ASSESSMENT OF ANTENATAL MATERNITY SERVICE QUALITY AMONG PATIENTS AT MAFIKENG PROVINCIAL HOSPITAL

By

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DECLARATION

I, Dr Munyaradzi Mushunje, hereby declare that this mini-dissertation submitted for the degree Master in Business Administration (MBA), at the North West University – Mafikeng Campus, is my own original work. This work has not previously been submitted to any other institution of higher education. I declare that all sources cited or quoted are indicated and acknowledged by means of a comprehensive list of references.

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SIGNATURE DATE

Dr. M. Mushunje

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- To patients, I know I was not always available, I thank you for your understanding and patience

ABSTRACT

The purpose of this study was to assess antenatal maternity service quality among patients at Mafikeng Provincial Hospital in the North – West Province. Quantitative research using a SERVQUAL based questionnaire was carried out to determine the expectations and perceptions of antenatal patients on MPH antenatal service quality. Correlation studies were used to determine the relationship of expectations and perceptions on service quality. A total of 80 questionnaires were randomly handed out to antenatal patients over a two-week period of which 70 were successfully completed. The results of the study showed that antenatal patients have high expectations of MPH antenatal service quality and patients generally had positive perceptions on the quality of service they receive. Mixed responses were however obtained in areas involving clinic operating times and the ability of maternity staff to perform work right the first time. Findings of this research study were used to draw conclusions on antenatal care service quality. The study concluded with recommendations as well as highlighting possible areas of further research.

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CHAPTER ONE

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Public sector organisations in South Africa are compelled to deliver quality service and improve on efficiency. In a globally competitive environment, delivering quality service is a pivotal strategy for organisational success and survival (Ramseook-Munhurrun et al., 2010). Hospital service quality has become a critical determinant of organisational success and survival in an environment where patients have increasingly become over critical and selective of the quality of health services they receive (Mensah et al., 2014).

This research intends to determine the quality of antenatal services that maternity women receive from Mafikeng Provincial Hospital. Through the use of a SERVQUAL tool developed by Parasuraman et al. (1988), the study seeks to establish the expectations and perceptions of antenatal patients of Mafikeng Provincial Hospital Service Quality. Service quality variables that shall be measured are: tangibles, reliability, responsiveness, assurance and empathy. Improvement in the quality of service that antenatal patients receive has generally been associated with better maternal mortality and morbidity outcomes.

In an overview of the research topic, key concepts were derived from the problem statement and in turn used to search for relevant and recent literature used to contextualizethe research problem. A literature review concept matrix was developed and different sources were classified according to identified concepts. Material for literature review in this study was obtained from service quality publications from South Africa, Southern African region, Africa and Overseas publications.

This chapter is presented in the following sequence: Introduction, Background of study, the problem statement leading to the research questions and significance of the study. Research design and methodology used are briefly discussed as well as ethical

considerations taken into account. The chapter concludes with a presentation of the study layout and a conclusion.

1.2 BACKGROUND OF THE STUDY

South Africa has a two-tiered healthcare system: a public and private sector system. The public healthcare system caters for the majority of the population while a strong private sector serves the minority (Shisana, 2011). Sixty-eight percent of the population depend on public healthcare system that is funded by the government. This system is based on a district health system that significantly emphasizes primary health care. Only sixteen percent of South African citizens can afford exclusive private medical cover. This inequity in medical provisioning is, however, moving towards the implementation of a more equitable National Health Insurance Plan(Rowe & Moodley, 2013). One observes therefore that South Africa provides a two tiered health system that is not only inequitable and inaccessible to a large portion of South Africans, but demonstrates that the public healthcare institutions have suffered poor management, poor service quality provisioning, under-funding and deteriorating infrastructure(Shisana, 2011).

High maternal mortality points to a geographic area's overall health status and compromised quality of life. The International Classification of Diseases, Injuries and Causes of Death defines a maternal death as the death of a woman while pregnant or within 42 days of termination of pregnancy. Such death could be from any cause related to or aggravated by the pregnancy or its management. The exclusion clause in this definition is that such death does not arise from accidental or incidental causes(Lawson & Keirse, 2013). There has been a growing commitment to reduce the unacceptably high maternal mortality rates in developing countries (Millennium Development Goals Country Report, 2013).RSA has equally made progress towards this goal by ensuring that maternal care forms an integral component of primary healthcare and free health care services for pregnant mothers.

Another important document, The Saving Mothers 2011–2013 Triennium Report on Confidential Enquiries into maternal deaths in South Africa, indicated that the institutional Maternal Mortality Rate (MMR) decreased from 176.22/100 000 live births in 2008-2010 triennium to 154.06/100 000 live births for 2011–2013 triennium (Soma-Pillay *et al.*, 2015). Despite the welcomed decrease in maternal mortality rate in the last triennium,

maternal mortality rates in RSA remain very high (Udjo & Lalthapersad-Pillay, 2014). The North-West province contributed 7% of national maternal deaths in the 2011-2013 Saving Mothers Report(Saving Mothers Report, 2014).

This study on the quality of antenatal care services was carried out at Mafikeng Provincial Hospital, a Level II Government hospital in the North-West Province. MPH runs a High Risk Maternity Clinic and offers specialist services to maternity patients. As a provincial hospital, the number of maternity patients that seek services at this hospital is higher than at the other lesser and smaller maternity facilities dotted around the province. The edge to establish the quality of service provided at this provincial facility may provide insight into the best practices that would ensure both viability and other improvements deemed essential for lessening maternal mortality rates.

1.3 PROBLEM STATEMENT

Mortality rate among women of reproductive age has increased in South Africa as reported in Burton & Acquah (2014).The South African government is deeply concerned by the high level of maternal mortality and this concern is expressed in SA's population policy report (Millennium Development Goals Country Report, 2013). Millennium goal number 5 seeks to improve maternal health and had set a target of MMR for South Africa at 38 per 100 000 live births by the year 2015 (Millennium Development Goals Country Report, 2013).

The South African government has taken commendable steps towards reducing MMR, including implementing policies that emphasize primary health care, improving access to antiretroviral drugs for pregnant women and providing free antenatal care (Amnesty International Report, 2013). The government has, however, failed to reach the target of millennium goal number 5. The target in the MDG was set to have achieved a reduction in the maternal mortality ratio of 38 deaths per 100 000 live births by 2015(Millenium Development Goals Report, 2013). Maternal mortality and morbidity rates are on the rise despite high antenatal attendance figures and government efforts.

According to Hulton et al., (2000), the quality of care offered by healthcare institutions can be used to explain why women do not access maternity services early or suffer avoidable adverse outcomes despite presenting early. Provision of quality antenatal maternity services remains an important component towards reducing maternal mortality rates and

ensuring a nation of happy mothers and healthy babies. This research therefore investigates the quality of antenatal maternity services that pregnant women receive from Mafikeng Provincial Hospital in the Northwest Province.

1.4 RESEARCH QUESTIONS

The research questions outlined below steer this research:

1. What expectations do maternity patients have of Mafikeng Provincial Hospital's service quality?
2. What perceptions do Maternity patients have of Mafikeng Provincial Hospital service quality?
3. How are expectations and perceptions of maternity patients' significant contributors of MPH service quality

1.5 GENERAL OBJECTIVE

The general objective of the study was to identify, describe and determine the quality of maternity services at Mafikeng Provincial Hospital in the North-West province of South Africa.

1.6 SPECIFIC OBJECTIVES

In order tofully address the main objective of this study, the following specific objectives are set for the study:

1. Identify the expectations of maternity patients attending Mafikeng Provincial Hospital.
2. Establish the perceptions of maternity patients attending Mafikeng Provincial Hospital.
3. To establish the strength of the relationships among expectations and perceptions of maternity patients on Mafikeng Provincial service quality.

1.7 RESEARCH METHODOLOGY

1.7.1 Research Design

A cross sectional quantitative approach was carried out to investigate the quality of service offered to maternity patients.

1.7.2 Population of Study

In this study the population consisted of all pregnant women attending antenatal clinic at Mafikeng Provincial Hospital.

1.7.3 Sampling Procedure

Simple random sampling technique was used to select participants for the study, respondents were randomly chosen on each single day amongst pregnant women attending antenatal clinic. Under eighteen years expectant mothers and psychiatric mothers were excluded from the study.

1.7.4 Survey Instrument

The SERVQUAL Tool as proposed by Parasuraman et al. (1988) was adapted and used in this study to measure the quality of maternity services at Mafikeng Provincial Hospital. As a quality measurement instrument, SERVQUAL has been empirically evaluated in hospital environments. From this empirical validation of the instrument, validity and reliabilityhave been established as constructs that characterize the SERVQUAL protocol in hospital settings (Babakus & Mangold, 1992)

1.7.5 Ethical Issues

Ethical clearance to conduct this research was obtained from Northwest University Ethical Clearance Board. Permission to conduct the research and collect data from patients at Mafikeng Provincial Hospital was obtained from The Chief Executive Office of the hospital.

1.8 RESEARCH LAYOUT

This research is presented in five chapters. Chapter 1 provides an overview of the study by introducing the research, dissecting the problem statement and a brief presentation of research methodology used. Chapter 2 provides an extensive literature review of service quality in general and the role service quality plays in the provision of quality antenatal care. Chapter 3 deals with research methodology, delineating how the quantitative study was carried out. In Chapter 4, Demographics and descriptive statistics for each of the service quality variable are presented. Correlation studies are used to present the relationships of variables. The research project concludes with chapter 5 which offers a discussion of the findings where service quality variables and their relationships are

discussed. Relevant recommendations and suggestions for the future research initiatives have been made. References and Appendix are the last sections where all material used in the project are listed and a list of tables, graphs and figures used is presented respectively.

1.9 CONCLUSION

Maternal mortality and morbidity levels remain extraordinary and far from the millennium development goal number 5 target of 38 deaths per 100 000 live births. Provisions of quality antenatal maternity services in healthcare institutions reduce complications associated with pregnancy as well as reduce MMR. The use of SERVQUAL tool in this study identifies important areas for improvement in service delivery. Findings of this research may also be adopted and used in other hospitals not only for maternity services but can be utilized in other healthcare disciplines like medicine and surgery.

CHAPTER TWO

OVERVIEW OF THE LITERATURE

2.1 INTRODUCTION

Many citizens have become more aware of the need for high quality medical care than ever resulting in a shift towards more critical use of health services by increasingly informed patients (Shieh *et al.*, 2010; White & Klinner, 2012). Public sector healthcare maternity institutions have generally been compelled to deliver quality services and improve on efficiency (Ramseook-Munhurrun *et al.*, 2010). This compulsion has generally stemmed from increased awareness of individual rights as much as increased expectations for quality in service delivery from the public health sector.

Schoon and Motlolometsi (2012), note that Maternal Mortality Rate (MMR) among women of a reproductive age is on the increase despite government efforts to reduce MMR. Provision of quality antenatal maternity services remains an important component towards reducing maternal mortality rates (Nyungulu, 2014).

The following key words were used to review and search literature of this research project: Service quality, service quality models, service quality gaps, service quality and customer satisfaction, measuring service quality, maternity service quality, quality of antenatal care services, antenatal care expectations and service perceptions. The following databases were used to search for articles, OneSearch, GoogleSchoolar, and SA-ePublicatons, Emerald and EBSCO Host.

This chapter begins with a background on maternal antenatal care and regional efforts to improve on quality care. It is followed by defining service quality, exploration of different quality of care models. Service quality gaps are presented and different approaches to measuring service quality and the relevance of measuring service quality are discussed. This section concludes with looking at the relationship between service quality and customer satisfaction. Quality measures in antenatal care and an exploration of factors associated with patient satisfaction in maternity are presented towards the end of the chapter.

2.2 BACKGROUND OF ANTENATAL CARE

Antenatal care (ANC) embraces the care, supervision and attention given to a pregnant woman and foetus during pregnancy up to delivery. ANC is an entry point for a pregnant woman who expects to receive a broad range of health promotion and preventive health services (Baffour-Awuah *et al.*, 2015). It is designed to prepare women for birth and parenthood while playing a screening and preventative role (Fagbamigbe & Idemudia, 2015). The role quality that antenatal care plays in reducing maternal mortality is undebated, it is agreed that quality ANC significantly maximizes positive pregnancy outcomes ultimately reducing maternal and perinatal mortality (Naariyong *et al.*, 2012; Ejigu *et al.*, 2013; Lori *et al.*, 2014; Afulani, 2015; Baffour-Awuah *et al.*, 2015; Fagbamigbe & Idemudia, 2015; Villadsen *et al.*, 2015).

In a bid to improve on the quality of antenatal care services provided to pregnant women and reduce the high maternal mortality rates in developing countries,in 2002 The World Health Organisation introduced the Focused Antenatal Care (FANC) programme. FANC is aimed at reducing waiting times during antenatal visits while increasing the time for direct contact between the patient and healthcare providers(Baffour-Awuah *et al.*, 2015). The model reduces the number of antenatal visits from thirteen to four times and provides focused services aimed at reducing maternal and perinatal mortality (Naariyong *et al.*, 2012). FANC is individualised, client centred, comprehensive antenatal care targeted at primary, secondary, and tertiary prevention of diseases and pathological conditions during pregnancy and delivery. It emphasises the quality of visits and individualised care rather than quantity of visits (Baffour-Awuah *et al.*, 2015). FANC is in line with thetechnical process component of Donabenian's quality of care assessment framework (Naariyong *et al.*, 2012).

Several African countries have adopted FANC, while other countries have modified FANC to suit local circumstances, for example, South Africa, Zimbabwe, Argentina, Saudi Arabia and Cuba (Ngxongo, 2011). The South African government introduced basic antenatal care (BANC) as a modification of FANC in 2007 to improve on the quality of antenatal care services in a bid to address the consistently high maternal and perinatal mortality rates (Ngxongo, 2011). Through the BANC approach, pregnant women are classified under common risk factors that assail them in this period. BANC makes the analysis and grouping of women much easier and it has been simplified to ensure that every midwife can provide quality antenatal care service to the expecting woman (Ngxongo, 2011).

There is medical evidence that the quality of healthcare which a woman receives during antenatal period has an integral role in promoting the health of the woman and the outcome of the pregnancy. Mothiba *et al.* (2013) further suggest that the general health status of pregnant women is largely dependent on the quality of antenatal care that they receive. The provision of quality effective antenatal care is therefore regarded as a cornerstone in reducing maternal mortality rates (Ngxongo, 2011).

2.3 DEFINITION OF SERVICE QUALITY

There is no general consensus on the definition of service quality and such a hiatus has resultantly aroused considerable interest and debate in literature about the essential components that should define quality of service (Dehghan *et al.*, 2012; Zaim *et al.*, 2013). Zaim *et al.* (2013)summarised service quality under the following rubrics

(a) quality as excellence,

(b) quality as value

(c) quality as conformance to specifications and

(d) quality as meeting or exceeding customers' expectations.

In a nutshell, excellence, value, conformity to specifications and expectations are at the heart of quality in the healthcare system in South Africa.

Zeithaml *et al.* (1990:19) define service quality as the extent of discrepancy between customers' expectations or desires and their perceptions. Asubonteng *et al.* (1996)equally define service quality as a difference between customers' expectations for service performance prior to the service encounter and their perceptions after the service has been received. Zineldin (2006)proposes that service quality hovers around the service provider and emphasises that it is all about doing the right thing at the right time, in the right way to the right person.

Despite there being no generally agreed upon service quality definition, services are characterized as:

1. Intangibility: immaterial
2. Inseparability: services are produced, delivered and consumed simultaneously
3. Heterogeneity: service provided to one customer is not exactly the same as that provided to the next customer

4. Perishability: services cannot be produced in advance and stored for later delivery (Zeithaml *et al.*, 1990:15)

The importance of service quality in organisations is unequivocal, however there is little agreement regarding its dimensions (Holder & Berndt, 2011). Parasuraman et al. (1988) through their SERVQUAL model condensed service quality dimensions into five definitive categories:

1. Tangibles (these refer to facilities, equipment and appearance of staff),
2. Reliability (this entails the ability to perform the promised service dependably and accurately),
3. Responsiveness (an attribute suggesting the willingness to help customers and provide prompt service),
4. Assurance (the latent knowledge and courtesy of staff and their ability to convey trust and confidence)
5. Empathy (the attributes of caring, individualised attention that the organisation provides to its customers (Chaniotakis & Lymperopoulos, 2009).

These determinants of service quality are divided into two groups, that is, the tangibles and the intangibles. The tangibles refer to the technology, physical facilities, personnel and communication material while the intangibles consist of reliability, responsiveness, assurance, courtesy and empathy (Zaim *et al.*, 2013).

As alluded to earlier on, due to the intangible, heterogeneous and inseparable nature of services, tangibles are the only tangible cues associated with a service and are therefore critical in services (Holder & Berndt, 2011). In the case of maternity, tangibles refer to bed linen, floor coverings, appearance of the ward and staff. These physical attributes act as cues used to evaluate expected service before and satisfaction after receiving the service (Holder & Berndt, 2011). Tangibles and assurance have been identified as two of the most useful dimensions in explaining healthcare quality while the critical factor that underlies the provision of service quality in maternity services is the responsiveness of providers, and this involves reduced waiting times and offering prompt services by doctors and nurses to maternity patients (Atinga & Baku, 2013).

Atinga and Baku (2013) further highlight that women have a high preference for delivering in private clinics due to the presence of sophisticated medical equipment and amenities. Environments with comfortable seating and beds characterised by attractive surroundings

lure women to patronise their services. Ondimu (2000) equally noted that equipment and instruments are important both for diagnostic and therapeutic uses in maternity clinics, lack of which implies that most pregnant women may not be properly screened or run into risky dangerous outcomes should emergencies occur.

Goberna-Tricas *et al.* (2011) in a study examining the quality of maternity care services and satisfaction levels of pregnant women equally found out that mothers-to-be feel satisfied with healthcare technology and they view it as a source of security, being in a hospital equipped with modern technological facilities is comforting in the event of complications.

2.4 QUALITY OF CARE MODEL

A number of models of quality of care have been described in literature. From the entire range, three of these models are frequently used, and these are perspective, characteristics and systems models (Raven *et al.*, 2012). According to Živaljević *et al.* (2013),any quality improvement or assurance model should (i) either decrease or even eliminate non-conformity, for example, poor quality of services and products and mistakes in processes of the system,. (ii) have the ability to minimise costs while maximising chances of gaining benefits from implemented changes in a way that is best for the organisation and its customers.

2.5 THE PERSPECTIVES MODEL

The defining characteristic of this model is that there are different perspectives on the quality of care. According to Ovretveit (1992), there are three perspectives that can be used to evaluate quality.

a) The patient:

Health services should meet the patients' perceived needs and expectations because satisfied patients will comply with the treatment and continue to use the services.

b) The health care provider

Quality is about technical competence. In this regard, medical issues which patients may not be technically qualified or may be too ill to assess become the hallmark of quality.

c) Health care managers

Healthcare managers provide both for the needs of the patients and healthcare workers. They are professionally responsible for the allocation of resources, supervision of patients and staff, financial, logistical and human resource management.

2.6 CHARATERISTICS MODEL

Quality of care comprises a range of characteristics as indicated below:

- Geographic access, that is transport, distance from home, travel time to health facility
- Financial access- ability and willingness to pay for services
- Organisational access- clinic hours, waiting time, human resources
- Linguistic access- ability of the healthcare workers to communicate in the local dialects
- Physical access- user friendly and convenient layout of facility.
- Social acceptability: Service personnel respect the patient's cultural views, beliefs and attitudes.
- Relevance: Services reflect the needs of the individual and the local community
- Equity: Services are provided equitably without preferential treatment and provided to those who need them most.
- Efficiency: Providing a benefit within the resources that are available (Raven *et al.*, 2012).

The institute of medicine recently condensed healthcare characteristics pertaining to quality into six main divisions: safety, patient-centredness, timely intervention, equity, and efficient service. It however, is understandable that different stakeholders place greater emphasis on different characteristics as well as have different viewpoint on each of the characteristics. For example, timely intervention is understood differently, depending on whether one is the client or the provider of the service. In antenatal care, timeliness could be the major thrust from institutional management, but maternity patients may perceive it as long waiting times (Raven *et al.*, 2012).

2.7 THE SYSTEMS MODEL

Donabedian tripartite model of quality of care is related to different dimensions of the healthcare system, which is the structure, the processes and the outcomes. Structure: this refers to the health delivery system, and in tangible terms often refers to the number of qualified midwives, or doctors. Process: involves examining what it is that is actually being done to the patient. In order to collect data about the systems model, there ought to be in place good systems of recording and reporting. Outcome: it is difficult to concretely

measure the effect of outcomes of care. Outcome measures include maternal mortality rates, clinic attendance rates and successful delivery(Raven *et al.*, 2012).

2.8 SERVICE QUALITY GAPS

Organisations are increasingly operating in tougher economic environments due to financial and resource constraints, for continued profitability and growth, the clients expectations should be understood and measured. From the customer's perspective, any gaps in service quality are identified and properly addressed. Information obtained from analysis of service quality gaps plays an important managerial role in finding cost effective ways of narrowing service quality gaps and prioritizing which gaps to focus on, given the organisation's resources (Dehghan *et al.*, 2012).

Parasuraman *et al.* (1988) suggested that customer expectations are what the customers think a service should offer rather than what might be on offer. Zeithaml *et al.* (1990:19)identified four factors that influence customers' expectations: word of mouth communications, personal needs, past experience and external communications. When the perceptions of the delivered service fail to meet the expectations of the customer, a gap is then created. The gap is addressed by identifying and implementing strategies that affect perceptions, expectations or both(Zeithaml *et al.*, 1990:36).

The SERVQUAL instrument identifies service quality based on five principal measures. The same SERVQUAL instrument identifies where gaps exist in the service delivery. It further identifies the magnitude of the gaps. These five quality gaps are the result of inconsistencies in the quality management processes. Gap 1 to 4 are within the control of anhealth delivery organization. After identifying these, the gaps need to be analysed. Such analysis facilitates determination of the causes and the changes that need to be implemented in order to reduce or eliminate Gap 5. Always, the SERVQUAL instrument is used to narrow the discrepancy between customer expectations and their perceptions of the service delivered (Ramseook-Munhurrun *et al.*, 2010).

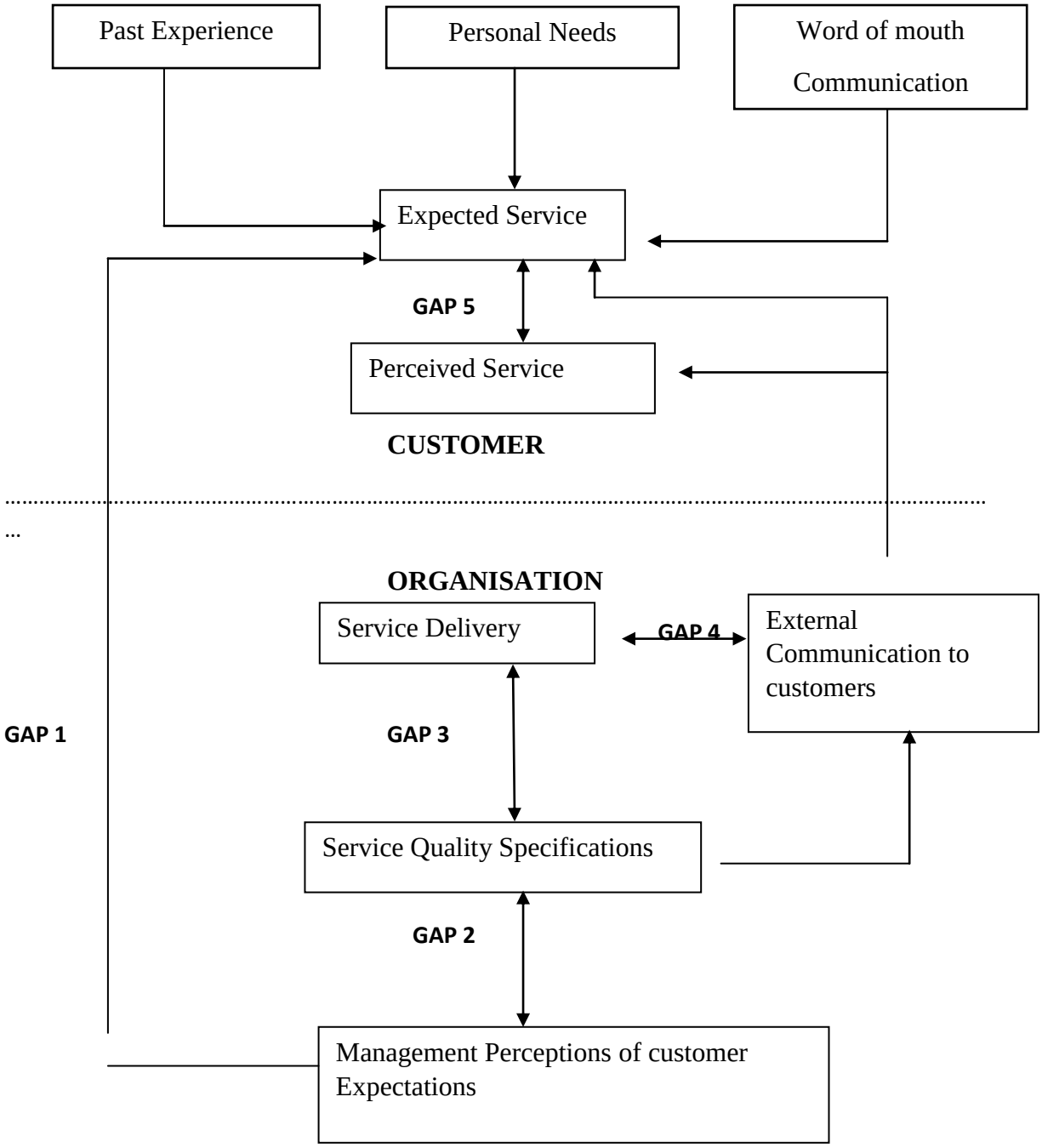

Figure 2.1: Conceptual Model of service quality (Zeithaml *et al.*, 1990:46)

Gap 1	Management perception Gap. Managers' perception of customers' expectations differ from actual customers' needs and desires. This suggests that management perceives the quality expectations inaccurately.
Gap 2	Quality specification gap. Service quality specifications diverge and might signify that even if customers' needs are known, these are not translated into appropriate service deliverables.
Gap 3	Service delivery gap. This is the gap between perception and performance This gap denotes that quality specifications are not met by the performance in the service delivery process.
Gap 4	Market communication Gap. This gap indicates the promises of quality given by market communication sites are not consistent with the actual service delivered.
Gap 5	Perceived service quality gap. The gap results when perceived service falls short of the expectations of customers. Gap 5 refers to the customer and is thus considered a true measure of service quality.

Table 2.1: Adopted from Arokiasamy and Abdullah (2013).

2.9 MEASURING QUALITY SERVICE

Chaniotakis and Lymperopoulos (2009)note that academics and practitioners have become keen to measure the quality of health care services offered by public or private hospitals. There might still be disagreement of the concept of quality but the interest in measuring its various manifestations is increasing.Public hospital managers should realise that in order to effectively confront the stiff competition emanating from the private sector hospitals, they should first measure the quality of the service that they offer and use the findings as a basis for seeking improvement (Chaniotakis & Lymperopoulos, 2009).

Zarei *et al.* (2012) state that quality measures can be divided into two: process and outcome. Process measures attempt to capture the processes involved in achieving the outcome while outcome based measures are more popular as quality is judged on the basis of the result. Proponents of process based measures argue that it is an evidence based activity even though only a small proportion of care is evidence based. Outcome based measures are more popular as quality is judged on the basis of the result, yet again in maternity, this approach is challenging to interpret due to varying degrees of patient mix.

Measuring maternal mortality rate is a good example of an outcome based measure (Janakiraman & Ecker, 2010). Zarei *et al.* (2012) equally note that quality in healthcare services entails two dimensions: technical quality (outcome quality) and functional quality (process quality).

The SERVQUAL model developed by Parasuraman *et al.* (1988) is the most used of models for establishing customer expectations and their perceptions of quality of services. In this model, quality is equal to performance minus expectations and it specifies the areas that need improvement (Zarei *et al.*, 2012).

Cronin and Taylor (1992) criticisedSERVQUAL and proposed an alternative scale called SERVPERF. It includes all the SERVQUAL scale dimensions, but only uses service performance (Perception) as a measure of customer perceived service quality instead of the gap between expectation and perception (Siami & Gorji, 2012).

Holder and Berndt (2011) highlight the following instruments to have been developed specifically for evaluating medical services:

- Newcastle satisfaction with nursing scale (NSNS), this scale investigates the satisfaction experienced by patients as they are nursed.
- Picker patient experience questionnaire (PPEQ), this was developed specifically to evaluate patient satisfaction with healthcare and this instrument is annually utilized in Swiss hospitals.
- The Customer quality index (CQI) cataract questionnaire. This was generally developed to determine the quality of service care experienced by patients after undergoing cataract surgery.

Service quality comprises tangible attributes inasmuch as it measures also intangible and often subjective attributes such as empathy and reliability. There is no doubt that empathy and reliability are contentious attributes which are difficult to place a value upon(Gopalan *et al.*, 2015). Therefore, the measurement of service quality requires criteria that are not only subjective but also intangible (Yu *et al.*, 2015).

A five point Likert scale has emerged as the main method for evaluating service quality, the scale allows respondents to answer a questionnaire using a checklist form, selecting one best answer for each item, however the liker scale is subjected to a number of limitations as the data are quantified using equal value integers and the data involves fuzzy

feelings of the subject (Gopalan *et al.*, 2015). Yu *et al.* (2015) further highlight the shortcomings of liker scales in evaluating respondent's attitude towards service quality.

Likert scales assume identical perception and equal value system for all respondents at a time when values such as "satisfied, very satisfied, dissatisfied and very dissatisfied" are experienced and perceived differently by diverse individuals, simply summing and averaging the scores obtained from research participants becomes an invariable source of bias for the service quality measurement.

Multi-criteria decision making (MCDM) is another popular method used to evaluate service quality (Bakİ & Peker, 2015). In light of the above service quality measurement challenges, Lupo (2013) calls for consideration of the analytical hierarchy process (AHP) model. AHP is one of the most considerable MCDM approaches that assist decision makers facing complex problems with multiple conflicting and subjective criteria (Lupo, 2013). The other MCDM method is Technique for order preference by similarity to ideal solution (TOPSIS), according to this method the chosen alternative should have the shortest distance from the positive ideal solution, while being farthest from the negative ideal solution (Bakİ & Peker, 2015).

AHP has the ability to vary the importance of service dimensions taking into account the subjectivity of customer's perceptions (Yu *et al.*, 2015). AHP has clear advantages that differentiate it from other decision making approaches: it has the ability to handle both intangible and tangible attributes; it can structure problems in a hierarchical manner allowing insight into the decision making process and its ability to monitor consistency with which a decision maker makes a judgment(Gopalan *et al.*, 2015). AHP is based on three principles that determine the procedure steps of the method as the following:

a) The principle of problem hierarchical decomposition
b) The principle of comparison judgements
c) The principle of the synthesis, considered to aggregate partial results in order to obtain the global result (Lupo, 2013).

According to Gopalan *et al.* (2015), the utilisation of the AHP method in service quality measurement has gained interest in the last decade, despite its popularity, it has its own shortcomings, it is often criticised for its inability to adequately handle the inherent uncertainty and imprecision associated with the mapping of the decision makers' perception to exact numbers.

AHP neglects the dependence and feedback relationships among evaluation criteria during measurement process at a time when decision making problems become more complex, dependency relationships must not be neglected. Classical decision making methods such as AHP and TOPSIS operate with exact and ordinary data, thus fuzzy and vague data cannot be employed, however fuzzy decision making is healthy in a fuzzy environment. Fuzzy set theory plays a very important role in measuring ambiguous concepts associated with human subjectivity (Bakİ & Peker, 2015).

Terms of expressing opinion like “neither agree nor disagree” and “somewhat important” are common and clearly represent uncertainty. With different daily decision –making problems of diverse intensity, results can be misleading if the fuzziness of human decision making is not taken into account (Lee *et al.*, 2010).

In generating the framework for measuring service quality, the evaluation process is initiated through identification of criteria and attributes used for measuring service quality. The relationships among these are then determined. ANP is used to calculate the relative weights for criteria that are dependent on one another. AHP is used to obtain weights of independent criteria. Finally the service quality can be obtained by multiplying the total relative weights by the scores for each attribute (Yu *et al.*, 2015).

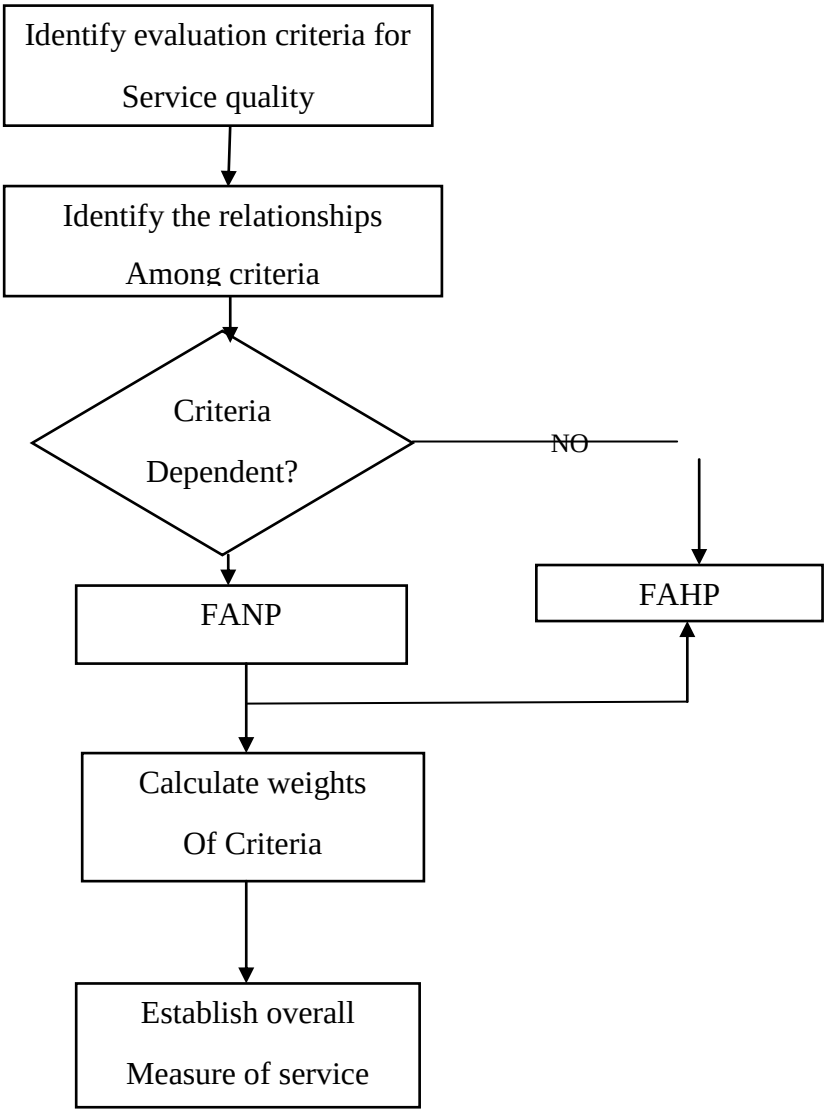

Figure 2.2: Framework for Fuzzy Measurement of service quality. Source Yu et al (2015).

This proposed approach is capable of providing a comprehensive evaluation of service quality by considering the ambiguity surrounding the concept of service evaluation and both independent and dependent relationships among evaluation criteria. It is no gainsaying that comprehensive evaluation is time-consuming.It involves rigorous and robustmatrix calculation (Yu *et al.*, 2015).Research has however,demonstrated the efficacy of SERVQUAL as an effective and stable tool for measuring service quality across service industries (Siami & Gorji, 2012). Zaim *et al.* (2013) further attests SERVQUAL as a dominant gap model instrument in service quality research. This assertion is further alluded to by (Yu *et al.*, 2015) as they indicate that the SERVQUAL instrument has drawn maximum attention despite various other methods proposed by researchers.

As the competition among service organisations become stiffer, measures to enhance the quality of service have become more important than ever before if companies are to remain competitive (Yu *et al.*, 2015). Service quality has become an important tool in patient retention and satisfaction (Amin & Nasharuddin, 2013). The starting point in delivering quality services is measurement and analysis (Dehghan *et al.*, 2012).

Mensah *et al.* (2014)emphasise that measuring allows for comparison of before and after changes, for the location of quality related problems and establishment of clear standards for service delivery**.** According to Hill and McCrory (1997),the analysis of service quality further enables hospital management to allocate resources for improving performance in the areas that have more influence on the customers' perception of service quality.

Chakravarty (2011), notes that the advent of the internet, increased patient knowledge and increased demands by patients have led to a new breed of patients with high expectations and increased demands for quality, it therefore has become important more than ever before that hospital managers should have the ability to understand and measure consumer perspectives and service quality gaps with a view to identifying these gaps and suitably addressing them. Studies have shown that quality can affect the decision to seek care; a woman's experience of care for an uncomplicated delivery is likely to influence her future health seeking behaviour. Hill and McCrory (1997) equally highlight maternity patients' perceptions of service quality that are likely to influence their decisions concerning which hospital to attend, especially if they are in a position to choose (Hill & McCrory, 1997).

2.10QUALITY MEASURES IN ANTENATAL CARE

Global efforts to improve maternal and perinatal health outcomes are continuing, however, these efforts largely depend on quality measurements. Measuring the quality of service of obstetric patients has increasingly become important, each obstetric admission may affect the health of not one but two individuals and most maternity patients are healthy individuals admitted only for obstetric reasons in whom the goal is nothing but full preservation of health (Crofts *et al.,* 2014).

Research related to the measurement of service quality in maternity hospitals is limited (Chaniotakis & Lymperopoulos, 2009). SERVQUAL has been used to evaluate healthcare services in several countries, involving several medical specialties like ophthalmology, oncology and mental health. Despite the extensive usage of SERVQUAL tool in other disciplines, its use in maternity has been very limited (Garrard & Narayan, 2013). SERVQUAL instrument has, however, been empirically evaluated in the hospital environment and has been shown as a reliable and valid instrument in that setting (Chakravarty, 2011).

Maternity is riddled with several challenges that make measurement of quality complicated.Janakiraman and Ecker (2010)noted that maternity healthcare is an intangible product that cannot be easily defined, quantified, measured, cost and justified, in developing a quality model to measure the effectiveness of midwifery services. Furthermore, they isolated women's perceptions related to tangible variables of quality from the intangible ones and the importance of caring/empathy of professionals as well as their flexibility and assurance as very important elements of quality.

Mensah *et al.* (2014) carried out an empirical investigation of service quality in Ghanaian hospitals. The study measured perceived service quality using a modified SERVQUAL instrument in the Greater Accra region of Ghana. In their findings, empathy equally emerged as the best predictor of service quality in Ghanaian hospitals followed by tangibility, reliability and affordability.

Evaluation of the quality of maternity care is further complicated by several features: there are two recipients of services (mother and baby), childbirth is a culturally sensitive issue and most users of maternity services are generally well, but serious complications can develop unpredictably (Nesbitt *et al.,* 2013).Measuring the quality of obstetric care has therefore increasingly become important for both patients and healthcare providers. One

method used to develop quality indicators is the Delphi technique, which relies directly on the available evidence, complemented with expert opinion when needed (Boulkedid *et al.*, 2013).

The Delphi technique is a way of obtaining a collective view from individuals about issues where there is no or little definite evidence and where opinion is important. It is about harnessing and organising judgments, particularly in problems that are complex and require intuitive interpretation of evidence or informed guesswork. It has found usefulness in a number of fields including healthcare and, in particular, maternity. The design avoids the often counterproductive group dynamics that can occur where individuals are swayed or intimidated by others but allows panel-lists to reappraise their views in the light of the responses of the group as a whole (Thangaratinam & Redman, 2005).

Maternal mortality data collection process normally produces summaries over a long period of time and these lengthy time lags make it difficult for front line staff and managers to identify and deal with local problems quickly enough to prevent further harm (Crofts *et al.*, 2014).

To circumvent this challenge, the use of clinical scorecards such as dashboards as monitoring tools has been popularised in the western countries and has seen improvements in healthcare quality. A dashboard graphically presents changes over time in performance statistics and quality indicators by using a red-amber-green traffic light coding system to alert users to changes in the frequency of certain selected parameters (Crofts *et al.*, 2014).

Dashboards act as drivers for change, through the implementation of maternity dashboards at Mpilo Central Maternity hospital in Zimbabwe; it created an opportunity to review clinical outcomes by understanding where improvements were needed. Dashboards further provided an opportunity to identify areas of poor performance that needed more personnel training (Crofts *et al.*, 2014). According to Boulkedid *et al.* (2013), all maternity units should consider the use of dashboards to plan and improve on the quality of their services. Dashboard monitoring provides continuous information on clinical performance and governance in everyday practice. This information helps identify patient safety issues in advance allowing preventive measures to be instituted to ensure high quality and safe maternity care

2.11 SERVICE QUALITY AND CUSTOMER SATISFACTION

Service quality largely determines customer satisfaction (Chakravarty, 2011). Kabir and Carlsson (2010) define customer satisfaction as an overall emotional response to an entire service experience for a specific service encounter after purchasing consumption. They further highlight that satisfied customers become repeat customers and provide positive word of mouth. Service quality gaps can be a major cause of customer dissatisfaction, wider gaps between perceived experience and expectations represent low service quality. In order to narrow the service quality gaps, managers need to analyse the actual service delivery against customer expectations with reference to the gaps (Mola & Jusoh, 2011).

It is widely acknowledged in literature that dissatisfied customers whether they complain directly or not, they will tell twice as many people about their experience as satisfied customers to the detriment of the organisation. Satisfied customers, equally have a story to tell and can play a significant role in positively marketing the organisation (Hill & McCrory, 1997). Peltier *et al.* (1999)equally emphasise that dissatisfied patients or those with low service quality perceptions may never come back to the institution and may spread negative information and withhold referrals. Precisely it is for this reason that Kabir and Carlsson (2010)emphasise that customer satisfaction has become a major contributor for long term profitability, customer loyalty and retention in the service industries.

2.12MATERNITY CARE AND PATIENT SATISFACTION

Patient satisfaction emerged as an area of focus in obstetrics from as early as the 1970s and has since become a commonly reported outcome measure of health-care quality and has obvious implications for organisations and service provision (Clark *et al.*, 2015). Clark *et al.* (2015) further emphasise that expectation fulfillment is the most consistent factor associated with childbirth satisfaction. While patient experience is a well-recognised component of quality of care, there is a negligible increase in the number of people who rate their care as excellent (Fowler & Patterson, 2013). Women's expectations and perceptions of maternity care have therefore increasingly become important to healthcare providers, policy makers and administrators as decision making tools (Jenkins *et al.*, 2014).

Hulton et al. (2000), identified ten elements that can be used to assess quality in maternal health care services. Six elements related to the provision of care are: Human and physical resources, Referral system, Maternity information systems, use of appropriate technologies, internationally recognized good practice and appropriate management of

emergencies. The other four elements related to women'sexperience of care are divided into four broad areas: her contact with and experience of human and physical resources, her cognition, that is the level of her understanding of what is happening to her, the respect, dignity and equity she receives while in the hospital, and the emotional support she receives while in the facility.

Service quality expectations of antenatal patients are shaped by a number of factors, for example, word-of-mouth communication and what patients hear from others (Nyongesa *et al.*, 2014). Nyongesa *et al.* (2014) further note courteous and respectful staff creates comfortable environments that promote pregnant women to discuss their problems with service providers. Atinga and Baku (2013)in a study exploring the determinants of antenatal care quality in Ghana, emphasise on attentiveness and responsiveness as critical factors in the provision of service quality in antenatal care. Responsive services reduce waiting times and ensure that patients are promptly attended to. Responsiveness was isolated as an important factor in arresting danger signs and managing obstetric complications.

Ejigu *et al.* (2013) examined the quality of antenatal care services at public health facilities of Bahir-Dar special zone, Northwest and Ethiopia, they found out that respondents whose privacy was maintained were about two times more likely to score above the mean satisfaction score than those whose privacy was not maintained. They therefore concluded that the level of privacy offered during consultations, is the main determinant of client satisfaction with ANC services. Atinga and Baku (2013)equally noted that pregnant women value privacy during consultations, provision of private rooms allows women enough isolation to divulge information on their problems. This finding is further supported by Andrew *et al.* (2014) who emphasised that women hesitate to talk about their problems due to lack of privacy.

Ejigu *et al.* (2013) revealed that absence of clean toilets, comfortable waiting rooms, receiving inadequate information, long waiting times and difficulty in understanding the provider were among reasons associated with poor clientele satisfaction. They emphasised the clients' perspective is very important because satisfied clients often are more likely to comply with treatment and continue to utilise antenatal care services.Patients regard the cleanliness of a clinic as a sign of respect for them and its hygienic conditions relieve fears of picking up infections (Hulton et al., 2000).

In a study on factors affecting attendance at and timing of formal antenatal care, Andrew *et al.* (2014) found long queues, long waiting times, poor relationships with healthcare providers, limited communication between pregnant women and healthcare providers, lack of opportunity to ask questions, lack of privacy, disrespectful harsh healthcare providers and unannounced clinic closures as major reasons that discouraged women from attending antenatal clinic.Women interviewed in a study by Hulton et al. (2000), high maternity quality care meant: a clean hygienic place, prompt service, accurate information, an opportunity to learn and enough to communicate with staff and receive advice.

Despite high expectations from antenatal mothers, healthcare givers often have brief encounter times with patients, leading to poor eye to eye contact, little attention to what women talked about and few opportunities for women to ask questions and overall poor history taking concerning the woman's health and previous pregnancies (Manithip *et al.*, 2013).

There is emerging evidence that institutions with a strong emphasis on providing high quality maternity experience have better outcomes (Fowler & Patterson, 2013). The population will lose its trust in institutions synonymous with poor service quality provision and consequently utilisation of health services will decline. Poor Quality of service and decreased utilisation have a negative impact on maternal mortality (Duysburgh *et al.*, 2014). Women are the primary decision makers in selecting healthcare facilities for their family, obstetric services often generate significant revenues for organisations and thus women's perceptions of their birthing experience can either negatively or positively influence future service relationships and revenue streams (Peltier *et al.*, 1999).

2.13RESEARCH QUESTIONS

The provision of a high quality of care at maternal health facilities is not a luxury but a necessity (Hulton et al., 2000). Patient experience is a well recognised component of quality of care, while expectation fulfilment is the most consistent factor associated with childbirth satisfaction (Fowler & Patterson, 2013; Clark *et al.*, 2015). This research therefore aims to answer the following questions:

1. What expectations do maternity patients have on Mafikeng Provincial Hospital's service quality?

2. What perceptions do Maternity patients have on Mafikeng Provincial Hospital service quality?

3. How are expectations and perceptions of maternity patients significant contributors of MPH service quality

2.14CONCLUSION

The above literature review has attempted to define service quality and its significance in sustainability of organisations, it has explored the different models of service quality and different measurement approaches given the intangible nature of services. The importance of service quality in antenatal maternity services was explored by dissecting the expectations of maternity patients and how they can be met. Current levels of maternal mortality in RSA are high despite high levels of antenatal attendance, and government efforts. Antenatal Maternity Service quality has therefore emerged as an important concept that needs to be assessed in an effort to stem this problem. In the following chapter, Research methodology is presented next.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Research methodology can be defined as the study of methods by which knowledge is gained and aims to give the work plan of research (Rajasekar *et al.*, 2006). Research methodology is not only about research methods used but it also considers the logic behind the methods used in research; it further explains why specific methods or techniques have been used instead of others so that research results are capable of being evaluated by the researcher and others (Phophalia, 2010). It therefore is important that the researcher does not only know the research methods used but fully understands the underlying methodology (Rajasekar *et al.*, 2006).

In this study methodology refers to how this research was carried out and its logical sequence. The main aim of the study was to determine the quality of antenatal care MPH offers to its pregnant patients. This was done through the use of SERVQUAL questionnaire to explore the expectations and perceptions of pregnant women on MPH antenatal maternity service quality.

This chapter commences with an analysis of different research types and justification of the research methods used in this study. It is followed by defining the study population, sampling methods and data collection methods used in this research as well as justification of the research tool used. It is concluded by a discussion on data analysis methods used and ethical issues considered.

3.2 RESEARCH TYPES

Research is broadly classified into two main classes: 1. Fundamental or basic research and 2. Applied research. Basic research also known as theoretical research involves an investigation of basic principles and reasons for the occurrence of a particular event or process or phenomenon. Basic research is not concerned with solving any practical problems of immediate interest and findings may not lead to immediate use or application. Applied research on the other hand involves the use of well-known and accepted principles in solving problems. It is concerned with actual life research and used to find solutions for practical problems which warrant solution for immediate use (Rajasekar *et al.*, 2006).

The basic and applied researches can be quantitative or qualitative or even both (Rajasekar *et al.*, 2006).

3.2.1 Quantitative Research

Quantitative research is based on the measurement of quantity or amount (Rajasekar *et al.*, 2006). It is suited to theory testing and developing universal statements and it provides a general picture of a situation. Quantitative studies therefore produce results that are generalizable across contexts (Schulze, 2003). This type of research involves the use of statistical analysis. For example, what percentage of unhappy married women divorce their husbands? This type of research is based on methodological principles of positivism and adheres to the standards of strict sampling and research design (Phophalia, 2010). Quantitative research requires extraction of data in a large volume using standardised methods that include more generalised samples, where the emphasis is more on statistical information than individual perceptions (McCusker & Gunaydin, 2014). The study applies this.

3.2.2 Qualitative Research

Qualitative research is concerned with qualitative phenomenon involving quality. It is descriptive, non-numerical, applies reasoning and uses words. It aims to get the meaning, feeling and describe the situation. It is exploratory and cannot be graphed. It investigates the why and the how of decision making (Rajasekar *et al.*, 2006). This section is to note that the researcher has been aware of other forms of research.

3.2.3 Research methods used in this Study

The rising maternal mortality rates and persistent poor maternal outcomes problem is not only confined to Mafikeng Provincial Hospital, but a nationwide problem. The Quality of antenatal service has been found to play a significant role in alleviating this problem. Quantitative research method through the use of a validated SERVQUAL questionnaire was used in this research to gather information on expectations and perceptions of antenatal patients on MPH service quality.

Quantitative research as alluded to earlier on, provides a general picture of a situation and produces results that are generalisable across contexts where the emphasis is more on statistical information than individual perceptions. In a bid to improve on national maternal outcomes, results of this research may therefore be applied to other maternity units in the

country with an overall aim of improving the quality of service offered to antenatal patients.

3.3 POPULATION

Population refers to thetotality of well-defined entities. The entities could be persons, animals, plants and objects (Sachdeva, 2009). In this study, the population consisted of all pregnant women attending antenatal clinic at MPH.

3.3.1 Sampling

Sampling refers to the deliberate process of selecting units,people, and organisations for in-depth study from a population of interest. By studying the sample we may fairly generalise our results back to the population (Sachdeva, 2009). The main categories are generally two types: probability and non-probability sampling. Probability or random sampling gives all members of the population a known chance of being selected for inclusion in the sample. Therefore, the four random sampling techniques namely are: simple random sampling, systematic sampling, stratified sampling and cluster or multi stage sampling. Simple random sampling is the ideal choice as it is a perfect random method (Sachdeva, 2009).

In this study simple random sampling was used to select participants in the study, respondents were randomly chosen on each single clinic day amongst the total number of women who attended ANC at MPH maternity department. All under 18 expectant mothers and psychiatric mothers were excluded from the study.

A total of eighty questionnaires were handed out over duration of two weeks out of which seventy questionnaires were collected back properly completed. Non Probability sampling procedures are less desirable as they almost certainly contain sampling biases (Sachdeva, 2009). Non probability sampling techniques were not used in this study.

3.3.2 Data Collection

Data are distinct pieces of information usually formatted in a special way, whereas research data refers to data collected, observed, or created for purposes of analysis to produce original research results. Research data could be in the form of already existing data (secondary data) or new data that is collected for the specific research problem at hand (primary data) (Hox & Boeije).

In this research both primary and secondary data were used. Primary data were gathered from antenatal patients through the use of a fifteen item SERVQUAL questionnaire with

predetermined questions. Questions covered five dimensions of service quality namely: tangibles, reliability, responsiveness, assurance and empathy. Each dimension had three set of questions. Secondary data were obtained from databases and search engines on the internet.

3.3.3 Primary Data Collection Methods

Depending on the type of research, primary data can be collected from the experimental field or through a survey type of study. Most commonly used method for primary data collection are observation, interviews, questionnaire and schedule methods (Sahu, 2013).

3.3.3.1 Observation

Observation is a planned, carefully and thoughtfully selected method of data collection by watching behaviour, events, or noting physical characteristics.

3.3.3.2 Interviews

Interviewing is one of the most common methods of data collection. Oral communication is the main theme behind this method.

3.3.3.3 Questionnaire

Questionnaires are used to gather information in a standardised manner which, when gathered from a representative sample of a defined population, allows the inference of the results to the wider population (Rattray & Jones, 2007). When a questionnaire is administered to a potential respondent, an elaborate and subtle process is started which is intended to end in the transmission of useful and accurate information from the respondent to the inquirer (Stone, 1993).

The main objectives of questionnaires are to maximise the number of people answering the questionnaire (response rate) and to obtain accurate relevant information for the survey. To maximise response rate the following need to be considered carefully (i) method of questionnaire administration (ii) methods of establishing rapport with respondents and (iii) putting in place mechanisms to remind respondents to respond. Accurate relevant information is obtained by ensuring the questions are well designed, structured and properly laid out (Leung, 2001).

To ensure a questionnaire is well designed and crafted to collect information that answers the main research questions, Klopper and Lubbe (2011) propose and highly recommend

the use of problem-research question alignment matrix in developing a research questionnaire. The problem-research question alignment matrix ensures that the whole research process is problem-solution oriented by taking the problem statement as point of departure. It is done initially by extracting sub-problems from the general problem statement and aligning research questions with each of the sub problems. The alignment and cohesion of the research design is then achieved by basing the array of research instrument questions on the questions of the problem-research question alignment matrix (Klopper & Lubbe, 2011).

3.3.3.4 Schedules

The Schedule method of data collection is similar to the questionnaire, the difference lies in that, in the schedule method the researcher takes the questionnaire to the respondent and the researcher fills in the questionnaire during the interview. This method has the advantage that the respondents can ask questions they don't understand during the interview process (Sahu, 2013).

3.3.3.5 Method of Primary Data Collection used in this Research

Data were collected from antenatal patients through the use of a structured questionnaire. Problem- research question alignment matrix as espoused by Klopper and Lubbe (2011) was used to develop the questionnaire. The SERVQUAL Tool as proposed by Parasuraman et al. (1988) was used in this study to collect data. The SERVQUAL instrument has been empirically evaluated in the hospital environment and has been established as a reliable and valid instrument in that setting (Babakus & Mangold, 1992).The questionnaire was personally distributed by the researcher with the help of two specified nursing sisters. An average of twelve questionnaires was randomly distributed on each clinic day to patients over a two-week period. The two specified nursing staff helped translate the questionnaire to patients who could not read or understand English. Completed questionnaires were collected during the course of the clinic.

3.3.3.6 Questionnaire Design and Layout

The questionnaire was divided into three sections. The first section was the introduction, it introduced the patient to the researcher, the study to be carried out and consent from the patients to participate in the study. The second section is the demographic details of the patient as well as collected information on the obstetric history of the patients. The third section of the questionnaire explored the expectations and perceptions of antenatal patients and it contained a total of 15 questions covering the five dimensions of service quality as per the SERVQUAL tool.

3.4 RESEARCH VARIABLES, MEASUREMENT AND SCALING

In order to perform an analysis, variables have to be quantified, this means measuring giving values and scale. There are four levels of measurements on a continuum of discrete and continuous namely: nominal-scale, ordinal-scale, interval and ratio-scale (Phophalia, 2010).

Nominal Scale: Nominal scale is simply a system of assigning number symbols to events in order to label them. These numbers are not associated with an ordered scale for their order is of no consequence. Ordinal scale: In ordinal measurement attributes are rank ordered, however, the distance between attributes do not have any meaning.

Interval Scale: In interval measurement the distance between attributes is equal and implies values does have meaning. For example the distance from 30 to 40 years is the same as the distance from 70-80 years. The interval between values is interpretable.

Ratio Scale: Ratio scales have an absolute or true zero of measurement. This means one can construct a meaningful fraction or ratio with a ratio variable.

Likert-type or frequency scales use fixed choice response formats and are designed to measure attitudes or opinions, it is an ordinal scale designed to measure levels of agreement/disagreement (Rattray & Jones, 2007)

3.5 VALIDITY AND RELIABILITY

Validity

Validity is the ability of an instrument to measure what it is designed to measure; it refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration (Kumar, 2005:153). To ensure content validity the questionnaire was based on the SERVQUAL tool modified to suit maternity services. According to Asubonteng *et al.* (1996), SERVQUAL scale was produced following procedures recommended for developing valid and reliable measures. The modified SERVQUAL tool was based on an extensive literature review on maternity service quality attributes.

Reliability

Reliability refers to the quality of a measurement procedure that provides repeatability and accuracy. It is the ability of an instrument to produce consistent measurements each time (Kumar, 2005:6;159). Minimising sources of measurement error like data collector bias enhances Reliability (Shilubane, 2010). In this research to minimize data collector bias, all data was collected by the researcher and two specified sisters of the maternity clinic. The researcher ensured similar personal attributes were exhibited to all participants. Reliability was also ensured by ensuring that wording of the instrument was kept simple without any ambiguity.

3.6 DATA ANALYSIS

Statistical analysis of data enables us to investigate variables, their effect, their relationship and their patterns of involvement in the world. The flexibility provided by data analysis software plays an important role in identifying a suitable software to analyse data, Statistical Package for the Social Science (SPSS) permit incredible flexibility in terms of what a researcher can do with his or her data (Lutabingwa & Auriacombe, 2007). In this study SPSS was used to analyse the collected data.

3.7 RESEARCH ETHICS

Research ethics help prevent research abuses and assist investigators in understanding their responsibilities as ethical fellows. Research ethics emphasise the humane and sensitive treatment of research participants who may be placed at changing degrees of risk by research procedures. It therefore is important that before any research activity is undertaken, it must pass through an ethical evaluation (Bless *et al.*, 2006).

Ethical clearance to conduct this research was obtained from North-West University Ethical Clearance Board. Permission to conduct the research and collect data from patients at Mafikeng Provincial Hospital was obtained from the Chief Executive Officer of the hospital only after the production of the ethical clearance certificate issued by the North-west University ethical board.

It is unethical to collect information without the knowledge of participants and their expressed willingness and informed consent. Informed consent ensures subjects are made fully aware of the type of information wanted from them, why the information is sought, what purpose the information will be put to, how they are expected to participate in the study and how it will directly or indirectly affect them. Consent should be voluntary without any pressure (Kumar, 2005:212).

In this research, participants were introduced to the researcher in vernacular by the Clinic Sisters. The purpose of the research was explained to participants and the procedure to be followed in collecting the data. Participants were informed of their right to consent voluntarily or decline to participate or withdraw participation at any time without penalties. Participants were assured that information given shall be treated with high confidentiality and that by participating in the research there were no potential risks or costs involved.

3.8 CONCLUSION

In this chapter the research design, sampling methods, data collection, analysis and ethical considerations were discussed. The next chapter discusses the research findings in an attempt to answer the research questions of the study.

CHAPTER FOUR

DISCUSSION OF THE RESULTS

4.1 INTRODUCTION

In this chapter, research findings obtained through the use of astandardised SERVQUAL questionnaire are presented. The results which aimed at answering the problem and research questions raised in Chapter two were derived from the data collected from antenatal maternity patients attending Antenatal clinic at Mafikeng Provincial Hospital.

This research project was conducted to determine the overall quality of service that MPH offers to antenatal patients. It also determined the expectations and perceptions of antenatal patients who attend MPH antenatal clinic.

Through the use of pie charts, bar charts and frequency Tables, descriptive statistics are used to present percentages of different variables and demographic data. Statistical correlation coefficients are used to present the different relationships between variables.

This chapter covers the introduction and all findings of the questionnaire. The chapter commences with an introduction, the response rate, demographics of the respondents, expectations of antenatal patients and perceptions of antenatal patients and a presentation of the various relationships of service quality variables. The chapter is wrapped up by a conclusion.

4.2 RESPONSE RATE

Response rate of distributed questionnaires is demonstrated in the table below.

Distribution	Feedback	Response rate %
80	70	87.5%

Table 4.1: Response Rate

A total of 80 questionnaires were distributed on different days over a period of two weeks. Of the 80 questionnaires given out to patients, seventy well completed questionnaires were collected back. The other ten questionnaires were incompletely filled and thus discarded. The response rate was therefore 87.5% and representative enough to be used to conclude the findings.

4.3 DEMOGRAPHICS

In this section demographics refer to information on the age groups of patients, parity, level of education achieved, marital status, employment and booking status.

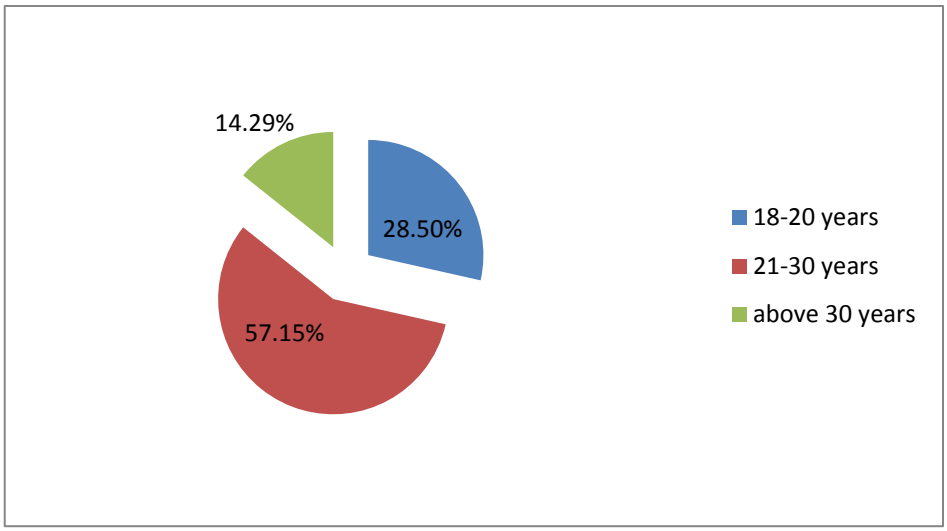

Figure 4.1: Age groups

Above pie chart shows that the majority of antenatal patients were aged twenty one and thirty years (57.15%), followed by eighteen to twenty age group (28.50%) and above thirty years group was the least at 14.29%.

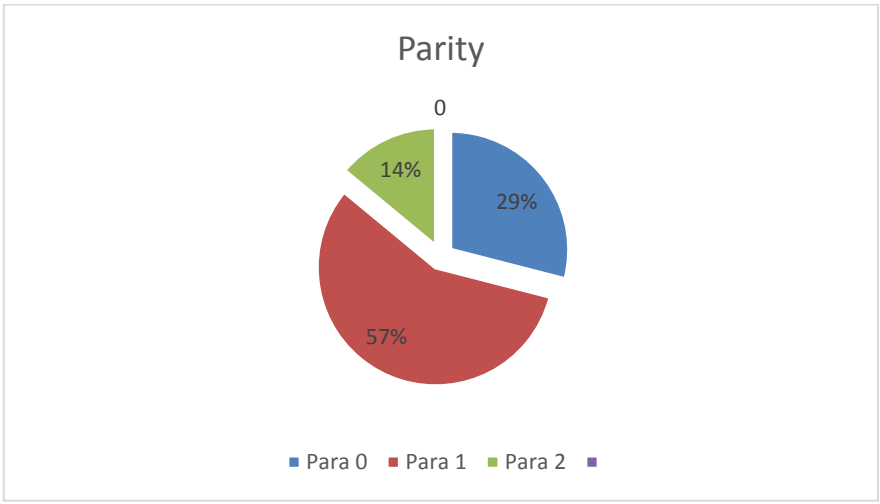

Figure 4.2: Parity

From Figure 4.2 above patients with one child formed most of the proportion at 57%. First time pregnant patients (Para 0) were second at 29% and those with two children were the least at 14%.

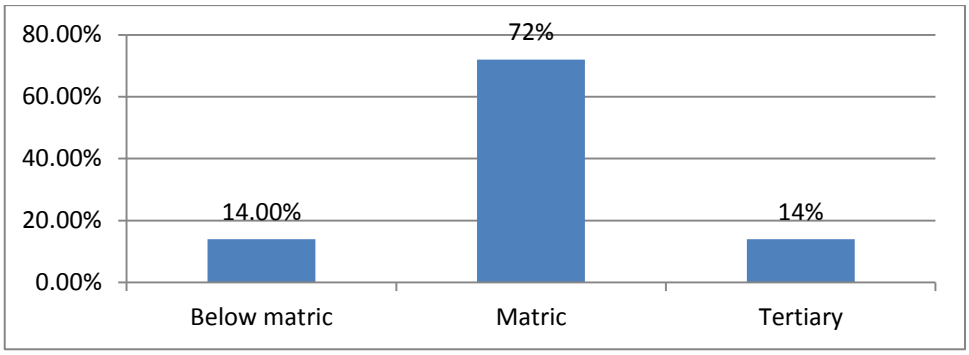

Figure 4.3: Level of Education

Figure 4.3 indicates that 72 percent of antenatal patients had matric certificate, 14% had at least tertiary qualification and another 14 % had below matric.

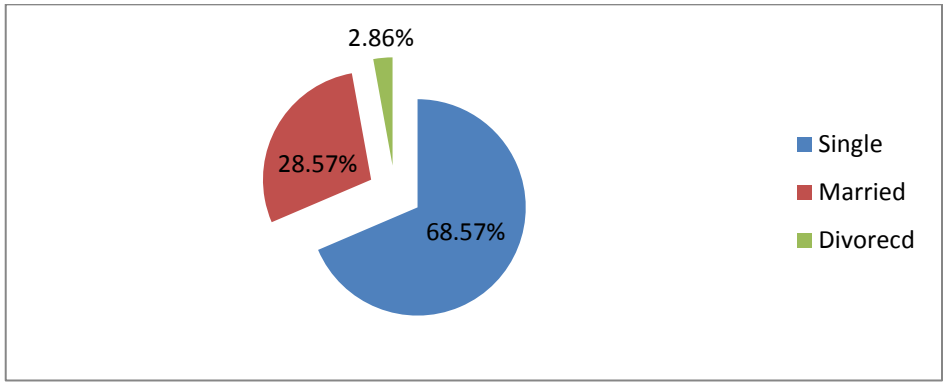

Figure 4 .4: Marital Status

Figure 4.4 shows that the majority of the pregnant women are not married, they constitute 68.57%. Married pregnant women constitute 28.57% while the other 2.86% was made up of divorced women.

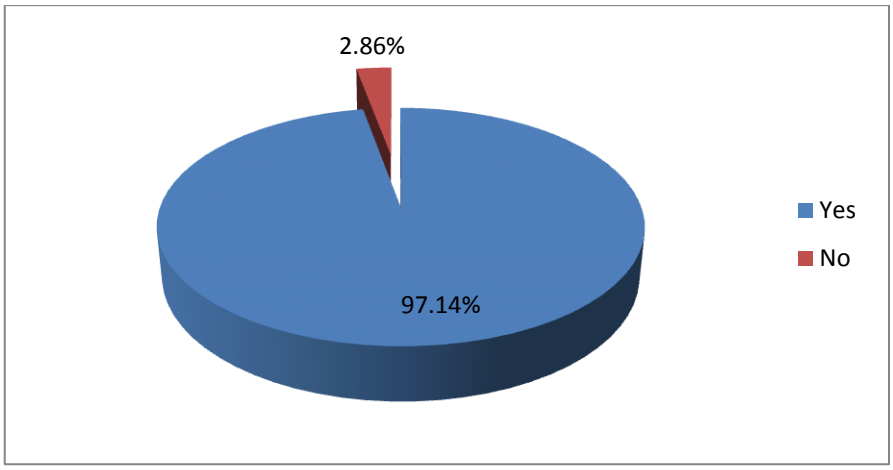

Figure 4.5: Booking Status

Figure 4.5shows the majority of antenatal patients were booked, 97, 14% were booked against 2.86% that was not booked. Use of antenatal care services during pregnancy are currently high in South Africa with 100% of women utilising antenatal care since 2006 (Millennium Development Goals Country Report, 2013).

4.4 DESCRIPTIVE STATISTICS: ANTENATAL SERVICE QUALITY VARIABLES

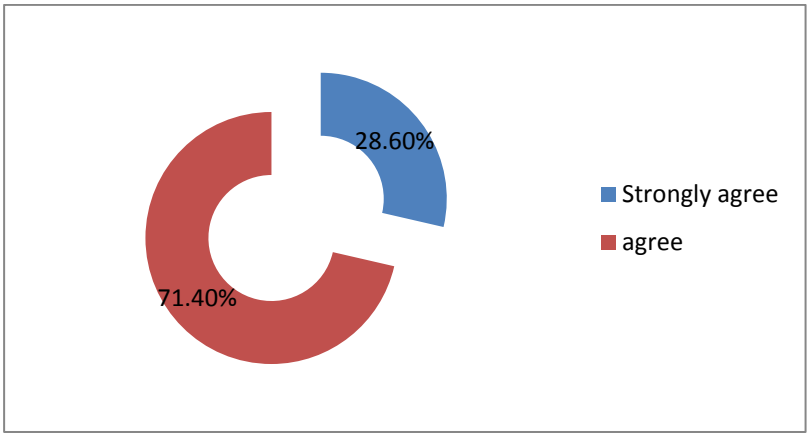

Figure 4.6: Antenatal patients must not be kept waiting unnecessarily

Figure 4.6 indicates 71.40% of antenatal patients do agree that they expect not to be kept waiting unnecessarily while 28.60% strongly believe they should not be kept waiting unnecessarily. According to Atinga and Baku (2013), responsive services reduce waiting times and ensure that patients are promptly attended to. Responsiveness was isolated as an important factor in arresting danger signs and managing of obstetric complications.Ejigu *et*

al. (2013)isolated long waiting times as a major factor associated with poor clientele satisfaction

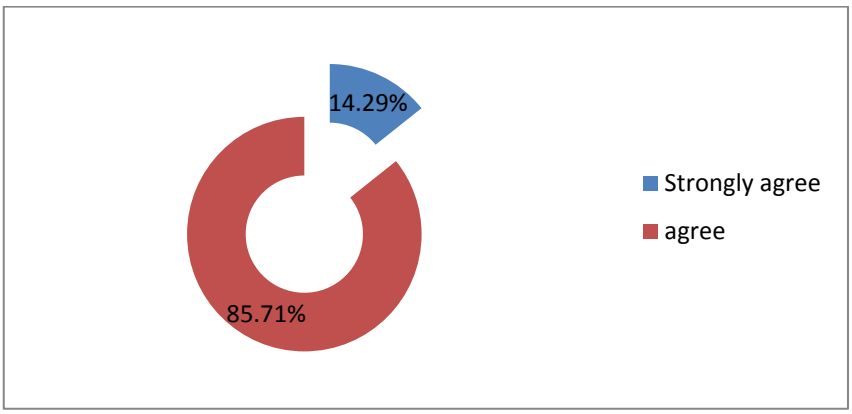

Figure 4.7: Patients should be assisted according to needs

Figure 4.7 shows antenatal patients do in totality agree that they should be assisted according to their needs. About 85.71% of these do simply agree that they should be assisted according to their needs while 14.29% strongly agree that they expect to be assisted according to their needs. Failure to assist antenatal patients according to their needs, poor relationships with healthcare providers and disrespectful harsh healthcare providers are some of the major reasons that discourage women from attending antenatal clinics (Andrew *et al.*, 2014).

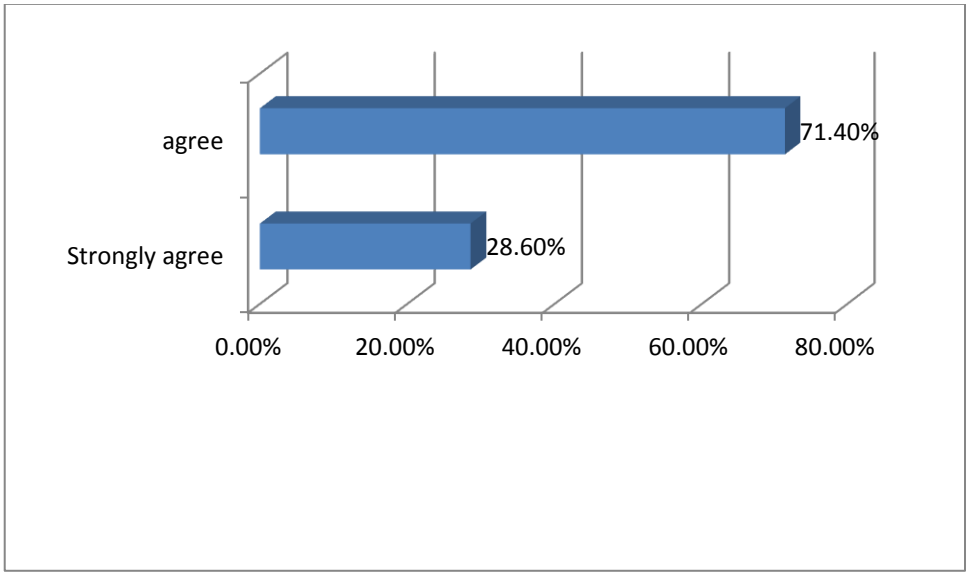

Figure 4.8: Maternity staff should offer prompt attention to patients

Figure 4.8 shows the majority of antenatal patients (71.40%) do expect prompt attention from maternity staff, while 28.60% do strongly agree that maternity staff should offer

prompt attention to patients. Critical factors that underlie provision of quality maternity services are responsiveness and promptness of staff (Atinga & Baku, 2013).

	Frequency	Percent	Valid Percent	Cumulative percent
Valid Strongly Agree	20	28.57	28.57	28.57
Agree	50	71.43	71.43	100.00
Total	70	100.00	100.00	

Table 4.2: Pregnant mothers must feel secure when using facilities of maternity department

Table 4.2 above shows that all the respondents expect to be secure while within the facilities of the maternity department.

	Frequency	Percent	Valid Percent	Cumulative percent
Valid Strongly Agree	20	28.57	28.57	28.57
Agree	50	71.43	71.43	100.00
Total	100	100.00	100.00	

Table 4.3: Maternity staff should be polite and courteous to patients

Table 4.3 above indicates that all the respondents expect maternity staff to be polite and show courtesy to them. Courteous and respectful staff create comfortable environments that promote pregnant women to discuss their problems with service providers (Nyongesa et al., 2014).

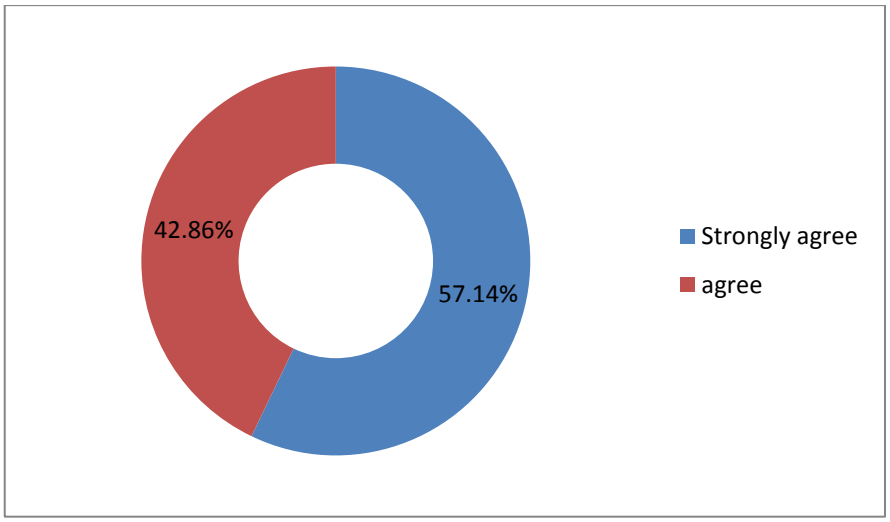

Figure 4.9:MPHmaternity wing has modern looking equipment

Figure 4.9 shows all respondents do agree that MPH maternity wing has modern looking equipment and the majority 57.14% strongly agree that MPH has modern looking equipment, while, 42.86% do simply agree that MPH has modern looking equipment. Women highly prefer to deliver in institutions with sophisticated medical equipment and amenities(Atinga & Baku, 2013).Goberna-Tricas *et al.* (2011)emphasise that women view the presence of modern healthcare technology as a source of security and comforting in the event of complications occurring.

	Frequency	Percent	Valid Percent	Cumulative percent
Valid Strongly Agree	40	57.14%	57.14%	57.14
Agree	30	42.86%	42.86%	100.00
Total	70	100.00	100.00	

Table 4.4: The maternity department is clean and comfortable?

Table 4.4 indicates that all the respondents agree that MPH maternity department is clean and comfortable; 57.14% strongly agreed that the department is clean and comfortable, while the other 42.86% do simply agree that the department is clean and comfortable. Physical attributes act as cues used to evaluate expected service and satisfaction. Hulton et al. (2000) identified the quality of human and physical resources as important quality

attributes. The cleanliness and comfortability of a clinic is regarded as a sign of respect a facility offers to its clients and its hygienic conditions relieve fears of infection among patients (Hulton et al., 2000).

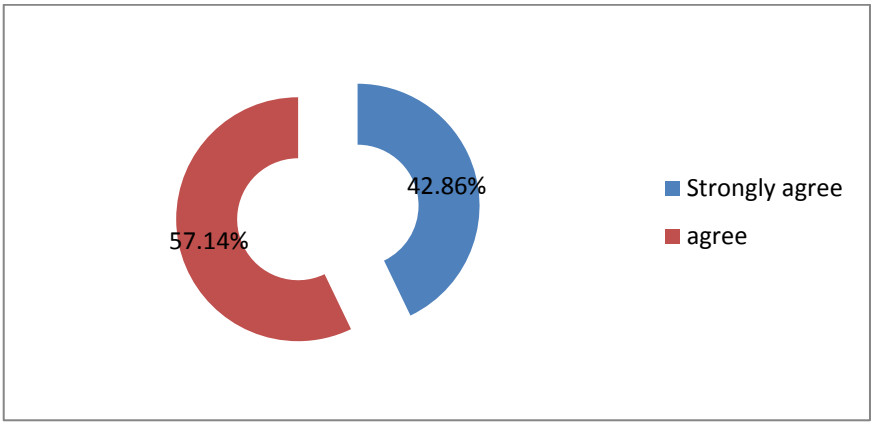

Figure 4.10: Maternity staff is professional and neatly dressed

Figure 4.10 indicates that all respondents commended and agreed that the maternity staff are professional and dress neatly. However, 42.86% strongly agreed on this notion while, 57.14 % simply agree. Appearance of staff and the wards are important tangibles in maternity institutions and are used as cues of expected service (Holder & Berndt, 2011).

	Frequency	Percent	Valid Percent	Cumulative percent
Valid Strongly Agree	20	28.57	28.57	28.57
Agree	50	71.43	71.43	100.00
Total	70	100.00	100.00	

Table4.5: Does the Maternity staff show sincere interest in solving problems?

Table 4.5 shows 100% of the respondents believe that maternity staff do show sincerity in solving their problems. However, Manithip *et al.* (2013) noted healthcare providers often have brief encounters with patients and do not show sincere interest and attention to what women talk about.

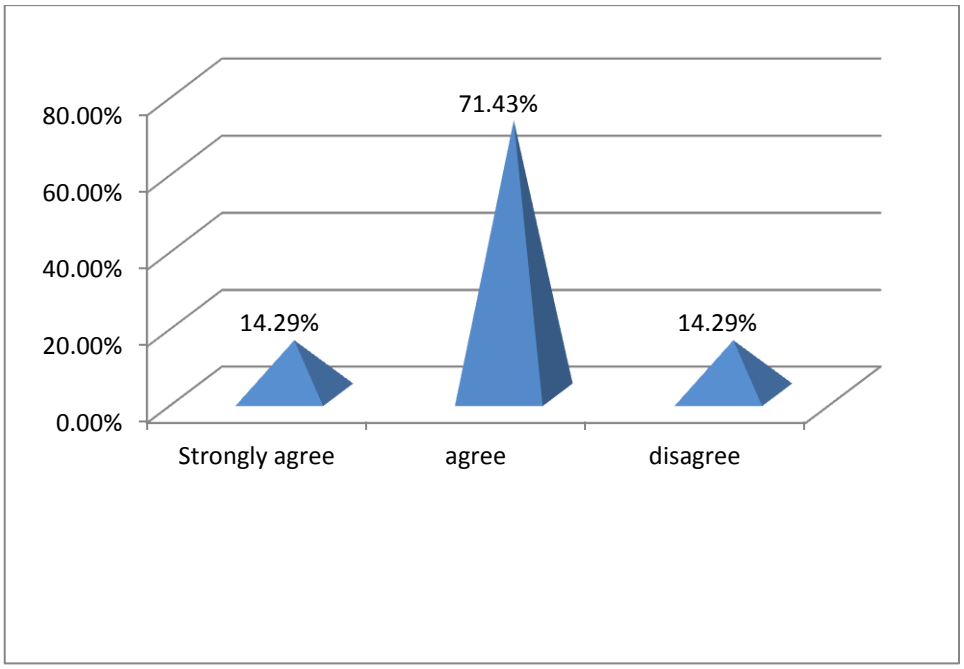

Figure 4.11: The maternity staff do perform the services right the first time?

Figure 4.11 shows the majority of respondents do agree that maternity staff do perform their services right the first time, while 14.29% disagree with this notion.

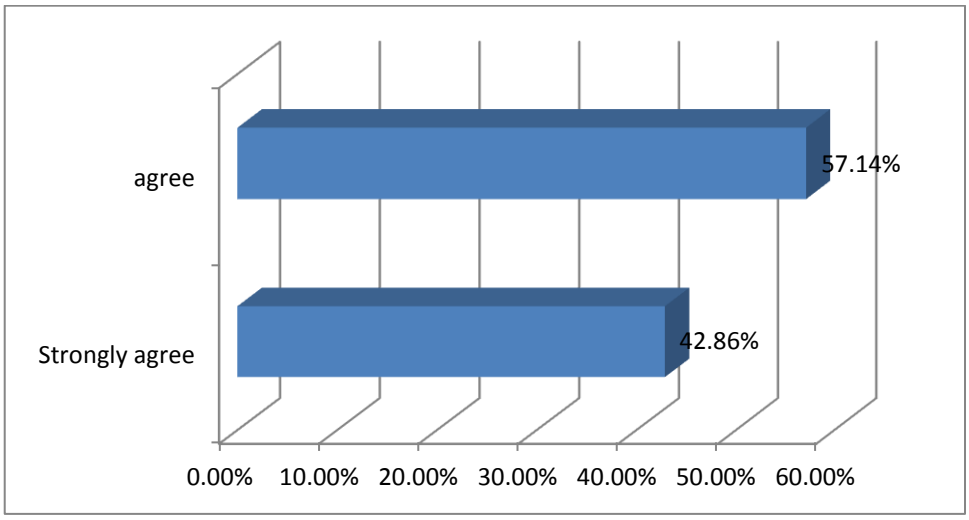

Figure 4.12: Do the maternity staff have adequate knowledge to manage patients?

Figure 4.12 indicate that all the respondents do agree on maternity staff having adequate knowledge to manage patients while, 42.86% strongly agree that maternity staff have adequate knowledge to manage patients

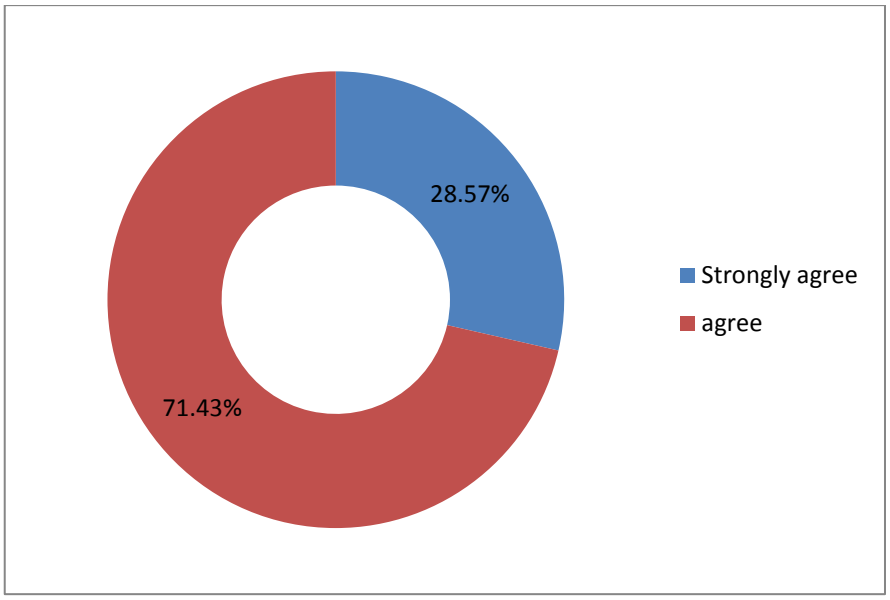

Figure 4.13: Maternity Staff do show a caring attitude towards patients

Figure 4.13 shows 71.43% of the respondents do agree that maternity staff should show a caring attitude towards patients, while 28.57% strongly expect a caring attitude from maternity staff. Respect, dignity and equity of care a pregnant woman receives during her stay at a facility is one of the major elements of quality maternity care as alluded to by Hutton et al. (2000).

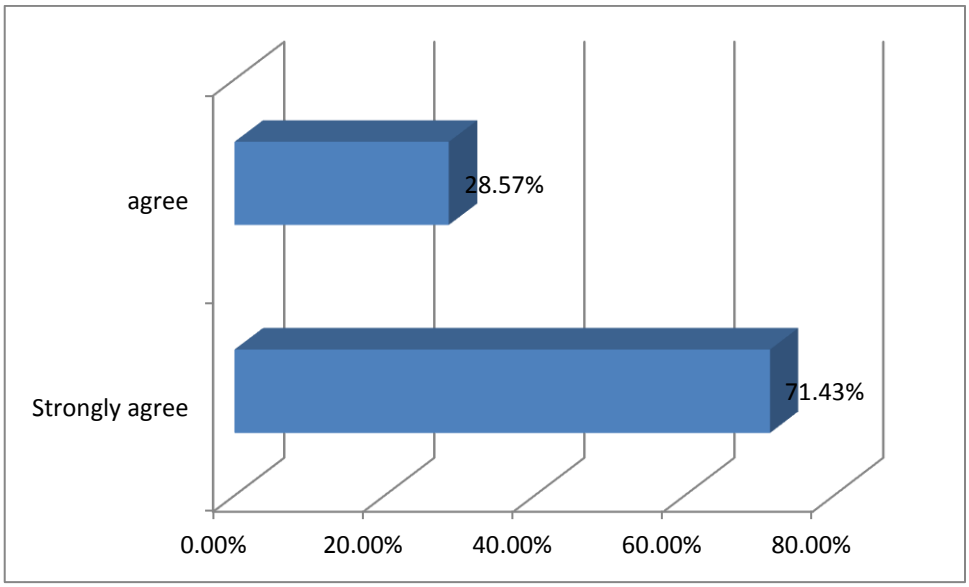

Figure 4.14: Doctors and Midwives do give each patient individual attention?

Figure 4.14 shows majority (71.43%) of respondents concur that maternity doctors and midwives do give each patient individual attention. Individualised attention to antenatal patients allows patients to divulge information on their conditions (Ejigu *et al.*, 2013).

	Frequency	Percent	Valid Percent	Cumulative percent
Valid Strongly Agree	30	42.86	42.86	42.86
Agree	20	28.57	28.57	71.43
Disagree	10	14.29	14.29	85.72
Strongly Disagree	10	14.29	14.29	100.00
Total	70	100.00	100.00	

Table 4.6: Maternity department operates within hours convenient to all pregnant patients

Table 4.6 shows a mixed response on the operating hours of the maternity department, 42.86% strongly agree that the operating hours are convenient, while another 14.29% strongly disagree to this notion. Andrew *et al.* (2014) emphasize unannounced clinic closures are some of the major reasons that discourage women from attending antenatal clinics. Antenatal care services should conveniently be available every day of the week, this prevents clients either from being turned away or asked to come back another day, a practice which creates low opportunity for early ANC attendance (Ngxongo, 2011).

4.5 RELATIONSHIP BETWEEN VARIABLES

The degree of association between any two variables is often measured by a correlation coefficient; there are several correlation coefficients, however, Pearson correlation coefficient has been the most widely used (Zhou *et al.*, 2015:11). The degree of correlation can be weak or strong, it varies from -1 to 1. An r = 0 reflects there is no connection between the two variables at all, while r = 1 means the two variables are perfectly in sync with both moving in the same direction. An r = -1 also means the two variables are in sync but both are moving in opposite directions, however correlation relationships do not show causation (Emerson, 2015). In this research the research concentrates on correlations between -0.5 and +0.5.

Age vs. Patients should not be kept waiting unnecessarily

Majority of antenatal patients were aged between twenty-one and thirty years (57.15%). There was a positive correlation + 0,246 between variables: age and patients should not be kept waiting unnecessarily. Older patients felt they should not be kept waiting unnecessarily.

Parity vs. Maternity staff do have adequate knowledge to manage patients

The greatest proportion of patients was para 1, meaning they already had one baby before. There was a negative correlation -0.379 between parity and Maternity staff do have adequate knowledge to manage patients. It means as parity increased the more patients felt maternity staff did not have adequate knowledge to manage patients.

Education status vs. Parity

The majority of antenatal patients had matric certificate, but education status had no correlation with the parity of patients -0.167. This meant that the level of education of a patient had no bearing on the number of children given birth to.

MPH maternity wing has modern looking equipment vs. Maternity staff should offer prompt attention to patients

Majority of the respondents strongly agreed that MPH maternity wing has modern looking equipment. There is a strong positive correlation of 0.567 with maternity staff should offer prompt attention to patients. The more antenatal patients notice modern equipment in the clinic, the more they expect prompt action from doctors and midwives.

Maternity department is clean and comfortable vs. parity

Majority of the respondents generally agree that MPH maternity clinic is clean and comfortable, however there was a negative –0.379 correlation with parity. As parity increased the patients felt that the MPH clinic is not clean and comfortable.

Parity vs. Maternity Staff are professional and neatly dressed

The greatest proportion of patients was para 1, meaning they already had one baby before. There was a negative correlation of – 0.379 with maternity staff are professional and neatly dressed. As parity increased the more patients felt maternity staff are not professional enough and not neatly dressed.

Maternity department is clean and comfortable vs.Maternity staff should assist patients according to needs

The majority of the respondents generally agree that MPH maternity clinic is clean and comfortable. There was a positive correlation +0.367 with maternity staff are professional and neatly dressed. The more antenatal patients judged maternity department as clean and comfortable the more they felt maternity staff should assist patients according to needs.

Maternity staff are professional and neatly dressed vs. Maternity staff should assist patients according to needs

Most of the respondents generally perceive maternity staff as professional and neatly dressed. There was a positive correlation +0.367 with maternity staff should assist patients according to needs. The more antenatal patients realised maternity staff are professional and neatly dressed the more they expected maternity staff to assist patients according to needs.

Patients should not be kept waiting unnecessarily vs. Maternity staff should assist patients according to their needs

Majority of antenatal patients do agree that they expect not to be kept waiting unnecessarily while 28.60% strongly believe they should not be kept waiting unnecessarily. There was a positive correlation +0.367 with maternity staff should assist patients according to their needs. The more patients expected not to be kept waiting unnecessarily, the more they felt maternity staff should focus on assisting patients according to their needs.

Maternity staff should assist patients according to their needs vs. Maternity staff do have adequate knowledge to manage patients

Antenatal patients do in totality agree that they should be assisted according to their needs. There was a positive +0.367 correlation with maternity staff do have adequate knowledge to manage patients. The more antenatal patients expected to be assisted according to their needs, the more they believed maternity staff has adequate knowledge to manage their conditions.

Maternitystaff should assist patients according to their needs vs. Maternity department operates within hours convenient to all pregnant patients

Antenatal patients do in totality agree that they should be assisted according to their needs. There was a positive correlation+0.470 with maternity department operates within hours convenient to all pregnant patients. The more antenatal patients expected to be assisted according to their needs, the more they felt maternity department hours of operation be convenient to all pregnant patients.

Maternity staff should offer prompt attention to patients vs. Patients should not be kept waiting unnecessarily

The majority of antenatal patients (71.40%) expected prompt attention from maternity staff. There was a positive correlation +0.567 with patients should not be kept waiting unnecessarily. The more antenatal patients expected prompt attention the more they felt they should not be kept waiting unnecessarily.

Maternity staff should offer prompt attention to patients vs. Maternity staff do have adequate knowledge to manage patients

All antenatal patients expected prompt attention and there was a positive correlation +0.567 with the variable: maternity staff do have adequate knowledge to manage patients. The more antenatal patients expected prompt attention, the more they felt maternity staff do have adequate knowledge to manage patients.

Pregnant mothers must feel secure when using the facilities of maternity department vs. Maternity staff do show a caring attitude towards patients

All the respondents expected to be secure while within the facilities of the maternity department. Feeling of security, however, had no bearing or relationship with the caring attitude of maternity staff. There was a correlation of -0.16 and thus no relationship between these variables.

4.5 CONCLUSION

Descriptive statistics were used to get the proportion of different variables in percentages, while relationships between variables were determined by correlation coefficients. Findings of this research were presented in three sections namely, demographic details, expectations of antenatal patients and perceptions of antenatal patients of MPH service

quality. To establish any similarities or differences, results obtained were compared to the literature review.

Through correlation studies this research has been able to identify how variables influence each other, that is, positively, negatively or no influence at all. The findings of this research have been able to establish the expectations and perceptions of antenatal patients on MPH service quality. It also has been able to establish how antenatal maternity service quality variables relate to another. These findings have been used to present a conclusion and future recommendations.

The next final chapter discusses the main findings of this research in relation to the research questions. Recommendations are made to other maternity units on how to improve on service quality offering to antenatal patients with an overall aim of reducing maternal mortality and morbidity. Further areas of research are also highlighted.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

As alluded to in previous chapters, this study involves the assessment of the quality of service that antenatal maternity patients receive from Mafikeng Provincial hospital. It seeks to establish service quality expectations of antenatal patients as well as highlight their perceptions of service quality offered by Mafikeng Provincial Hospital maternity department. The current persistently high maternal mortality rate, despite high booking rates and commendable government efforts in this sector, do justify the need to establish the quality of antenatal care that patients receive.

This chapter consolidates the analysed findings of this research presented in the preceding chapter. A summary of the research questions pertaining to the quality of antenatal MPH offers to its patients is presented by dissecting the expectations and perceptions of these patients. Furthermore, future research proposal in maternity service is also presented.

In conclusion, the findings of this research are used to develop recommendations to Mafikeng Provincial hospital, Provincial and National Government on how to improve on service quality offering to maternity patients. Such recommendations may assist in finding solutions to the lowering of maternal mortality and morbidity statistics. The recommendations are followed by a conclusion of the study based on the problem statement and the research findings.

5.2 SUMMARY OF THE STUDY

The aim of the study was to determine the quality of antenatal maternity services at MPH. This was done by determining the expectations and perceptions of antenatal patients attending MPH High Risk Clinic. Through Correlation studies the research further estimated the impact of these expectations and perceptions on Mafikeng Provincial Hospital antenatal service quality.

Maternal mortality is considered a primary indicator of a geographic area's overall health status and quality of life. The South African Health Department has made among others, commendable steps in reducing maternal mortality by improving access to anti-retrovirals and provision of free antenatal care. Despite these interventions, maternal mortality rates

remain high. In a bid to establish possible reasons underlying the high maternal mortality levels, this study aimed at establishing the quality of antenatal care that pregnant patients receive at Mafikeng Provincial Hospital.

This study was conducted at Mafikeng Provincial Hospital High Risk clinic in the Maternity department. SERVQUAL based Questionnaires designed to answer the research questions were used to collect data. A total of 80 questionnaires were randomly distributed over a three-week period among antenatal patients and 70 questionnaires were properly completed and returned.SPSS package was used to analyse the data, descriptive and correlation studies were done to establish causal relationships among service quality variables.

This study revealed that the booking status of pregnant women attending Mafikeng Provincial Hospital is very high, most of these antenatal patients are single, however majority of them have acquired at least a matric qualification.

Most of the antenatal patients expressed high expectations from MPH antenatal service quality. Patients raised the need for responsive services and most of the patients indicated desires not to be kept waiting unnecessarily and to be managed promptly according to their needs. The need for assurance through being attended to politely in a secure environment was equally raised. Antenatal patients 'perceptions of MPH antenatal service quality was equally high in areas of tangibles, reliability and empathy. Mixed responses were obtained on the convenience of operating hours of the High Risk Clinic.

5.3 CONCLUSIONS AND RESEARCH QUESTIONS

Conclusions on the Research questions are presented in this section.

What expectations does antenatal patients have on Mafikeng Provincial Hospital service quality?

Nyongesa *et al.* (2014)noted that service quality expectations of antenatal patients are shaped by a number of factors, for example, word of mouth communication and what patients hear from others. This section presents a discussion on expectations raised by antenatal patients.

5.3.1 Do you expect MPH maternity staff to demonstrate willingness to help patients and provide prompt services?

All antenatal patients indicated they don't expect to be kept waiting unnecessarily. About 71.40 % simply agreed while 28.60% strongly agreed they should not be kept waiting at all. All antenatal patients indicated that they expect to be assisted according to their needs. About 85.71% simply agreed while 14.29 strongly agreed that they expect to be assisted according to their needs. All antenatal patients indicated they expected prompt attention from maternity staff and 71.40% simply agreed while 28.60% strongly agreed that maternity staff should offer prompt attention to patients.

Responses to above sub research questions clearly indicate that antenatal patients do expect responsive treatment from maternity staff. This finding is further underpinned by Atinga and Baku (2013), when they emphasize responsiveness as a critical factor that underlies service provision in maternity services by reducing waiting times and offering prompt services. This need for responsive services among pregnant women may arise from their high expectations to deliver healthy babies. The above finding also indicates that majority of patients simply agreed to each of the expectation and a smaller percentage strongly agreed. This finding may possibly mean that patients have adjusted expectations of the public healthcare system since the high volumes of patients overwhelm service providers.

The desire not to be kept waiting unnecessarily increased with age, this finding where older patients felt they should not be kept waiting unnecessarily indicates that as patients become older the more they feel they are at risk of complications. Majority of patients expect prompt attention from maternity staff, the more patients expect promptness the more they feel they should not be kept waiting unnecessarily. This finding further emphasises the importance of responsiveness in antenatal care service provisioning.

5.3.2 Do you expect MPH maternity staff tobecourteous and to communicate trust and confidence in patients?

All antenatal patients expressed the need to feel secure while in the maternity department. About 71.43% simply agreed while 28.57% strongly agreed that they must feel secure when using the facilities of maternity department. All antenatal patients indicated they expect maternity staff to be polite and courteous to patients. About 71.43% simply agreed

while 28.57% strongly agreed that maternity staff should be polite and courteous to patients. Responses to above sub research questions indicate the importance of assurance in the provision of maternity services. The findings of this research indicate antenatal patients expect to be handled with courtesy, and to be managed by healthcare professionals that communicate confidence to their patients. Courteous and respectful and caring staff create comfortable environments that promote pregnant mothers to discuss their problems with service providers (Nyongesa *et al.*, 2014).

This finding is further supported by Ejigu *et al.* (2013) who emphasize that antenatal clinics should not only offer comfortable environments but they must offer privacy if women are to truly open up on their problems. To the contrary, in this study while pregnant mothers emphasized the need to feel secure while in the department, there was no relationship at all with staff showing a caring attitude towards patients. This finding may therefore indicate that the provision of comfortable secure environment does not necessarily mean the staff has a caring empathetic attitude.

5.3.3 Perceptions of antenatal patients on MPH antenatal service quality

According to Hill and McCrory (1997), maternity patients' perception of service quality are likely to influence their decisions concerning which hospital to attend, especially if they are in a position to choose. The following section offers a discussion and conclusions on the perceptions of maternity patients on MPH maternity service quality.

5.3.4 What is the quality of the physical facilities at MPH maternity wing, including appearance of its personnel?

Majority of antenatal patients strongly agreed that MPH maternity department has modern looking equipment and 57.14% strongly agreed while 42.86% simply agreed that MPH maternity clinic has modern looking equipment.

MPH maternity department was coined as clean and comfortable by all antenatal patients. About 57.14% strongly agreed while 42.86% simply agreed that MPH maternity clinic is clean and comfortable. All the maternity patients indicated that MPH staff are professional and neatly dressed. About 42.86% strongly agreed while 57.14% simply agreed that maternity staffs are professional and neatly dressed.

Above findings clearly indicate that the appearance of Maternity personnel and its physical facilities overwhelmingly satisfy its antenatal patients. These findings are in keeping with

the findings of Ejigu *et al.* (2013) when they equally found out that comfortable waiting rooms and clean toilets were among reasons associated with patient satisfaction. Holder and Berndt (2011) emphasize that tangibles are the only tangible cues in service quality provisioning and thus they are important cues used to evaluate expected service before and satisfaction after receiving the service.

MPH High Risk Clinic is a provincial referral clinic and therefore it handles patients from surrounding district hospitals. The above findings clearly indicate the commitment by hospital management to resource the clinic with relevant equipment like modern ultrasounds that will enable the handling of complicated cases. The presence of modern equipment in maternity departments is an important source of security among pregnant women in the event of complications (Goberna-Tricas *et al.*, 2011).

The presence of noticeable modern equipment in the department had a positive relationship with patients believing maternity staff had capacity to offer prompt services. The positive association of modern equipment and prompt services is a clear indication that as technology improves, efficiency inevitably follows suit.

Antenatal patients perceived maternity staff as professional and neatly dressed and there was a positive relationship with the expectations of being assisted according to needs. The professional look and dressing of maternity staff therefore generally provided a positive impression on their ability to assist patients according to need.

5.3.5 Does MPH maternity staff deliver their services dependably and accurately?

All maternity patients felt that maternity staff is dependable and accurate in their dealings with the patients and 71.43% simply agreed, while 28.57% strongly agreed that maternity staff show sincerity in solving their problems. Majority of respondents (85.72%) believe that maternity staff do perform services right the first time, while 14.29% disagreed to this notion

While all patients are in agreement that maternity staff do show sincerity in attending to their problems, there was a mixed response to the ability of maternity staff performing services right the first. As noted above 14.29% of patients disagree that maternity staff do perform services right the first time.

This group of patients may have had a previous bad obstetric complication with a bad outcome and were therefore justified in their comments.Nesbitt *et al.* (2013) noted that evaluation of maternity care is a complicated and culturally sensitive issue where most users are healthy, but serious complications can develop unpredictably. It therefore is very important that the right services are performed right from the onset, failure of which may result in complications to both mother and baby.

5.3.6Does MPH maternity staff provide individualised attention to patients?

Maternity patients generally feel maternity staff do provide individualised attention to patients. All the antenatal patients feel that maternity staff do care for them, 71.43% simply agreed, while 28.57% strongly agreed that maternity staff had a caring attitude towards patients. Janakiraman and Ecker (2010) isolated caring/empathy of healthcare professionals as very important elements of quality in maternity care.

Antenatal patients are overly satisfied by the individualised treatment they receive from the High risk Clinic, 71.43% strongly agreed, while 28.57% simply agreed that they receive individualised treatment at MPH maternity wing. This finding was in contradiction with the findings of Manithip *et al.* (2013) who reported that healthcare givers often spend limited time with antenatal mothers, paying less attention and not offering opportunities for women to ask questions.

Convenience of operating hours of High Risk Clinic received a mixed response, 42.86% strongly agree that operating hours are convenient while another 14.29% strongly disagreed. This finding is a clear indication that not all pregnant women are satisfied with the operating times of the High Risk Clinic. Shortage of staff and unavailability of supporting services like ultrasonography may be contributory factors. The current national call on operating times of Antenatal clinics as noted by Ngxongo (2011) is to ensure that antenatal care services are offered every day of the week. Provision of daily antenatal care services will ensure that patients shall not be turned back and thus increase the capture of pregnant women.

Most of the antenatal patients indicated they expected to be assisted according to their needs. There was a positive relationship with the need to have the department operate within hours convenient to all pregnant women. Operating hours should cater for both working and non-working patients.

5.3.7 Do maternity staff have adequate knowledge to manage patients?

All antenatal patients feel that the doctors and nursing staff have adequate knowledge to manage their conditions. This finding clearly indicates that antenatal patients feel assured and safe in the hands of maternity staff of Mafikeng Provincial Hospital. Janakiraman and Ecker (2010) also isolated empathy as an important quality measure in maternity services. In this study, the more maternity staff promptly attended to patients according to their needs, the more patients felt that maternity staff had adequate knowledge to manage them.

5.4 RECOMMENDATIONS

Taking into consideration the findings of this research and literature reviewed, five recommendations are proposed. These recommendations are directed to Mafikeng Provincial Hospital, The Provincial Health Department and the National health department at large. These recommendations have been identified by the researcher as gaps in maternity service quality.

5.4.1 Training of healthcare personnel on service quality

Service Quality is a field that has generally received little attention despite its significant role in organizational success and profitability. The researcher therefore recommends that healthcare personnel must undergo in-service training in service quality. This training will assist in ensuring that service providers are able to meet or exceed the expectations of their patients. This will in turn result in satisfied and overly satisfied patients.

The training of healthcare professional can be championed by the Hospital as well as the Provincial Health Office. Improvements in overall quality of services provided to maternity women can only be realised by continuous training.

5.4.2 Implementing communication channels and systems between maternity service providers and the patients.

Communication is a very important tool in shaping of service quality expectations. The researcher therefore recommends that MPH management puts in place a system that ensures patients are informed of procedures, hospital protocols and any special events or developments that may impact on the quality of service to de delivered.

In this research, maternity patients clearly indicated that they don't expect to be kept waiting unnecessarily. If there are events or developments that may result in the Clinic commencing late or early closure, for example, these matters must be communicated to patients. Due to the high volumes of patients seeking help from the public sector against a background of a constrained budget, it is important that patients are made aware of these challenges. The researcher therefore recommends that the maternity clinic must have a Public address system installed for announcements. The maternity department must have visible signage and appoint a dedicated person who assists with ushering patients and ensuring that patients are assisted accordingly.

5.4.3 Appointing doctors and nursing staff that have a passion for maternity.

Staff appointed to work in maternity must have a strong passion and liking for maternity. It is no secret that different people have different interests. Poor Staffing levels in the public sector are also a no secret together with a management perception that all medical doctors are maternity trained disregarding their interest or expertise. This scenario often results in personnel being deployed in disciplines they are not enthusiastic about and naturally this results in poor performance resulting in poor maternal outcomes.

Healthcare personnel passionate about maternity naturally deliver their best to their patients. They show empathy and a caring attitude to their patients and will always endeavour to perform services right the first time.

Maternity care is therefore not only defined by qualifications, but service providers must have a passion for pregnant mothers.

5.4.4 Managerial resource allocation to investing in tangibles

Mafikeng Provincial Hospital maternity wing should invest heavily in the tangibles of the Clinic especially maternity equipment. Other aspects of tangibles like the cleanliness and comfort of the clinic, neatness and professional appearance of staff equally need to be emphasised.

In this research, through correlation studies, tangibles emerged as a major driver of other quality attributes. Because the maternity department was noticed to have modern looking equipment, patients resultantly expected prompt services from doctors and nurses. The

cleanliness and comfortability of the department made patients feel MPH had the ability to assist patients according to need.

Therefore, investment in one attribute of quality will naturally produce positive results in other service quality attributes. This finding is equally supported in literature where pregnant women associate the presence of modern equipment in clinics with a source of security in the event of complications.

5.4.5 Relook into operating hours of the high risk clinic

The results quite evidently show a mixed response regarding the convenience of operating times of the High Risk Clinic. The researcher therefore recommends that the operating hours of the clinic be revisited in a way that will suit all pregnant women. Other women are working and cannot afford to take the whole day off from work. The current call is to offer antenatal care services on a daily basis, this one stop shop or supermarket approach has been found to offer convenience to the pregnant mother notwithstanding the current shortages of staff and mass resignations of staff from the public sector.

5.5 FUTURE RESEARCH

Maternity care is made up mainly of three domains: antenatal, intrapartum and post-partum periods. This research has been able to establish important quality attributes of antenatal care. While these findings may go a long way in reducing maternal mortality and morbidity, such findings cannot be treated in isolation disregarding service quality measures of the other two domains.

The researcher therefore recommends further research focusing on factors and attributes that constitute service quality in the intrapartum and post-partum periods. Intra partum period is associated with labouring of the pregnant woman leading to delivery. This is the shortest period compared to the other two, but it is fraught with a number of complications that affect both the mother and baby if not managed properly. It therefore is important to establish service quality attributes of this delicate domain.

Post-partum equally has its own problems, however, it is usually experienced as a sigh of relief period. Women in this stage are still at risk of bad outcomes thus it is equally important to establish the service quality needs of this group.

5.6 CONCLUSION

This research sought to assess the quality of antenatal care services at Mafikeng Provincial Hospital through determining service quality expectations and perceptions of antenatal patients. The research found that antenatal patients have high responsive expectations from maternity staff. Antenatal patients also expressed a high desire to be treated politely and courteously by maternity staff and the needy to feel secure while using the facilities of the maternity department.

Patient perceptions of MPH maternity service quality on Tangibles, Reliability, Empathy and Assurance were overall high. Patients generally expressed satisfaction on all of the above attributes of service quality. Mixed responses were however obtained on the convenience of operating hours of the clinic and the ability of maternity staff to perform services right the first time.

The findings of this study have provided information on important service quality attributes that pregnant women value most. It also managed to assess antenatal patient perceptions of MPH service quality. The findings of this study have added to the body of knowledge on antenatal service quality and have also provided a platform for a number of recommendations on how managers can improve upon antenatal service quality to curtail maternal mortality rate.

Although this study was confined to Mafikeng Provincial Hospital antenatal clinic, findings of this research may be applied to maternity wings of other hospitals in the province and the nation at large. Other medical disciplines like medicine and surgery also stand to benefit from these findings. This study therefore makes significant contribution to how healthcare managers can better the quality of service organisations offer to patients.

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APPENDIX A: TABLE OF CONSTRUCTION

Research Question(s)	**Sub research questions**	**Survey Questions**	**Response options**	**Statistical analysis**
What are service quality expectations and perceptions of antenatal patients at MPH	1.What is the quality of physical facilities at MPH maternity, incl appearance of its personnel	1.MPH maternity wing has modern looking technology 2.The maternity department is clean and comfortable 3. Maternity staff are professional and neatly dressed?	Strongly Disagree – Disagree- Agree- Strongly disagree.	Descriptive statistics displayed on graphs, tables and pie charts. Correlation studies performed to establish relationships
	2.Does MPH maternity staff deliver their services dependably and accurately	4. Maternity staff do keep their promises to patients 5. Maternity staff do show interest in solving patient problems 6. Maternity staff do perform the services right the first time.	Strongly Disagree – Disagree- Agree- Strongly disagree.	Descriptive statistics displayed on graphs, tables and pie charts. Correlation studies performed to establish relationships
	3.Does MPH maternity staff show willingness to help patients and provide prompt	7. Antenatal patients must not be kept waiting unnecessarily 8. Maternity staff should assist patients according to needs 9. Maternity staff should offer	Strongly Disagree – Disagree- Agree- Strongly disagree.	Descriptive statistics displayed on graphs, tables and pie charts. Correlation studies

	services	prompt attention to patients.		performed to establish relationships
	4. Are MPH maternity staff courteous and able to communicate trust and confidence in patients?	10. Pregnant mothers must feel secure when using facilities of maternity department? 11.Maternity department staff should be polite and courteous to patients 12.maternity staff do have adequate knowledge to manage and answer questions from customers	Strongly Disagree – Disagree- Agree- Strongly disagree.	Descriptive statistics displayed on graphs, tables and pie charts. Correlation studies performed to establish relationships
	5. Does MPH staff provide individualized attention to its maternity patients?	13. Maternity staff do show a caring attitude towards patients 14. Doctors and Midwives do give each patient individual attention. 15. Maternity department operates within hours convenient to all its patients.	Strongly Disagree – Disagree- Agree- Strongly disagree.	Descriptive statistics displayed on graphs, tables and pie charts. Correlation studies performed to establish relationships

APPENDIX B: QUESTIONNAIRE

"Assessment of antenatal maternity service quality among patients at Mafikeng Provincial" Hospital

Graduate School: NWU

Researcher: Dr M Mushunje (MBA II)

Supervisor: Prof S Lubbe

Note to the respondent

- We need your help in assessing maternity service quality among antenatal patients in Mafikeng Provincial Hospital(MPH)
- Although we would like you to help us, you do not have to take part in this survey
- If you do not want to take part, just hand in the blank questionnaire at the end of the survey session.
- What you say in this questionnaire will remain private and confidential. No one will be able to trace your opinions back to you as a person.

The questionnaire has 3 parts

Part 1 asks permission to use your responses for academic research.

Part 2 asks general personal particulars and a bit of your obstetric history.

Part 3 is a section that asks about your perceptions and expectations of MPH maternity department as a pregnant woman.

How to complete the questionnaire

1. Please answer the questions as truthfully as you can. Also, please be sure to read and follow the directions for each part. If you do not follow the directions it will make it harder for us to do our project.
2. We are only asking about things that you and fellow researchers should feel comfortable telling us about. If you don't feel comfortable answering a question, you can indicate that you do not want to answer it. For those questions that you do answer, your responses will be kept confidential.
3. You can mark each response by making a tick or a cross, or encircling each appropriate response with a PEN (not a pencil).

Thank you very much for filling in this questionnaire.

Part 1: Permission to use my responses for academic research

I hereby give permission that responses may be used for research purposes provided that my identity is not revealed in the published records of the research.

Initials and surname_____ Address _____

Address_____ Telephone no._____

	Part 2: General personal particulars Please tell us a little about yourself Please mark only one option per Question below.
1.	Iam in this age group ◯ 18 -20 ◯ 21- 30 ◯ above 30 years
2.	How many children do you have? ◯ none ◯1 ◯2 ◯3 and above
3.	What is the highest grade you Achieved ◯ Below Matric ◯ Matric ◯ Tertiary
4.	What is your marital status? ◯ Single ◯ Married ◯ Divorced
5.	Are you a booked Maternity Patient ◯ Yes ◯ No

Part 3: This section contains questions on your perceptions and expectations of Mafikeng Provincial Hospital antenatal service quality. Mark only one option per question below

1.	MPH maternity wing has modern looking technology) Strongly agree) Agree) Disagree) Strongly disagree	6.	Maternity Staff do perform the services right the first time) Strongly agree) Agree) Disagree) Strongly disagree
2.	The Maternity department is clean and comfortable) Strongly agree) Agree) Disagree) Strongly disagree	7.	Patients are not kept waiting unnecessarily) Strongly agree) Agree) Disagree) Strongly disagree
3.	Maternity staff are professional and neatly dressed?) Strongly agree) Agree) Disagree) Strongly disagree	8.	Maternity patients staff should assist patients according to their needs) Strongly agree) Agree) Disagree) Strongly disagree
4.	Maternity staff do deliver on their promises to patients.) Strongly agree) Agree) Disagree) Strongly disagree	9.	Maternity staff should offer prompt attention to patients?) Strongly agree) Agree) Disagree) Strongly disagree

5.	Maternity staff do show sincere interest in solving patient problems) Strongly agree) Agree) Disagree) Strongly disagree	10.	Pregnant mothers must feel secure when using facilities of maternity department?) Strongly agree) Agree) Disagree) Strongly disagree

11.	Maternity staff should be polite and courteous to patients?) Strongly agree) Agree) Disagree) Strongly disagree	14.	Doctors and Midwives do give each patient individual attention?) Strongly agree) Agree) Disagree) Strongly disagree
12.	Maternity staff do have adequate knowledge to manage patients?) Strongly agree) Agree) Disagree) Strongly disagree	15.	Maternity department operates within hours convenient to all pregnant patients?) Strongly agree) Agree) Disagree) Strongly disagree
13.	Maternity staff do show a caring attitude towards patients) Strongly agree) Agree) Disagree) Strongly disagree		

Appendix C: Correlations

Correlations

		Age	Dependants	Degree	Marital Status	Employment	Maternity Patient	Qu1	Qu2	Qu3	Qu4
Age	Pearson Correlation	1	.161	.000	-.529**	-.259*	.172	.201	.246*	.246*	.848**
	Sig. (2-tailed)		.181	1.000	.000	.029	.152	.093	.039	.039	.000
	N	71	71	71	71	71	71	71	71	71	71
Dependants	Pearson Correlation	.161	1	-.167	.184	.459**	.306**	-.379**	-.379**	-.379**	-.139
	Sig. (2-tailed)	.181		.163	.125	.000	.009	.001	.001	.001	.248
	N	71	71	71	71	71	71	71	71	71	71
Degree	Pearson Correlation	.000	-.167	1	.000	.000	.000	.000	.000	.000	.000
	Sig. (2-tailed)	1.000	.163		1.000	1.000	1.000	1.000	1.000	1.000	1.000
	N	71	71	71	71	71	71	71	71	71	71
Marital Status	Pearson Correlation	-.529**	.184	.000	1	.747**	-.109	-.579**	-.579**	-.579**	-.783**
	Sig. (2-tailed)	.000	.125	1.000		.000	.367	.000	.000	.000	.000

	N	71	71	71	71	71	71	71	71	71	71											
Employment	Pearson Correlation	-.259*	.459**	.000	.747**	1	.027	-.775**	-.718**	-.718**	-.732**											
	Sig. (2-tailed)	.029	.000	1.000	.000		.825	.000	.000	.000	.000											
	N	71	71	71	71	71	71	71	71	71	71											
Maternity Patient	Pearson Correlation	.172	.306**	.000	-.109	.027	1	.017	.017	.017	.107											
	Sig. (2-tailed)	.152	.009	1.000	.367	.825		.889	.889	.889	.376											
	N	71	71	71	71	71	71	71	71	71	71											
Qu1	Pearson Correlation	.201	-.379**	.000	-.579**	-.775**	.017	1	.943**	.943**	.567**											
	Sig. (2-tailed)	.093	.001	1.000	.000	.000	.889		.000	.000	.000											
	N	71	71	71	71	71	71	71	71	71	71											
Qu2	Pearson Correlation	.246*	-.379**	.000	-.579**	-.718**	.017	.943**	1	1.000**	.567**											
	Sig. (2-tailed)	.039	.001	1.000	.000	.000	.889	.000		.000	.000											
	N	71	71	71	71	71	71	71	71	71	71											
Qu3	Pearson Correlation	.246*	-.379**	.000	-.579**	-.718**	.017	.943**	1.000**	1	.567**											

	Sig. (2-tailed)	.039	.001	1.000	.000	.000	.889	.000	.000		.000											
	N	71	71	71	71	71	71	71	71	71	71											
Qu4	Pearson Correlation	.848**	-.139	.000	-.783**	-.732**	.107	.567**	.567**	.567**	1											
	Sig. (2-tailed)	.000	.248	1.000	.000	.000	.376	.000	.000	.000												
	N	71	71	71	71	71	71	71	71	71	71											
Qu5	Pearson Correlation	-.006	.158	-.976**	.017	.022	.004	-.029	-.029	-.029	-.016											
	Sig. (2-tailed)	.962	.189	.000	.891	.854	.971	.813	.813	.813	.893											
	N	71	71	71	71	71	71	71	71	71	71											
Qu6	Pearson Correlation	-.006	.158	-.976**	.017	.022	.004	-.029	-.029	-.029	-.016											
	Sig. (2-tailed)	.962	.189	.000	.891	.854	.971	.813	.813	.813	.893											
	N	71	71	71	71	71	71	71	71	71	71											
Qu7	Pearson Correlation	.246*	-.379**	.000	-.579**	-.718**	.017	.943**	1.000**	1.000**	.567**											
	Sig. (2-tailed)	.039	.001	1.000	.000	.000	.889	.000	.000	.000	.000											
	N	71	71	71	71	71	71	71	71	71	71											

Qu8	Pearson Correlation	.548**	-.090	.000	-.583**	-.473**	.069	.367**	.367**	.367**	.647**											
	Sig. (2-tailed)	.000	.456	1.000	.000	.000	.568	.002	.002	.002	.000											
	N	71	71	71	71	71	71	71	71	71	71											
Qu9	Pearson Correlation	.848**	-.139	.000	-.783**	-.732**	.107	.567**	.567**	.567**	1.000**											
	Sig. (2-tailed)	.000	.248	1.000	.000	.000	.376	.000	.000	.000	.000											
	N	71	71	71	71	71	71	71	71	71	71											
Qu10	Pearson Correlation	-.006	.158	-.976**	.017	.022	.004	-.029	-.029	-.029	-.016											
	Sig. (2-tailed)	.962	.189	.000	.891	.854	.971	.813	.813	.813	.893											
	N	71	71	71	71	71	71	71	71	71	71											
Qu11	Pearson Correlation	.[c]	.[c]	.[c]	.[c]	.[c]	.[c]	.[c]	.[c]	.[c]	.[c]											
	Sig. (2-tailed)	.	.	.	.	.	.	.	.	.	.											
	N	71	71	71	71	71	71	71	71	71	71											
Qu12	Pearson Correlation	.246*	-.379**	.000	-.579**	-.718**	.017	.943**	1.000**	1.000**	.567**											

	Sig. (2-tailed)	.039	.001	1.000	.000	.000	.889	.000	.000	.000	.000											
	N	71	71	71	71	71	71	71	71	71	71											
Qu13	Pearson Correlation	.848**	-.139	.000	-.783**	-.732**	.107	.567**	.567**	.567**	1.000**											
	Sig. (2-tailed)	.000	.248	1.000	.000	.000	.376	.000	.000	.000	.000											
	N	71	71	71	71	71	71	71	71	71	71											
Qu14	Pearson Correlation	.c	.c	.c	.c	.c	.c	.c	.c	.c	.c											
	Sig. (2-tailed)	.	.	.	.	.	.	.	.	.	.											
	N	71	71	71	71	71	71	71	71	71	71											
Qu15	Pearson Correlation	.935**	.258*	.000	-.416**	-.123	.235*	-.101	-.072	-.072	.727**											
	Sig. (2-tailed)	.000	.030	1.000	.000	.309	.048	.402	.550	.550	.000											
	N	71	71	71	71	71	71	71	71	71	71											

Correlations

		Qu5	Qu6	Qu7	Qu8	Qu9	Qu10	Qu11	Qu12	Qu13	Qu14	Qu15
Age	Pearson Correlation	-.006	-.006	.246*	.548**	.848**	-.006	.c	.246*	.848**	.c	.935**
	Sig. (2-tailed)	.962	.962	.039	.000	.000	.962	.	.039	.000	.	.000
	N	71	71	71	71	71	71	71	71	71	71	71

Dependants	Pearson Correlation	.158	.158	-.379**	-.090	-.139	.158	.c	-.379**	-.139	.c	.258*
	Sig. (2-tailed)	.189	.189	.001	.456	.248	.189	.	.001	.248	.	.030
	N	71	71	71	71	71	71	71	71	71	71	71
Degree	Pearson Correlation	-.976**	-.976**	.000	.000	.000	-.976**	.c	.000	.000	.c	.000
	Sig. (2-tailed)	.000	.000	1.000	1.000	1.000	.000	.	1.000	1.000	.	1.000
	N	71	71	71	71	71	71	71	71	71	71	71
Marital Status	Pearson Correlation	.017	.017	-.579**	-.583**	-.783**	.017	.c	-.579**	-.783**	.c	-.416**
	Sig. (2-tailed)	.891	.891	.000	.000	.000	.891	.	.000	.000	.	.000
	N	71	71	71	71	71	71	71	71	71	71	71
Employment	Pearson Correlation	.022	.022	-.718**	-.473**	-.732**	.022	.c	-.718**	-.732**	.c	-.123
	Sig. (2-tailed)	.854	.854	.000	.000	.000	.854	.	.000	.000	.	.309
	N	71	71	71	71	71	71	71	71	71	71	71
Maternity Patient	Pearson Correlation	.004	.004	.017	.069	.107	.004	.c	.017	.107	.c	.235*
	Sig. (2-tailed)	.971	.971	.889	.568	.376	.971	.	.889	.376	.	.048
	N	71	71	71	71	71	71	71	71	71	71	71
Qu1	Pearson Correlation	-.029	-.029	.943**	.367**	.567**	-.029	.c	.943**	.567**	.c	-.101
	Sig. (2-tailed)	.813	.813	.000	.002	.000	.813	.	.000	.000	.	.402
	N	71	71	71	71	71	71	71	71	71	71	71
Qu2	Pearson Correlation	-.029	-.029	1.000**	.367**	.567**	-.029	.c	1.000**	.567**	.c	-.072
	Sig. (2-tailed)	.813	.813	.000	.002	.000	.813	.	.000	.000	.	.550
	N	71	71	71	71	71	71	71	71	71	71	71
Qu3	Pearson Correlation	-.029	-.029	1.000**	.367**	.567**	-.029	.c	1.000**	.567**	.c	-.072
	Sig. (2-tailed)	.813	.813	.000	.002	.000	.813	.	.000	.000	.	.550
	N	71	71	71	71	71	71	71	71	71	71	71

Qu4	Pearson Correlation	-.016	-.016	.567**	.647**	1.000**	-.016	.c	.567**	1.000**	.c	.727**
	Sig. (2-tailed)	.893	.893	.000	.000	.000	.893	.	.000	.000	.	.000
	N	71	71	71	71	71	71	71	71	71	71	71
Qu5	Pearson Correlation	1	1.000**	-.029	-.010	-.016	1.000**	.c	-.029	-.016	.c	.004
	Sig. (2-tailed)		.000	.813	.931	.893	.000	.	.813	.893	.	.975
	N	71	71	71	71	71	71	71	71	71	71	71
Qu6	Pearson Correlation	1.000**	1	-.029	-.010	-.016	1.000**	.c	-.029	-.016	.c	.004
	Sig. (2-tailed)	.000		.813	.931	.893	.000	.	.813	.893	.	.975
	N	71	71	71	71	71	71	71	71	71	71	71
Qu7	Pearson Correlation	-.029	-.029	1	.367**	.567**	-.029	.c	1.000**	.567**	.c	-.072
	Sig. (2-tailed)	.813	.813		.002	.000	.813	.	.000	.000	.	.550
	N	71	71	71	71	71	71	71	71	71	71	71
Qu8	Pearson Correlation	-.010	-.010	.367**	1	.647**	-.010	.c	.367**	.647**	.c	.470**
	Sig. (2-tailed)	.931	.931	.002		.000	.931	.	.002	.000	.	.000
	N	71	71	71	71	71	71	71	71	71	71	71
Qu9	Pearson Correlation	-.016	-.016	.567**	.647**	1	-.016	.c	.567**	1.000**	.c	.727**
	Sig. (2-tailed)	.893	.893	.000	.000		.893	.	.000	.000	.	.000
	N	71	71	71	71	71	71	71	71	71	71	71
Qu10	Pearson Correlation	1.000**	1.000**	-.029	-.010	-.016	1	.c	-.029	-.016	.c	.004
	Sig. (2-tailed)	.000	.000	.813	.931	.893		.	.813	.893	.	.975
	N	71	71	71	71	71	71	71	71	71	71	71
Qu11	Pearson Correlation	.c	.c	.c	.c	.c	.c	.c	.c	.c	.c	.c
	Sig. (2-tailed)	.	.	.	.	.	.		.	.	.	.

	N	71	71	71	71	71	71	71	71	71	71	71
Qu12	Pearson Correlation	-.029	-.029	1.000**	.367**	.567**	-.029	.c	1	.567**	.c	-.072
	Sig. (2-tailed)	.813	.813	.000	.002	.000	.813	.		.000	.	.550
	N	71	71	71	71	71	71	71	71	71	71	71
Qu13	Pearson Correlation	-.016	-.016	.567**	.647**	1.000**	-.016	.c	.567**	1	.c	.727**
	Sig. (2-tailed)	.893	.893	.000	.000	.000	.893	.	.000		.	.000
	N	71	71	71	71	71	71	71	71	71	71	71
Qu14	Pearson Correlation	.c	.c	.c	.c	.c	.c	.c	.c	.c	.c	.c
	Sig. (2-tailed)	.	.	.	.	.	.	.	.	.		.
	N	71	71	71	71	71	71	71	71	71	71	71
Qu15	Pearson Correlation	.004	.004	-.072	.470**	.727**	.004	.c	-.072	.727**	.c	1
	Sig. (2-tailed)	.975	.975	.550	.000	.000	.975	.	.550	.000	.	
	N	71	71	71	71	71	71	71	71	71	71	71

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

c. Cannot be computed because at least one of the variables is constant.

health
Department of
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North West Province
REPUBLIC OF SOUTH AFRICA

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MAHIKENG PROVINCIAL HOSPITAL

To: Dr. Mshumje

From: Mrs. JCE Taljaard
Acting CEO
Mahikeng Provincial Hospital

Date: 26.11.2015

Subject: Permission to conduct a research

Kindly note that your letter was received and acknowledged.

This serves to inform you that your request has been approved.

Thank you

Ms. Taljaard JCE
Acting CEO

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Institutional Research Ethics Regulatory Committee
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ETHICS APPROVAL CERTIFICATE OF PROJECT

Based on approval by the **Human Resource Research Ethics Committee, Mafikeng Campus**, the North-West University Institutional Research Ethics Regulatory Committee (NWU-IRERC) hereby approves your project as indicated below. This implies that the NWU-IRERC grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the project may be initiated, using the ethics number below.

Project title: The quality of maternity services at Mafikeng Provincial Hospital in the North West Province.

Project Leader: **Prof SI Lubbe**
Student: **Dr M Mushunje**

Ethics number:

N	W	U	-	0	0	4	3	9	-	1	5	-	A	9
Institution				Project Number						Year			Status	

Status: S = Submission; R = Re-Submission; P = Provisional Authorisation; A = Authorisation

Approval date: 2015-10-20 **Expiry date**: 2018-10-20 **Category** N/A

Special conditions of the approval (if any): None

General conditions:

While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following:

- *The project leader (principle investigator) must report in the prescribed format to the NWU-IRERC:*
  - *annually (or as otherwise requested) on the progress of the project,*
  - *without any delay in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project.*
- *The approval applies strictly to the protocol as stipulated in the application form. Would any changes to the protocol be deemed necessary during the course of the project, the project leader must apply for approval of these changes at the NWU-RERC. Would there be deviated from the project protocol without the necessary approval of such changes, the ethics approval is immediately and automatically forfeited.*
- *The date of approval indicates the first date that the project may be started. Would the project have to continue after the expiry date, a new application must be made to the NWU-IRERC and new approval received before or on the expiry date.*
- *In the interest of ethical responsibility the NWU-IRERC retains the right to:*
  - *request access to any information or data at any time during the course or after completion of the project;*
  - *withdraw or postpone approval if:*
    - *any unethical principles or practices of the project are revealed or suspected,*
    - *it becomes apparent that any relevant information was withheld from the NWU-IRERC or that information has been false or misrepresented,*
    - *the required annual report and reporting of adverse events was not done timely and accurately,*
    - *new institutional rules, national legislation or international conventions deem it necessary.*

The IRERC would like to remain at your service as scientist and researcher, and wishes you well with your project. Please do not hesitate to contact the IRERC for any further enquiries or requests for assistance.

Yours sincerely

Linda du Plessis

Digitally signed by Linda du Plessis
DN: cn=Linda du Plessis, o=NWU, ou=Vaal Triangle Campus, email=linda.duplessis@nwu.ac.za, c=ZA
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Prof Linda du Plessis
Chair NWU Institutional Research Ethics Regulatory Committee (IRERC)

6632 Sethemi Street

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12th May 2016

CERTIFICATE OF LANGUAGE EDITING

TITLE OF DISSERTATION

Assessment of antenatal maternity service quality among patients at Mafikeng Provincial Hospital

SUBMITTED BY

Dr. Munyaradzi Mushunje

FOR THE DEGREE OF

MBA

(Master of Business Administration)

IN THE

Faculty of Commerce and Administration

North – West University

Mafikeng Campus

Has been edited for language and other technical details by:

Prof. S.A. Awudetsey

Prof. S.A. Awudetsey