are dying, and some are sick with Covid-19 on quarantine and isolation. Let alone those who retired and resigned with no replacements.*

Ms. Selepe: we will have to carry on with our work (Midwife Deliwe got angry by the statement, however she kept quite)

Midwife Deliwe and Midwife Amo decided to wheel Ms. Carrot in the next room (sonar room) meanwhile awaiting the doctor to come and assess her. As they enter the sonar room.

Dr. Sebueng came in through the door and did sonar on Ms. Carrot.

Midwife Deliwe: thank you that you came as soon as you could.

Dr Sebueng: I got the message from theatre sister that you needed me as quick as in yesterday.
Midwife Deliwe: Oho yes, Dr Sebueng, we have a complication that needs your intervention.
Dr Sebueng performed sonar immediately.

Dr Sebueng: Sonar revealed that the gestational age is 35 weeks, fetal heart is dropping, hence late decelerations, cephalic presentation, poor placental flow and Placenta Previa grade 3.

Dr. Sebueng immediately ordered an emergency caesarean section. The doctor explained to the woman what is happening with her baby, as well as the plan of what needs to be done **(health care)**. He then asked Ms. Carrot for consent to perform the operation. Ms. Carrot then refused, and she asked to talk with her fiancé Mr. Siyabonga whom by then was asked to wait outside because there were other women in first stage of the labour room. Assistant nurse looked for him outside and could not find him. It took about 30 minutes for Mr. Siyabonga to be found and he reported that he went to get some vetkoek from the street vendor to eat as he was hungry.

It became difficult for the couple to speak as the infrastructure is not well designed for individual room admissions, and Ms. Carrot cannot be allowed to go off the bed because of her condition. Finally, Ms. Carrot gave consent for caesarean section, and was wheeled to theatre. There were two women who were booked for caesarean section and already prepared hence they were postponed prioritising Ms. Carrot as she was an emergency because the hospital has only one theatre and very few doctors (**low caesarean section rate due to human resource and infrastructural challenges**). Midwife Deliwe had to leave the ward for theatre to receive the baby. Midwives Amo and Lebo remained to take care of high number of patients in the unit.

Finally, an alive baby boy was born with a poor Apgar score and he was resuscitated with a good outcome after 20 minutes. The baby was transferred to neonatal intensive care unit for observations. On return to the unit, Midwife Deliwe send the cord blood to laboratory for Rhesus factor analysis **(service delivery).** She knows that it is important to administer the

immunoglobulins to avoid future complications related to RH- Incompatibility. On the second day the result came suggesting RH incompatibility, she wanted to administer Anti-D to Ms. Carrot, she realised that it is out-of-stock.

On the second day post-delivery, the baby developed physiologic jaundice with Total Serum Bilirubin (TSB) of 210 µmol/litre because Ms. Carrot could not express enough breastmilk for the baby. Phototherapy was initiated with immediate effect, the baby received his vaccines according to Expanded Immunization Programme, Road to Health Card (RTHC) was issued **(Health Care Policy**) and in three days the baby was cleared off the bilirubin and discharged from Neonatal Intensive Care Unit. Home affairs personnel stationed in the hospital came to register babies, however, baby Carrot had challenges because his mother did not have relevant documentation.

Ms. Carrot was also discharged from postnatal ward having been educated on cord care, latching the baby on the breast, care of the caesarean section wound. She seemed to be happy with the care offered by the midwives during her admission.

Ms. Carrot stated that: "*The midwives were so humble, and they knew the duties well. They did not shout at me despite the wrongs I have made. I was expected to be shouted at because I did not attend my antenatal clinic visits instead they empowered me on all aspects of health" they could have sent me back more so that I am not a South African citizen and I have not even paid a cent for the care I have received. In Zimbabwe, I would have paid a lot of US dollars especially that I had to be operated upon to save both mine and the baby's life*.

My baby has a clinic card and his birth was registered with Department of Home Affairs. I have been advised hence I started on contraception, all these were done under one roof.

Even more, midwife Deliwe offered my fiancé a job as a gardener in her house, we will have an income to buy food.

Ms. Selepe came to the unit and reported to the midwives that after several follow ups with Head office, they managed to advertise for 12 nurses and 6 doctors posts. They are anticipating to shortlist and interview in a period of a month and the situation will improve (**strengthening maternal health service delivery).**

This case demonstrated the features defined by the process of a concept analysed in the maternal health care service delivery strengthening.

The end

ANNEXURE W: Checklist for reviewing the proposed model

Items	Yes	No	Remarks/ comments
1. Are concepts in model relevant?			
2. Are concept making a reasonable sequence?			
3. Is the model less complex/ clear to reader?			
4. Does the model provide comprehensiveness and complementary aspects of the phenomenon studied?			
5. Does the model present sufficient dynamics?			
6. Is the model having High degree of generality?			
7. Is there any addition or subtractions?			
8. Has the model been operationalised?			
9. Is the process in the model consistent?			
10. Does the model clearly describe the role in implementing?			
11. Does the model indicate the need for ongoing education/in service training?			
12. Does the model address the importance of its usage?			
13. Is the model accessible?			
14. Do you think that the model is important?			
15. Does the model address the extent (application)			
16. Has the model achieved its purpose as suggested?			

ANNEXURE X: Originality Turnitin report

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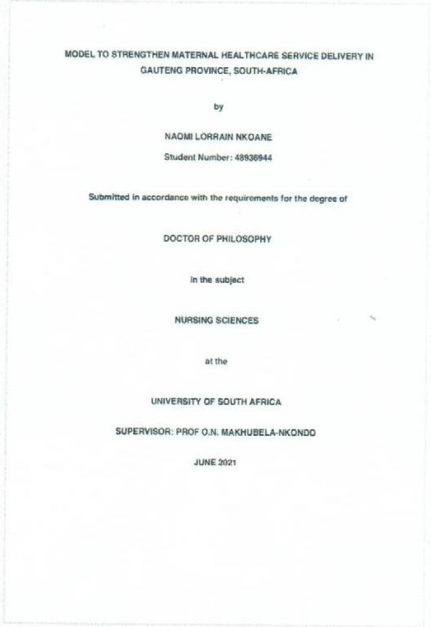

MODEL TO STRENGTHEN MATERNAL HEALTHCARE SERVICE DELIVERY IN GAUTENG PROVINCE, SOUTH-AFRICA

by

NAOMI LORRAIN NKOANE

Student Number: 48936944

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