RESEARCH REPORT

ON

THE CHALLENGES OF REDUCING MATERNAL MORTALITY
TANZANIA: A CASE OF MOUNT MERU REGIONAL-REFERRAL
HOSPITAL-ARUSHA

BY MACRINA SANKA

Research Report Submitted to the School Of Public Administration and Management (SOPAM) as a Partial Fulfillment of the Requirement of the Award of Master of Health Systems Management of Mzumbe University 2016.
CERTIFICATION

We, the undersigned certify that we have read and hereby recommend the acceptance for Mzumbe University a dissertation/entitled” The challenges facing the government of Tanzania in reducing of Maternal mortality. A case of Mount Meru regional referral Hospital Arusha in partial/ fulfilment of the requirements for the award of the degree of Master of Health Systems Management of Mzumbe University.

Signature

........................

Major supervisor

........................
DECLARATION

I, Macrina N. Sanka, declare that this report is my own original work, one that has not been submitted nor presented at any other institution of higher learning for a similar or any other award.

Signature .............................................

Date ...............................................
ACKNOWLEDGEMENT

I am very thankful to my Lord Jesus for empowering and selecting me to be among those who studied Health systems management here at Mzumbe University, without Jesus I could not make anything to fulfill my desire of doing this research of the heading challenges facing Tanzania in reduction of Maternal mortality. I can’t thank him enough.

I acknowledge my precious supervisor Mr. Amani Paul for his highly priced time to couch me during the whole process of doing my research from proposal to report writing. Without his criticism and supervision I could not make it, May the Lord Jesus bless him abundantly.

Deep and special heart felt appreciation goes to(father) Victor Sanka, man of God Christian Mwabukusi and Maria Musa for their prayers and word of encouragement throughout my studies.

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DEDICATION

This work is dedicated to my beloved daughters Anna, Audrey and my precious son Allen, with his friends Joseph and Ezron. Without their encouragement and moral support, it would not have been possible to complete this dissertation and my studies as well.

MAY GOD BLESS YOU PLENTIFULLY

AMEN....
ABSTRACT

Every day in Tanzania a substantial number of women may be reported to have died on complication related to pregnancy or child birth-related. This situation prompted the researcher to conduct a study at Mount Meru Hospital (MMH) as a case study in order to examine the challenges that the hospital is facing in the wave of realizing reduced maternal mortality. A total of 102 respondents who were selected by simple random sampling technique were interviewed to solicit their views on the study. The gathered data were quantitatively analyzed by using SPSS and qualitative by using theme-content analysis approach and quoting the actual words of speakers. Data revealed MMR at MMH to be lower than the national MMR, which is 251 deaths per 100,000 live births. In addition, the study found out MMR at MMH to be contributed by overcrowding referrals, insufficient number of skilled maternal attendants, insufficient blood supply as well as poor recorded attendances to antenatal and postnatal services including inadequacy of beds. Some patients’ expressed their concern on the quality of maternal health service provided at MMH as being satisfactory (59%). It is from this study findings that the researcher had to conclude that the requirement for more and serious efforts to improved health system, awareness on obstetric care to pregnant women and other stakeholders, Strengthening of National Blood Transfusion program and creation of good working environment among the health providers.
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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDs.</td>
<td>Acquired Immune Deficiency Syndrome</td>
</tr>
<tr>
<td>ANC</td>
<td>Ante Natal Care</td>
</tr>
<tr>
<td>BEMOC</td>
<td>Basic Emergency Obstetric Care</td>
</tr>
<tr>
<td>BP</td>
<td>Blood Pressure</td>
</tr>
<tr>
<td>C/S</td>
<td>Caesarian Section</td>
</tr>
<tr>
<td>CEmOC</td>
<td>Comprehensive Emergency Obstetric Care</td>
</tr>
<tr>
<td>DHS</td>
<td>Demographic Health Survey</td>
</tr>
<tr>
<td>EmOC</td>
<td>Emergency Obstetric Care</td>
</tr>
<tr>
<td>FANC</td>
<td>Focused Antenatal Care</td>
</tr>
<tr>
<td>GoT</td>
<td>Government of Tanzania</td>
</tr>
<tr>
<td>H/F</td>
<td>Health Facility</td>
</tr>
<tr>
<td>Hb</td>
<td>Hemoglobin</td>
</tr>
<tr>
<td>HIV</td>
<td>Humane Immune deficiency Virus</td>
</tr>
<tr>
<td>IEC</td>
<td>Information Education and Communication Interventions</td>
</tr>
<tr>
<td>IPD</td>
<td>Inpatient Department</td>
</tr>
<tr>
<td>MDGS</td>
<td>Millennium Development Goals</td>
</tr>
<tr>
<td>MMH</td>
<td>Mount Meru Hospital</td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>MOHSW</td>
<td>Ministry of Health and Social Welfare</td>
</tr>
<tr>
<td>MU</td>
<td>Mzumbe University</td>
</tr>
<tr>
<td>NEHP</td>
<td>National Health Package</td>
</tr>
<tr>
<td>NGOs</td>
<td>Non-Governmental Organizations</td>
</tr>
<tr>
<td>NIMR</td>
<td>National Institute of Medical Research</td>
</tr>
<tr>
<td>NPPERCHI</td>
<td>National Package of Essential Reproductive and Child Health</td>
</tr>
<tr>
<td>Obs &amp; Gyn</td>
<td>Obstetrics and Gynecology</td>
</tr>
<tr>
<td>OL</td>
<td>Obstructed Labor</td>
</tr>
<tr>
<td>OPD</td>
<td>Out Patient Department</td>
</tr>
<tr>
<td>PAC</td>
<td>Post Abortion Care</td>
</tr>
<tr>
<td>PNC</td>
<td>Post Natal Care</td>
</tr>
</tbody>
</table>
PPH - Postpartum Hemorrhage
PPP - Public Private Partnership
RCH - Reproductive and Child Health
SOPAM - School of Public Administration and Management
SP - Sulphadoxine Pyrimethamine
SPSS - Statistical Package for Social Sciences
STDS - Sexually Transmitted Diseases
STIS - Sexually Transmitted Infections
TT2 - Tetanus Toxoid
UN - United Nations
UNFPA - United Nations Population Fund
UNICEF - United Nations Children's Fund
UPT - Urine Pregnancy Test
WB - World Bank
WHO - World Health Organization
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CHAPTER ONE

INTRODUCTION

1.1 Background of the Problem

In 1987 the first international summit was conducted in Nairobi, which was called “Safe Motherhood Conference,” which emphasized the problem of maternal mortality worldwide by reducing maternal mortality by half in one decade (Mahler, 1987). This summit set strategies for achieving this particular goal by making family planning available, by providing prenatal care and skilled health providers and making sure that emergency obstetric care is available.

After the first summit, in 1990’s many conferences were conducted including the World summit for Children in 1990 and the World Conference for women in 1995 that focused on reducing maternal mortality. In 2000 the United Nation adopted the Millennium Development Goals (MDGs). In 2001 (MDGs) were articulated, specifically MDG 5 which was targeted for three-quarters reduction of maternal mortality ratio (MMR) from 1990 and 2015 (UN, 2001).

According to WHO (2012), an average of 800 women die daily due to pregnancy related complications worldwide whereas 99% of all deaths these occur in developing countries. More than half have been registered in the sub-Saharan Africa and in South Asia. However, due to various interventions particularly those, which were, administered between 1990 and 2010 that is access to family planning and better health care, maternal deaths have been halved worldwide. Nevertheless, MMR is still high in many developing countries particularly Tanzania and has yet continued to be of global concern (Prata et al., 2010).

A report by the World Bank of 2014 shows that in the year 2013 alone, 289,000 women died during pregnancy and delivery due to lack of skilled emergency care. Most of these deaths occurred in developing countries, Tanzania inclusive, due to high fertility rate, poor infrastructure and low income (poverty). Over a quarter of pregnant girls and women cannot access family planning, which result, to increased
unplanned pregnancies, unsafe abortions and spreading of HIV and other STDs (World Bank, 2010).

Recently there has been an increased attention on maternal mortality in developing countries. Several global accepted interventions targeted at maternal reduction have been launched but still tremendous challenges are faced in its implementation. These challenges are brought by some factors such as shortage of financial resources, human resources and limited political commitment (Prata, 2010).

The main causes of maternal mortality as reported by WHO are hemorrhage, abortion, indirect causes, hypertensive disorder, obstructed labor, infection/sepsis, and ineffectiveness of delivery procedures (WHO 2013). The recommendation by WHO is that, there should be four facilities with basic emergency health care and one with comprehensive obstetric care but this recommendation for Tanzania is not yet achieved (Angela and Judith, 2011).

Different initiatives have been put in place by different international forums, which required individual nations’ response towards minimizing maternal deaths. In Tanzania some of these initiatives including, increased skilled delivery, maternal deaths audit, integration of different programs including family planning, malaria interventions, expanded programs on immunization, adolescent and nutritional health programs and increased facilities with emergency obstetric care (Angela and Judith, 2011).

Consequently, this study aimed at identifying the challenges that hinder the achievement of reduction of maternal mortality rate in Tanzania. An attempt will be made to look on challenges that every intervention as well as measures taken by the government, NGO’s multinational organizations, international organizations in maternal health aspects to make sure that on reaching the end of 2015, maternal mortality rate in Tanzania is scaled down, however MDG+ or One Goal approach has been launched for the MDG that has not successfully been achieved. A 2013 evaluation that was made by WHO revealed that only 45% reduction of the world’s maternal death of women aged 15-49 has been achieved, whereby the southern and
eastern Asia have made the greatest achievement in reducing maternal mortality 64% and sub Saharan Africa only reduced by 49% (WHO, 2013).

1.2 Statement of the Problem

The millennium development goal number 5 (MDG5) had its target on reduced maternal mortality rate by three quarter (75%) between 1990 and 2015 in the developing countries. Specifically, Tanzania was required to reach the MMR of 230 per 100,000 live births by 2015. However, this goal was not achieved because in 2015 the country had reduced MMR from 910 per 100,000 live births in 1990 to 410 per 100,000 live births (WHO, 2015). Without doubt, the country took a number of interventions including Focused Antenatal Care, obstetric care, post natal care, family planning, prenatal care, immunization care and nutrition care, skilled care during child birth as well as post natal care. These interventions were in addition to strategies that were geared toward ensuring the availability of trained health personnel at each birth such as Medical doctor, nurse or midwife despite the number of maternal related deaths are still being reported every day. Therefore this study intended to examine the challenges that MMH faced in the wave of ensuring that MMR is being reduced.

1.3 Objective of the Study.

1.3.1 General Objectives

The main objective of this study was to examine the challenges facing MMH in its efforts to reduce maternal mortality rate

1.3.2 Specific Objectives

i. To determine the causes of maternal mortality at MMH

ii. To find out the challenges faced by the hospital in addressing the identified interventions and strategies for reducing maternal mortality at the hospital.

iii. To determine the interventions the management of Mount Meru Referral Hospital to reduce the rate of maternal mortality has adopted that.
iv. To assess the quality of maternity health care offered at MMH
v. To recommend on ways to reduce maternal mortality at MMH

1.3 Research Questions

1. What are the main causes of Maternal Deaths at Mount Meru Hospital?
2. What are the challenges faced at Mount Meru hospital in particular in the implementation of these interventions of reducing maternal mortality rate?
3. What are the main interventions and strategies adopted by Tanzania government that are practiced at Mount Meru Hospital to reduce maternal mortality and what is their effectiveness?
4. What is the quality of maternity health care offered at MMH?
5. What should be done to reduce maternal mortality at MMH?

1.4 Significance of the Study

This study provided valuable information on the challenges of reducing maternal mortalities in Tanzania as well as a partial fulfillment of the requirement for the award of a degree of Masters of Health Systems Management of the Mzumbe University. This critical information provided recommendations to policy makers on how maternal mortality can be addressed. Finally study adds value to the body of knowledge through publication in the area of public health.
CHAPTER TWO

LITERATURE REVIEW

2.1 Theoretical Literature

This study is guided by three delays. The model by Maine 1991 has been used to explain pregnancy related mortality. These delays are divided into; deciding to seek appropriate medical care, delay in reaching an appropriate obstetric facility and delay in receiving adequate care when a facility is reached.

2.1.1 Phase 1: Delays in Decision to Seek Care

The first part of delay lies upon mother, family and the community by not identifying a life-threatening situation. This is because it is not easy to recognize an emergency as death may occur within 24 hours postpartum. Considering births which occur at home under the supervision of unskilled attendants it becomes difficult to predict bad outcomes due to lack of important medical knowledge. Until the time a midwife recognized the existence of a problem it is too late (UNFPA, 2002; WHO, 2008). Prenatal visits are important for monitoring compromising health conditions while special solutions are prescribed and interventions are laid down by health care providers. According to journal of “late or No Prenatal care” published in Spain 2015; mothers who receive late or no prenatal care are more vulnerable to maternal complications or mortality during delivery and likely to have babies with health problems. A research by Kilewo(2006) justifies that failure to access emergency care during complications is a determinant of high mortality deaths in developing countries. Furthermore, earlier research explained some causes of the delay to seek care as socio-economic status of women. In most African countries women have been put down especially in all economic, social, cultural and political aspects even in right the to reproductive health. There are a lot of disparities in male-female health and well being in most sub-Saharan countries (Gupta, 1987). Bloom et al, (2001) described low status of women in developing countries as lack of autonomy. In sub-Saharan Africa the autonomy of women is forbidden especially in the matters of
access and use of health care. For instance, several studies found out that there was lack of autonomy for women in aspects like the use of contraceptives/ family planning uptake, maternal health, education and this is where women health seeking behavior has been affected negatively.

Decision-making involves women’s own assessment and communication to the household members and these are compared to limited resources and other limiting factors (Bloom, 2000). A woman’s autonomy is based on freedom to movement (physical wellbeing, transport, seeking health care whenever it is), her education level which influences health care seeking behavior, relations with household (age hierarchy and links with natal kin in supporting pregnancy). When a pregnant woman lacks enough autonomy, then her status economically, physically and in the matter of decision to seek care in time of pregnancy will be compromised; the situation whereby a first delay is considered as a factor that necessitates future delivery complications and being susceptible to maternal mortality. A study conducted in Nepal that showed women with autonomy are significantly likely to deliver at facilities compared to those with little autonomy. Women with higher income are twice likely to use antenatal care than poor ones and are more likely to know the state level of information on fertility, family planning uptake and nutrition, which are the essential services during pregnancies.

2.1.2 Phase 2: Delay to Reaching Care

The literature suggests that the second delay in reaching better health services may be caused by poor road conditions or remote areas. In Tanzania, most of the villages do not have good roads, which can facilitate the availability of vehicles in case of emergency. The public transport may be the only way, which means that pregnant women can take a very long time to reach a health care. Nawal (2008) mentions also other delay factors including physical accessibility factors like distribution of facilities, travel time from home to a health facility, availability and cost of transport and condition of roads.
Geographical coverage of health facilities especially with emergency obstetric care in developing countries is very limited. In sub-Saharan Africa and Asia-Pacific regions, high maternal mortalities are occurred due to obstacles to access EmOc that contribute to thesecond delay such as long distances and geographical conditions like terrain surface, hills, mountains, valley availability and cost of transport. In these regions a woman can bleed to death if she does not receive timely health facility (Maine, 1994). Unlike sub-Saharan Africa countries, Tanzania inclusive; in Sri Lanka and Malaysia, second delay has been addressed through multi-sectoral approach. Improving transport and referral systems did this.

Assessment of maternal and prenatal deaths in Africa and Asia revealed that the second delay contribute considerably to maternal mortality especially in rural areas. Many deliveries occur outside the hospital due to lack of transportation or long distances to health care facilities (Chiphangwi et al., 1992).Facilities with CEmOC are either not nearby to the most low community areas or not distributed (to hard) to reach areas. Addressing the ‘second delay’ needs to ensure that pregnant women are supported to move near CEmOC before the onset of labor complication, (Elissa, 2010).

Table 2.1 Estimates of the Average Time From Onset Of Obstetric Complications to Death of Pregnant Woman

<table>
<thead>
<tr>
<th>COMPLICATIONS</th>
<th>TIME</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours</td>
<td>Days</td>
<td></td>
</tr>
<tr>
<td>Hemorrhage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Postpartum</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ante partum</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ruptured uterus</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Eclampsia</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Obstructed labor (OL)</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Infection</td>
<td></td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Source: Maine, (1994)
2.1.3 Phase 3: Delay in Receiving Adequate Health Care.

This occurs when a pregnant woman is in a health care center. When the women reach a health facility they receive inefficient health services. Countries with poor resources like Tanzania and with poor health facilities do not have the technology to deal with critical condition such as hemorrhaging or seizing patients. Poor facilities, inadequate trained, poorly motivated staff and inadequate referral systems are the factors that explain this model of delay in receiving adequate maternal care. Delay in receiving maternal care may result into increased numbers of maternal deaths (Paul and Judith, 1991). Normally the relation between the causes of maternal deaths and third delay include: Delay in getting blood, Delay surgery, substandard care (omission in or incorrect treatment) and Failure of communication.

Figure 2.1 Three delay model;

![Figure 2.1 Three delay model](image)

Source: Maine (1994)
Considering delay model it can be observed that any delay in both phases can lead to death, hence it is important to deal with all delays. There is a need to improve referral systems so as to allow for communities with CEmOC services to reduce mortality in developing countries (Maine, 1994).

2.3 Maternal Mortality Rate in Tanzania

UNICEF (2010) in their Fact sheet on Maternal and child health found out that maternal mortality is associated with high birth rates and low position of women in the society. More than 40% of the women in Tanzania are not involved in decision making regarding their health. The average birth rate in Tanzania is five to six children, one of three women begins to bear children before 18 years. In this case, a woman can bear many children having shorter spacing between pregnancies, which is a risk for maternal mortality.

2.3.1 Maternal Mortality in Arusha

Arusha region is among the regions in Tanzania mainland with high MMR 565 deaths per 100,000 live births, among the causes linked with these deaths for instance in the year 2014/15 the cases of maternal deaths were caused by Antepartum hemorrhage, postpartum-hemorrhage unsafe abortion, eclampsia, pulmonary embolism, aspiration pneumonia, intrauterine fetal death, ruptured ectopic pregnancies, acute lymphoma, anesthesia complications, HIV/AIDS, plural infusions, diabetic in pregnancy, renal failure, Mount Meru risk clinic data extracted by the researcher (2015).

2.3.2 Causes of Maternal Mortality in Tanzania

According to NIMR (2011) one woman has a possibility of dying among 12 women due to pregnancy compared to Northern Europe that is one in 4000 (FHI, 2007). Majority of the pregnancy complications cannot be predicted hence timely diagnoses under the supervision of skilled health workers is very important to avoid any possible complications (Campbell et al, 2006). Maternal mortality is caused by
different factors which can be categorized as; direct causes, indirect causes and underlying causes.

### 2.3.3 Major Direct Causes

Direct causes are linked to obstetric complications and are responsible for more than half of all maternal mortalities (Shija et al., 2011). Lack of access to reproductive services increases the risks of getting unwanted pregnancies. It has been reported that most of maternal deaths occur around peri-natal stages; from labour to delivery or in the immediate postpartum period due to the exposure of direct causes (Fotso et al., 2008).

**Table 1.2 Direct Causes of Maternal Deaths in Tanzania, 2006**

<table>
<thead>
<tr>
<th>Cause</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemorrhage</td>
<td>28%</td>
</tr>
<tr>
<td>Unsafe Abortion</td>
<td>19%</td>
</tr>
<tr>
<td>Eclampsia</td>
<td>17%</td>
</tr>
<tr>
<td>Other causes</td>
<td>14%</td>
</tr>
<tr>
<td>Obstructed labor</td>
<td>11%</td>
</tr>
<tr>
<td>Infections</td>
<td>11%</td>
</tr>
</tbody>
</table>

**Source:** Fact Sheet Maternal and Child Health, UNICEF 2010: Tanzania

#### 2.3.3.1 Post-Partum Hamorrhage (PPH)

Hamorrhage means excessive bleeding that is difficult to stop and may lead to death. PPH is the major contributor of maternal death all over the world having a prevalence rate of 6%. It amounts for more than 30% of all maternal deaths in Africa and Asia (Khan et al., 2006). Uterine atony is the common cause of PPH. Normally, contraction of uterine muscles compress blood vessels and reduces flow which results to coagulation that prevents bleeding. Tanzania health system faces many challenges that hinder the delivery of EmOC, which is important for saving lives of women who develop PPH. On the other hand anemia in women worsens PPH since little bleeding on a woman with anaemia can lead to death. In order to manage PPH
and prevent death it is important to make sure that every delivery takes place under the supervision of a skilled heath provider.

2.3.3.2 Obstructed Labor (OL)

Obstructed labor is a condition whereby the foetus can no longer progress into the birth canal regardless the uterine contraction AbouZahr, (2003). The common cause of this situation is the mismatch between the foetal head and maternal pelvic brim whereby the head of the foetus may be larger compared to the pelvic brim. According to the British Medical Bulletin (2003) OL is a major cause of maternal mortalities for women with under nutrition in childhood. This results to small pelvis and in areas where there are poor health services of conducting operative delivery it can lead to death. On the other hand, OL can lead to long-term illness such as fistula. In 1987 WHO launched the safe motherhood initiative to reduce maternal mortality by 50% by the year 2000. This initiative did not succeed and maternal health continues to be the main objective of WHO efforts. Many deaths from this complication result from the rupture of uterus and mainly associated with prolonged labour (Lancet, 1994).

2.3.3.3 Unsafe Abortion

Unsafe abortion is a process of terminating an unwanted pregnancy under the environment lacking medical standards (WHO, 2005). Worldwide, one pregnancy out of ten ends in unsafe abortion and almost all of these abortions are conducted in developing countries. Abortions take place in developing countries and this is where 99% of maternal mortality occurs. An estimation conducted by UNICEF, UNFP and WHO in 2004 showed that 529 000+ women die from pregnancy related complications every year and (13%) of all deaths are the result of unsafe abortion. Most of the deaths which resulted from unsafe abortions took place among the women with less than 25 years (WHO, 2004). In Tanzania induced abortion is only allowed when a pregnancy is a risk to a woman’s life (WAL, 2008). Due to its illegal nature, some girls and women can manage to pay private physicians to perform abortion. Those who cannot afford it tend to try to abort on their own or by using
traditional methods. These traditional methods include sustained and vigorously
sexual intercourse for long periods, taking large doses of medicine such as ant-
malaria, prolonged massage to manipulate the uterus. WHO, (2004) reported that
about 50% of the women who had unsafe abortion underwent complications that
needed medical attention.

2.3.3.3 Disorders (pre-eclampsia/eclampsia)

Pre-eclampsia contributes about 12% of maternal mortality (Steegers et al., 2010). It
is associated with hypertension, protein in the urine and rapid weight gain. This
circumstance happens only during pregnancy and after pregnancy. However, this
complication can be identified during clinic visits by monitoring blood pressure and
tracing protein in urine. If the condition is not diagnosed, it can lead to eclampsia
which might lead to the death of mother and child (Duley, 2009). During the past 50
years, there has been a significant reduction in the rate of eclampsia in developed
countries. When compared to developed countries, the rate of eclampsia in developing
countries is still high. This difference may be explained by access to
parental care, lack of skilled staff to manage patients with eclampsia in developing
countries. Proper management and early detection of hypertension in pregnancy are
required for better maternal outcomes (Duley, 2009). In 2008 a criteria-based audit
on the management of eclampsia patients in a tertiary hospital in Dar es-salaam,
Tanzania, showed the death rate for eclampsia to be 5.77%. This was slightly higher
compared to the study done in the same hospital by Urassa et al (2006) which found
out the case fatality rate to be 5%. Early detection of the disorder is of prime
importance so as to institute proper treatment to the pregnant women. However,
diagnosing of pre-eclampsia is not easy as the symptoms manifest late. The criteria
for diagnosing pre-eclampsia include raised blood pressure 140/90mmHg or higher,
proteinuria of more than 300mg in 24 hours urine (Fortner, 2007). Table 3 below
gives the interventions that are recommended for the prevention or treatment of pre-
eclampsia and eclampsia.
2.3.3 Interventions to Reduce Maternal Mortality Rate in Tanzania

One of the objectives of this study is to identify the interventions that Tanzania government has adopted to fight against high maternal mortality rate. In this chapter these interventions are described according to different literatures, guidelines and researches.

2.3.3.1 Family Planning, Information Education and Communication

Family planning is the most effective way to prevent fertility-associated risks. It can prevent pregnancy, hence minimizes the extent of maternal mortality due to induced unsafe abortion. Likewise, health education should be provided to the community in order to generate the need for utilization of health services such as family planning and the medical services. It is in this where pregnant women get communicated and alerted about the risks signs, symptoms and complications that may occur during pregnancy or delivery.

2.3.3.2 Antenatal Care

Antenatal care gives a chance to pregnant women to get health services such as counseling, education as well as treatment that ensure the wellbeing of mother and child (Osungbade, 2008). It has been realized that when ANC is acquired early during pregnancy until delivery it reduces the chances of women to risks (Nyamtema et al, 2011). The country has implemented the recommendations from WHO of having not less than four ANC visits for the whole period of a woman’s pregnancy (MOH, 2011). The recommendations further suggest that during ANC a woman should be checked blood pressure, weight gain, fundal height, testing of urine for albumin and sugar as well as foetal movements or heart rate assessment. Further tests for a woman such as HIV status, blood group and Rhesus factor are suggested at least once. According to Mathews et al., (2001), it was revealed that, ANC does not only help to identify pregnancy risks such as malaria and hypertension, it also offers better information on identifying dangerous signs and what to do in case of emergency.
CHAPTER THREE

RESEARCH METHODOLOGY

3.2 Research Design

A research design is a logical and systematic plan prepared for directing a research study on how to set objectives, the methods of data collection and methods of achieving specific objectives (Kothari, 2004). The researcher used a case study design because the studied area is very small and it involves a deep investigation of a single unit in a single organization to get the required data to the study. This mode is cost-effective in both time and funds. In addition it's more flexible.

3.3 Study Area

The study was conducted at Mount Meru Regional Hospital in Arusha for the purpose of getting the information on the challenges facing reduction of maternal mortality rate in developing countries. The hospital was built in 1926 as a military hospital for treatment of causalities in the First World War during Germany colonial in Tanganyika. Since then it has remained as a regional hospital. The hospital now serves more than 1.6 million residents of Arusha and other visitors who come to Arusha for various reasons.

The hospital is the regional referral hospital which has a capacity of 450 beds. There are several clinical departments, which include Internal Medicine, Surgical, Radiology, Pathology, Obstetrics and Gynecology, Mental Health, Pediatrics, Anaesthesia, Ophthalmology, Dentist, Physiotherapy and Pharmacy. According to the Health care delivery system of Tanzania, the Hospital is a 2nd level referral Hospital. It serves 18 other smaller district hospitals scattered all over the region. The hospital is a public institution that is fully owned by the government. Major financing comes from the central government from its annual budget. Other sources of financing include a cost sharing scheme, the national health insurance fund and a scheme known as the basket fund. Mount Meru hospital typically attends more than
500 patients per day on an outpatient department basis and admits 250-290 patients per day.

3.4 Study Population

According to Collis and Hussey (2003) a study population is a defined set of people or collection of items which is under consideration. In this study the targeted population was pregnant women at Mount Meru Hospital. The aim was to identify pregnancy related risks and behaviors that may endanger their lives to maternal mortality that was be a basis for identifying challenges in reduction of maternal deaths. Also Hospital employees especially of RCH/risk clinic, Obstetric department, OPD, Gynecology department were interviewed in the study to give their experience and relevant information on the problem under investigation.

3.5 Sample Size and Sampling Technique

3.5.1 Sample Size

According to Collis and Hussey, (2003) a sample is a subset of a population and should represent the main interest of the study. When selecting the sample size the level of accuracy and precision was taken into account.

3.5.2 Sampling Technique

The study used both probability and non-probability sampling. Probability sampling used random sampling in order to ensure that each unit has an equal chance of being selected. In this study probability sampling was used due to availability of the target population (pregnant women attending ANC as well as PNC). The probability sampling used were simple random sampling, and systematic sampling. On the other hand, non-probability sampling used in this research was convenient sampling whereby respondents were selected because of accessibility and proximity to the researcher. The individual within the sampling frame that happened to be available at the time of data collection was selected and included in the study (Table 3.1).
Convenient sampling was used to the employees, inpatients and outpatients during the time of collecting data.

**Table 2.1 Selection of Sample According to Study Population Categories**

<table>
<thead>
<tr>
<th>Target population by category</th>
<th>Total no</th>
<th>Sample size</th>
<th>Sampling technique</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital administration</td>
<td>4</td>
<td>3</td>
<td>Purposive sampling</td>
<td>75%</td>
</tr>
<tr>
<td>Obstetrician &amp; gynecologists</td>
<td>2</td>
<td>2</td>
<td>Convenient sampling</td>
<td>100</td>
</tr>
<tr>
<td>Doctors/physicians</td>
<td>33</td>
<td>8</td>
<td>Convenient</td>
<td>25%</td>
</tr>
<tr>
<td>Nurses</td>
<td>117</td>
<td>29</td>
<td>Convenient</td>
<td>25%</td>
</tr>
<tr>
<td>Pregnant women (ANC)</td>
<td>60</td>
<td>30</td>
<td>Simple random sampling/convenient</td>
<td>50%</td>
</tr>
<tr>
<td>Women attending PNC</td>
<td>60</td>
<td>30</td>
<td>Simple random sampling</td>
<td>50%</td>
</tr>
<tr>
<td>Total</td>
<td>276</td>
<td>102</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: By a Researcher, 2016

### 3.6.1.1 Interview

This is a systematic conversation between a researcher and respondent(s) for the aim of obtaining relevant information regarding the specific objectives (Krishnaswami, 2002). It involves gathering of information from respondents, which helped the researcher during the study. Young, (2001) pointed out the advantages of this method, which includes flexibility that creates a permissive environment especially during investigation.

The researcher used this method to gather information from the employees at Mount Meru Referral Hospital on the challenges facing reduction of maternal mortality rate at the hospital and also a researcher used interview for Mount Meru administration personnel to get some of the information that are very specific to human resource for health personnel shortage and medical supplies challenges. In this tool the researcher was guided by the interview guide.
3.6.1.2 Questionnaire

According to Kothari (2004) a questionnaire is a tool of gathering information in form of questions whereby the researcher used those questions to get information from the respondents. The researcher constructed questions and distributed them to the respondents. In closed-ended questions, the researcher provided the list of relevant answers to a respondent which he/she selected one of the alternative possible answers. In open-ended questionnaires the respondents provided the answer in their own words. The researcher used a questionnaire in this study because it saves time by collecting information from many respondents at once. Likewise, it provides well thought answers from the respondents and gives an opportunity to participate on the study especially to those people who fear to be known that they provided certain fact which is the weakness caused by the organization, community or even the government itself, therefore it gives the respondents a substantial autonomy to give out any information concerning the study.

3.6.1.3 Observation

Direct observation is a method of data collection in which information is sought by way of investigator’s (researcher) own direct observation without asking questions from respondents (Kothari, 2004). The researcher in this study used observation method to get data based on quality of obstetric services at mount Meru hospital that are targeted to reduce maternal mortality rate. Also, observation was used for pregnant women especially to know how they were treated and the way they receive and perceive the maternal health care when they visit the service center. This enabled the researcher to identify some of the factors that may hinder maternal health seeking behaviors of pregnant mothers. In this case the researcher used participatory and non-participatory method of observation by observing how the day-to-day mortalities at the hospital and the different challenges involved.
3.6.2 Secondary Source

Secondary data means data that have been collected and analyzed by someone else, which may be published or unpublished (Kothari, 2008). Abundant data on the challenges facing the reduction of maternal mortality rate in developing countries exist. The researcher utilized secondary data by going through both published and unpublished information by looking into various sources from where data are obtained. In this case the researcher used different books, research reports and policies. The information collected from secondary sources helped the researcher to increase knowledge on the challenges facing efforts of reducing maternal mortality particularly in Mount Meru Referral Hospital. The researcher kept in mind reliability, suitability and adequacy of data in the study before using secondary data.

3.7 Data Analysis and Presentation

The term analysis refers to the computation of certain measures along with searching for patterns of relationship that exist among data groups. The data and information collected in this study was presented in both qualitative and quantitative methods with the aid of software like Microsoft Excel and SPSS. The process of analysis implies editing, coding, classification and tabulation of collected data so that they are amenable to analysis (Kothari, 2008). The researcher used both qualitative and quantitative methods to analyze data. This enabled the researcher to interpret the data collected and ultimately make necessary recommendation and conclusions.

3.8 Ethical Consideration

Before conducting the study, official permission was sought from the Medical Officer in charge and the hospital health secretary of Mount Meru hospital in order to meet the official recognition and support for the information that would be included in this study. Regarding questionnaires they did not contain names or any other indication that may expose the respondents. The respondents were briefed on what the study is all about and definitely accepted to participate. The data and results that were obtained from this study was be communicated back to the management of the hospital as a feedback and will not be disseminated elsewhere without prior note to the Hospital in case of any need for publication.
CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 The Trend of Maternal Mortalities at MMH

The trend shows rises and falls of the number of maternal deaths. The results show that a total of 431 maternal deaths occurred in the past fifteen years, which is equal to 1.59% of the total deliveries (Table 4.1). Therefore, Maternal Mortality Ratio (MMR) at MMH was found to be 251 deaths per 100,000 live births. This means that for every 1,000 live births at MMH in the fifteen years preceding the 2015 about 2 women died of pregnancy related causes. Nevertheless, MMR at MMH was observed to be lower than national MMR. The MMR for Tanzania was estimated to be 432 deaths per 100,000 live births (TDHS 2012). Generally, this means that about 4 women died in Tanzania in every 100,000 live births.

Table 3.1 Trend of Maternal Mortality at MMH from 2000-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Total deliveries</th>
<th>Maternal Mortalities</th>
<th>% of Maternal Mortalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-2002</td>
<td>27,884</td>
<td>96</td>
<td>0.34</td>
</tr>
<tr>
<td>2003-2005</td>
<td>30,643</td>
<td>87</td>
<td>0.28</td>
</tr>
<tr>
<td>2006-2008</td>
<td>34,190</td>
<td>95</td>
<td>0.28</td>
</tr>
<tr>
<td>2009-2011</td>
<td>33,206</td>
<td>56</td>
<td>0.17</td>
</tr>
<tr>
<td>2012-2014</td>
<td>30,567</td>
<td>74</td>
<td>0.24</td>
</tr>
<tr>
<td>2015</td>
<td>8,295</td>
<td>23</td>
<td>0.28</td>
</tr>
<tr>
<td>TOTAL</td>
<td>164,785</td>
<td>431</td>
<td>1.59</td>
</tr>
</tbody>
</table>

Source: Mount Meru Hospital, Reproductive and Child Health Department
4.2 Causes of Maternal Mortality at MMH

The findings from this study revealed several causes of maternal deaths at MMH. These causes were categorized into direct, indirect and underlying determinants. The result shows that direct causes contributed to 59% of the reported maternal deaths. Similar results have been reported by (Shija et al., 2011) where it was found out that direct causes are responsible for more than half of all maternal mortalities. Indirect causes accounted to (27%) and finally by underlying determinants (14%) (Table 4.2).

Table 4.2: Categories of Causes of Maternal Mortalities

<table>
<thead>
<tr>
<th>Causes of maternal mortality</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct causes</td>
<td>257</td>
<td>59</td>
</tr>
<tr>
<td>Indirect causes</td>
<td>115</td>
<td>27</td>
</tr>
<tr>
<td>Underlying determinants</td>
<td>59</td>
<td>14</td>
</tr>
<tr>
<td>TOTAL</td>
<td>431</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field survey, 2016

4.2.1 Direct Causes of Maternal Mortality

Based on the findings of this study it was observed that Post-Partum Hemorrhage (PPH) was the leading cause of maternal deaths among direct causes followed by eclampsia and unsafe abortion (Figure 2). PPH is the single and most important cause of maternal mortality, which contributes about 35% of all maternal deaths (WHO and UNICEF, 2012). Normally, hemorrhage at or just after the delivery is more likely to be fatal in women who are already anemic during or before the pregnancy (WHO, 2009).

In this study it was found out that among the direct causes eclampsia led to 37% of maternal deaths (Figure 2). Eclampsia is very fatal for both mother and foetus especially in the late stages of pregnancy when not treated with specific medical intervention (Pierre et al., 2012). Based on the narrations from the health providers it was found that most of the women with eclampsia were identified very late. They
further explained that, in most of the time when pregnant women go for antenatal services in dispensaries they do not receive proper health care. In remote areas vital aspects such as measuring blood pressure and urine testing are not performed and thus women with hypertension are not early detected in order to be treated or referred to high-risk clinic. Ultimately, the problem becomes critical in the late stages of pregnancy that is sometimes too late to be handled.

In Tanzania, abortion is illegal but this study found it among the direct causes of maternal mortalities (11% of direct causes) (Figure 2). Globally, unsafe abortions contribute to 13% of the overall maternal deaths while in Africa it accounts for more than 20% where most of them are teenagers. The illegal nature of abortion in Tanzania prompts it to be conducted by people lacking the necessary skills and poor health environment (Rogo et al., 2006). According to the respondents, it was revealed that patients with abortion complications were brought very late at MMH and they died as a result of sepsis and hemorrhage due to poor management. Nieburg, 2012 reported that, in places where abortion is illegal like Tanzania, most of the abortion related deaths are likely to be underreported and thus underestimated. Therefore, the scale of unsafe abortion may be unknown and possibly contributes to more maternal deaths. The least causes of maternal mortality among the direct causes at MMH were found to be ruptured ectopic pregnancies (4%), obstructed labour (4%) and others (Pulmonary embolism and anaesthetic complications) (5%) (Figure 4.1).
4.2.2 Indirect Causes of Maternal Deaths

Among the indirect causes, malaria accounted for (30%) followed by anemia (26%) and HIV (24%) (Figure 3). Generally, women are more susceptible to HIV infection biologically, economically and socially and the effects of infections can be worsened during pregnancy (Lule et al., 2005). Women infected with HIV before or during their pregnancies are vulnerable to other infections that are fatal to their unborn children and to their own health. These infections become more critical especially during the pregnancy and ultimately expose them to maternal mortality. The study conducted by Ahmed et al., 2003 in Zambia indicated that AIDS-associated opportunistic diseases contribute significantly to maternal mortality. The discussion with the health providers at MMH portrayed that most of the HIV-maternal deaths occurred because the patients were HIV stage four whereby a patient is very weak to survive pregnant related complications.

Similarly, malaria infection during pregnancy is a challenge especially in tropics and subtropics (Lule et al., 2005). This is because pregnancy alters a woman’s immune status, especially at the mother-foetal interface at the placenta, making her more
susceptible to malaria as well as to other infections (Sappenfield et al., 2013). During pregnancy, malaria is fatal to mothers as it can lead to spontaneous abortion, stillbirth, and prematurity (Brabin et al., 2006). The interview with gynaecologist at MMH showed that severe malaria during the pregnancy might lead to severe anaemia, which could reduce the chances of survival from haemorrhage.

Moreover, deficiency of haemoglobin among the pregnant women was another indirect cause of maternal mortality. This complication exposes them to maternal death even for the loss of small amount of blood during delivery and post-partum (Lule et al., 2005). More than 50% of pregnant women are anemic in developing countries (WHO, 2007). The major causes of anaemia have been reported to be malnutrition, hookworm and HIV (Brabin et al., 2006).

Figure 4.2 Reported Indirect Causes of Maternal Mortality at MMH

![Figure 4.2 Reported Indirect Causes of Maternal Mortality at MMH](image)

**Source:** Field survey, 2016

### 4.2.3 Underlying Determinants of Maternal Mortality

The findings from this study show that underlying determinant contributed to 14% of the reported maternal deaths at MMH. Among the underlying factors is delayed diagnosis. Failure to diagnose a sensitive matter like pregnant-related complications has led to inappropriate treatment among many women and ultimately results to maternal death The cause of the third delay at MMH was reported by health
providers to be lack of enough skilled heaths attendants, referral overcrowding and lack of enough supplies for delivery.

Complications arising after home delivery contributed to (28%) of all underlying determinants. In Tanzania more than half (51%) of all deliveries take place at home despite of high attendances (96%) of pregnant women to antenatal clinic (TDHS, 2010). The interview with gynecologist of MMH revealed similar observation as he reported that more than half of all deliveries take places at home. He further added that several delivery complications might arise under this circumstances that is difficult to address under the supervision of unskilled attendants. One of the health providers narrated that; “When someone delivers at home and maybe suffers from haemorrhage or eclampsia it is not possible for unskilled attendants to manage such complication which will eventually lead to maternal mortality”.

On the other hand, delayed decision at family level was also found to have an impact on the maternal mortality at MMH (13%). Based on the literature, this is the first delay and it depends much on the knowledge on the pregnancy-related risks and ability to access the resource of the family (Lule et al., 2005). Poor families with limited information and resource tend to delay decision-making or to make appropriate decisions when complications arise (Pembe, 2009). The health providers at MMH reported to receive women with pregnancy complications brought in critical stages due to delayed decision at family level as a result of low poor understanding of pregnancy risk indicators.

Furthermore, the findings indicated that inadequate blood in the lab (9%) and long distance from the time of complication to appropriate health facility (8%) to be the least factors among the underlying determinants of maternal mortalities at MMH. Distance is an obstacle in accessing maternity health care to many rural communities as some of them may be found in areas with very poor infrastructure. The health providers acknowledge few cases of maternal mortality resulted from lack of blood in the lab (Refer section 4.3)
4.3 Challenges Faced by MMH in Addressing Maternal Mortality

Based on the results obtained from this study, several challenges were identified to be faced by MMH in addressing maternal mortality (Table 4.3).

Table 4.3 Reported Challenges Facing MMH in Addressing MMM

<table>
<thead>
<tr>
<th>No</th>
<th>Challenges</th>
<th>Frequency of responses (n=32)</th>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Referral overcrowding</td>
<td>31</td>
<td>97</td>
</tr>
<tr>
<td>2</td>
<td>Inadequate number of skilled maternity attendants</td>
<td>29</td>
<td>91</td>
</tr>
<tr>
<td>3</td>
<td>Ineffective blood supply in MMH’s blood bank</td>
<td>26</td>
<td>81</td>
</tr>
<tr>
<td>4</td>
<td>Insufficient beds in maternity wards</td>
<td>23</td>
<td>72</td>
</tr>
</tbody>
</table>

**Challenges are ranked according to frequency of responses.**

4.3.1 Referral Overcrowding

Referral overcrowding was revealed to be the biggest challenge in addressing maternal mortality at MMH (Table 4.3). Health providers reported to receive an average of two to seven maternal-related referrals daily due to several complications. Based on key informants, it was found that most of the patients were referred to obstetrics and gynecology department due to emergence operations mostly caesarean due to obstructed labor, rupture of uterus, fetal distress and post-abortion evacuation. This was due to the fact that, MMH is the only referral hospital in Arusha region which serves 18 health centers over the region. Basically, MMH serves the main town with a population of 559,122 and surrounding rural population of 1,694,310 (NBS, 2012). Similar findings have been reported by Mbaruku, (2005) in Kigoma region Tanzania. The researcher found that the regional hospital, Maweni, served as the referral hospital for other five hospitals and over 460,000 population of the surrounding districts which do not have district hospitals. The increase of patients in the referral hospitals has been explained by lack of widespread obstetric care over the country (Nyamtema et al., 2008). Consequently, this situation encourages lower health centers to refer pregnant women to referral hospitals (Pembe and Othman, 2008). During the interview one respondent said;

*Arusha region does not have district hospitals compared to other regions like Dar es Salaam. This condition has caused many patients including those with maternal-related complications to be referred here at MMH from every corner of the region. (Lydia M., February 2016)*

Moreover, overcrowding at MMH was also mentioned to be caused by high prices of health services in the private hospitals. This was evidenced by maternal women when they were asked to state the reasons for visiting MMH. It was revealed that 54% of the respondents preferred MMH due to affordable costs (Figure 4.4). Mwikisa et al., (2002) found cost of obtaining maternal health care to be the major determinant of health care in Zambia. In Tanzania, maternal and newborns are exempted from cost sharing in government health centers. Yet, the exemption policy faces difficulties in
its implementation at the lower level due to lack of clarity on how to apply the exemption mechanisms (URT, 2008).

**Figure 4.4 Reported Reasons for Preferring MMH**

![Pie chart showing the reasons for preferring MMH]

**Source: Filed Survey, 2016**

### 4.3.2 Insufficient Number of Skilled Maternity Attendants

The availability of enough skilled maternity attendants is the key to address maternal related complications since pregnant women will receive relevant services during labour and early stage of postpartum (Mbaruku, 2005). The results from this study shows that the number of skilled birth attendants at MMH is not enough to provide appropriate health services to pregnant women. This was evidenced by key informants who declared to experience shortage of skilled birth attendants. Findings indicated that there were 27 midwives and 2 gynecologists in EMOC department. Shortage of staffs was found to increase workloads among them since health providers reported to attend an average of five to twelve pregnant women per shift depending on the day. This condition was observed to reduce the efficiency of health service provision during the delivery process and to manage unanticipated maternal related complications (Obasi, 2013). Through interviews it came out that due to the shortage of staff and workload of supervising large numbers of pregnant mothers
sometimes it is difficult to fill the partograph (a simple tool for identifying problems early in labour) on time. The respondents further reported to sometimes fill the partography by experience after delivery. Failure to use the partograph as a way of forecasting the labour trend and the condition of the fetus has resulted to missed opportunity to timely diagnose the problem and save lives of mother and child (Leigh et al., 2008). The results concurred with the study conducted by Bosse, et al., (2007) in Tanzania to review the quality of labour monitoring and to relate the pregnancy outcomes by using the quality of the partographs. The study showed that only 58% partographs of the eligible deliveries were satisfactory implemented. Poor partography based monitoring of labour was related to unsatisfactory maternal and fetal outcomes.

Although the government is trying to recruit new staffs to fill the gap, most of the new candidates are accused to be incompetent to work as midwives. This was reported by the experienced midwives who complained that the government does not use strictly criteria for selecting and allocating skilled staffs in reproductive and child health department. As a result, more experienced midwives were obliged to train new nurses instead of providing health services. One respondent argued that;

*Nowadays the government has introduced the two years nurse program (Voda fasta) in order to address the shortage of staffs. This program creates highly incompetent candidates to work as midwives. How can someone study for two years to become a nurse and specialize as a midwife? (Narration from Frida J., February, 2016)*

### 4.3.3 Inadequate Blood Supply in MMH’s Blood Bank

Bates et al., (2008) shows that 25% of the maternal deaths in sub-Saharan Africa are directly caused by lack of blood. During the field study (81%) of the respondents reported that there was a shortage of blood supply in their blood bank which becomes a setback in addressing maternal mortality related to blood loss (Table 9). Through in depth interviews with key informants it was revealed that previously MMH was receiving blood supply from KCMC hospital but currently they are not
getting enough blood due to high demand of the blood in other hospitals. Health providers further added that currently they depend on the blood donated from patients’ relatives. This process takes time during blood screening and sometimes it does not match the patients’ blood group which ultimately results to delayed blood transfusion and ultimately death of patients. Lack of enough blood supply in the blood banks is linked to insufficient numbers of blood donors due to several factors. These factors include low awareness on blood donation, religious and cultural beliefs, the exposure of blood to witchcraft and the notion that health providers sell donated blood to patients (Umeora, 2005, Shashahani et al., 2006). Efforts have been taken by the government to reduce maternal death caused by excessive bleeding during delivery but the improvement of effective blood transfusion has not received enough attention (WHO, 2009).

4.3.4 Insufficient Beds in Antenatal and Postnatal Maternity Wards

The findings from this study indicated that there was a shortage of beds in the maternity wards (Table 9). This was indicated by (72%) of the respondents who reported lack of enough beds to be among the challenges facing MMH in addressing MM. Further observation portrayed that carrying capacity of the maternity wards has been exceeded since one bed was shared by two patients. This was witnessed when the researcher conducted direct observation in the maternity wards and found out that there were 30 beds in the antenatal wards and 30 beds in the postnatal wards. The pregnant women claimed that sharing of beds led to a lot of discomfort and might result into disease infection of mothers and their newborns. Further discussion with key informants indicated that mothers were forced to leave the hospital early (after six hours for normal delivery and 12 hours for caesarean delivery) in order to leave the room for the other due to shortage of beds. Most of the maternal deaths and disabilities occur during the post-delivery period (WHO, 2004). Early discharge of the mothers after delivery might lead to increased maternal deaths due to lack of appropriate health care. The study conducted by Sikika, (2013) in mainland Tanzania indicated that the health facilities had bed occupancies above 100% in the maternity wards with the potential for the two patients to sleep in one bed or on the floor.
Figure 4.5 The Left Picture Shows the Researcher Conducting Direct Observation in the Postnatal Ward. The Right Picture Portrays the Challenge of Insufficient Beds Where Each Bed is Shared by two Mothers After Delivery

4.4 The Interventions Adopted by the Management of MMH to Reduce the Rate of Maternal Mortality

4.4.1 Internal Training

Health providers reported that, the reproductive and child health department undertakes internal training for their staffs. This enable them to update their skills on how to handle different kinds of complications during pregnancy, delivery and postpartum. The key informant further reported that, sometimes experienced staffs teach the new midwives who come to work in the department.
4.4.2 Establishment of Risk Clinic

This study found that, the hospital has a risk clinic for women who are at risk of dying from pregnancy related complications. Health providers at MMH reported that the clinic helps to identify and categorize women who are at risk such as anemic women, HIV infected, hypertensive and other risks. Under this clinic it is possible to identify the problem as well as postulating possible complication, which may arise and undertake appropriate interventions.

4.4.3 Weekly Maternal Reports

The gynecologist reported that weekly they conduct meeting in order to discuss the situation in their department including the availability of equipment and staffs, the number of deliveries and complications related to pregnancy. Likewise, he further added that when the maternal death occurs the staffs meet in order to discuss important issues. Normally the meeting involves discussing the possible causes of the death and to see if there was any kind of carelessness that led to the death.

4.5 Quality of Maternal Health Care Offered at MMH

4.5.1 Patients’ Satisfaction Levels on Maternal Health Care at MMH

The assessment of quality of maternal health care offered at MMH was linked to the patients’ satisfaction on maternal health service. Understanding the quality of care offered insights of the possible inadequacies in the system. Obasi, (2013) argued that it is important to understand patient perception on the quality of care since higher perceived quality is associated with an individual utilization level. In this study, the quality of care offered at MMH was determined by satisfaction levels rated by the respondents out of 100%. Regardless some challenges facing MMH, the results indicated that most (52%) rated the quality of maternal health care as “good” and 35% as “average” (Figure 7). Among the reasons stated by the respondents for rating maternal services as “good” and “average” were; decent reception when they were
brought to the hospital, timely diagnosis, and good supervision by health providers during and after delivery.

On the other hand, a small proportion (13%) of the respondents rated the quality of maternal health services at MMH as “very good” (Figure 7). This study found out that women are still required to purchase and bring essential supplies for delivery regardless of the government exemption policy. Similar findings have been reported by Mkinga, (2006) that it has been a routine for the health providers to instruct women to bring supplies because health centers frequently do not have enough stocks to serve all of the women.

It has been reported by Obasi, 2013 that patients give good credits for the quality of health services due to abilities of the staffs, accessibility of supplies and effectiveness of the treatment provided. Generally, based on these arguments it is clear that most of the respondents involved in this study received a satisfactory health care since no individual rated the quality of maternity health care at MMH as “bad” (Figure 4.6).

Figure 4.6: Reported Reasons for Preferring MMH

![Chart showing perceived quality of maternal health service](chart.png)

Source: Field Survey, 2016
4.5.2 Language of Health Providers at MMH

In assessing the quality of care, this study also probed deeper in order to get insight on the language of the health providers to their patients. This was undertaken because Tanzania’s public health facilities have long been accused of negligence and bad language among the midwives during delivery (Shannon *et al.*, 2014). Sometimes pregnant women have been documented to be beaten by health providers during delivery (Bowser and Hill, 2010). However, during this study it was revealed that most (92%) of the respondents were well-attended without the use of verbal abuse during delivery (Figure 8). This portrays that most of the women at MMH obtained maternal services under a friendly environment. On the other side, 8% of the respondents reported to be attended with an unfriendly language (Figure 4.7). Among these respondents, some narrated to be scolded for not pushing hard enough, others for making too much demands during labour and others for reaching too late or too early for delivery. It has been reported that bad language and occasional beating of the women during delivery to be among the factors reducing the tendency of pregnant women to seek services in health centers (Mbaruku, 2005).

**Figure 4.7 Reported Languages of Health Providers at MMH**

![Diagram showing 92% attended with good language and 8% attended with bad language.]

*Source: Field survey, 2016*
4.5.3 Time Taken to Get Maternity Care at MMH

Additionally, this study further investigated the quality of the care at MMH by analyzing time taken for the pregnant mother to be admitted after arriving in the facility and assisted during labour. This investigation was done because health providers in public facilities have been accused for ignoring pregnant women and sometimes they deliver without assistance (Demzee, 2013). The results from this study found that (90%) of the respondents were immediately admitted after arriving at MMH (Table 4.4). Some of them arrived in the hospital during the night and acknowledged to receive instant care from the health providers. Early admission of pregnant mothers in the health services provide an opportunity for early diagnosis and prevention of possible complications which may arise during labour (Bangser and Mamdani, 2004). On the other hand 10% of the respondents reported to be admitted one hour after arriving in the hospital. Health providers were required to explain that condition and explained that, sometimes it becomes difficult to handle large numbers of women at a time. One respondent narrated that:

We normally try to attend pregnant women instantly but sometimes it becomes difficult due to overcrowding. In that situation we rescue the lives of emergency patients first followed other with no complications. Due to this, some of the patients can take a long time before receiving care since sometimes you might find most of the nurses are pre-occupied in delivery rooms (Narration from Anastazia M., February, 2016).

Table 4.4: Reported Time of Admission MMH

<table>
<thead>
<tr>
<th>Time required to be admitted at MMH</th>
<th>Frequency (n=40)</th>
<th>Percentage of the respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than one hour</td>
<td>36</td>
<td>90</td>
</tr>
<tr>
<td>After one hour</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Over two hours</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: Field Survey, 2016
Delays in receiving immediate obstetric and gynecological care (phase three model of delays) at MMH were also found to be the challenge. This was testified by the respondents who reported to be late-assisted during labour (Figure 4.9). The report from one midwife explained that;

Most of the pregnant women feel to be neglected when labour pain starts but in reality we monitor and direct them what to do in time.

However, a contradicting report from one woman said:

I recalled health providers who were in my vicinity for a very long time without any assistance. It was until I yelled “the baby is coming out” when the nurse arrived and helped me.

Discussions with gynecology revealed that, sometimes delays occur due to inadequate skilled attendants, important supplies such as blood transfusions and overcrowding of patients. Most of the respondents who reported to be assisted in time were found to be those referred from the peripheral hospitals due to complications and those came to the hospital in their final stages of labour. For majority of women, the pathway to safe motherhood is blocked by the underlying factors that lead to delays in accessing appropriate health services (URT, 2008).

Figure 4.2: Reported Time of Receiving Assistance During Labour

![Circle diagram showing 65% immediately attended and 35% late attended.]

Source: Field Survey, 2016
CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This research investigated the challenges facing the government of Tanzania in reducing maternal mortality taking Mount Meru Regional-Referral hospital. The first objective in this study aimed at determining the major causes of MM, this study concluded that ‘direct causes” including haemorrhage, eclampsia and unsafe abortion contributed more than half (59%) of the reported maternal deaths at MMH. The “indirect causes” including malaria, anemia and HIV accounted for 27% of the reported deaths while “underlying determinants” including delayed diagnosis of the complication leading to inappropriate treatment and complications arising after home delivery led to 14% of the reported maternal deaths.

The second objective of this study examined the challenges faced by MMH in reducing MM. This study therefore concluded that referral overcrowding; insufficient number of skilled maternal attendants, inadequate blood supply in MMH’s blood bank and insufficient beds in antenatal and postnatal maternity wards were the major challenges at MMH in reducing maternal mortality.

The third objective focused at determining the interventions that has been adopted by the management of MMH to reduce the rate of maternal mortality. This study found out that several efforts have been undertaken by the hospital including; internal training on the management of the pregnant-related complications, conducting emergency meeting within 24 hours after the occurrence of a maternal death so as to discuss the cause of the death. This involves the assessment of the death environment to see if any negligence resulted to death and to learn from it. Similarly, the hospital has established the risk clinic. This clinic is responsible for mothers who are at risk such as anemic, hypertensive, HIV infected and other risks in order to save more lives. Generally, some efforts have been made by Tanzania to reduce MM but much more still needs to be done because MDG 5 was not achieved.
The last objective of this study focused at assessing the quality of maternal care offered at MMH. The assessment of the quality of maternal health care was linked to the patients’ satisfaction on maternal health service. Generally this study concluded that maternal health care provided at MMH is “good” (50%-75% satisfaction category. On the other hand, the time taken for the maternal women to be admitted was found to be less than one hour. The time taken for pregnant women to receive assistance during delivery was not instantly because 35% of the respondents were late attended due shortage of staffs and overcrowding.

5.2 Recommendation

- Improving Health System

There is a need for the government to improve the health system in terms of infrastructures and important equipment. In this aspect, rural areas should be given priorities and ensured consistence supply of drugs and supplies as well as creation of the good environment that will ensure smooth referral system. In this case, the government should strengthen peripheral health centers in Longido and Simanjiro in order to work under full capacity especially in maternity related aspects. This is by equipping health centers with appropriate facilities for treatment and diagnosis of maternal related complications. This will help to reduce the number of referrals from lower health centers to referral hospitals.

Moreover, there should be regular upgrading skills of health workers particularly staffs of lower level who are the common health providers in health centers. This will help to increase the number of skilled health attendants and ultimately reduce maternal mortality. Finally, the government should ensure and availability of skilled and competent birth attendants who are able to provide timely and quality maternal care.

- Strengthening of National Blood Transfusion Programme

The program should be extended further so as to make sure that there is enough and safe blood for emergency obstetric care. The program should not only ensure the
availability of blood in referral hospitals but also in health centers and district hospitals. Awareness raising programs and motivation should be directed to the public members in order to understand the importance of donating blood.

- **Awareness Rising on Obstetric Dangers Signs and Importance of Antenatal Care to Pregnant Women and Other Stake Holders**

  The government of Tanzania through the ministry of health and local government should provide sufficient knowledge to the pregnant women and other stakeholders about the obstetric danger signs. This can be achieved through awareness rising to the public; the efforts should be directed to the pregnant women and their families as the first priority. This strategy will involve education integration of maternal health education agenda in every community meeting in order to address birth preparedness. This will help to break the socioeconomic barriers that contribute to delay in decision and home deliveries.

  Likewise, women and community should be educated about the importance of receiving antenatal care during pregnancy. This will help identify possible complications that may arise as a result of pregnancy. By understanding that, women and the community as a whole will be able to make immediate decisions about the health of the mother and save lives from maternal mortalities.

- **Creation of Good Working Environment Among the Health Providers**

  The government through the ministry of health should create conducive environment for the staffs in the health sector especially in EmOC department. The incentives should be in the form of good remuneration packages, night and risk allowances and shelter. This will help to increase the morale of working and reduce maternal deaths caused by lack of commitment among the health providers.
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APPENDICES

QUESTIONNAIRE S/N…………………………

QUESTIONNAIRE FOR PREGNANT WOMEN

Dear respondent, I am Macrina Sanka from Mzumbe University perusing Masters of Health Systems Management (MHSM). Below is a list of questions intended to collect information, only for academic purposes on “challenges facing the reduction of maternal mortality in Tanzania a case of Mount Meru Referrals Hospital”. I guarantee maximum privacy of the information you provide and I would like to acknowledge and appreciate your involvement on this regard towards the success of this study.

(NOTE: DON’T WRITE YOUR NAME).

For multi-choice questions tick only the chosen item(s) and for explanations questions the space to fill in is given below where you are required to write

Tick (✓) the appropriate answer in the box apposite to the correct answer OR explain briefly as per instruction of the respective question.

PART A: DEMOGRAPHIC CHARACTERISTICS OF A RESPONDENT

<table>
<thead>
<tr>
<th>2. Age (Umri)</th>
<th>3. no of children (Idadi ya watoto)</th>
<th>1. 1 child</th>
<th>2. 2 children</th>
<th>3.3 children</th>
<th>4.4 children</th>
<th>5.5 children</th>
<th>More than 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 15-20 years old</td>
<td>1. Primary education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. 21-25 years old</td>
<td>2. Secondary education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. 26-35 years old</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. 36-45 years old</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>46 and above</td>
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</tr>
</tbody>
</table>

4. None of the above
PART B

QN5. Do you have any idea about maternal health?

1. Yes  ( )
2. No  ( )

QN. From your adolescent age did you ever get education of Reproductive Health?

1. Yes (where and explain the type of education)………………………………
2. No ( )

QN6. What is the distance from home to a nearby obstetric health facility

1. Very close (Below ½ Kilometer)  ( )
2. A little close (1-2 kilometer)  ( )
3. Far (3-5 kilometers)  ( )
4. Very far (6 kilometers and above)  ( )

B. Which means of transport do you use when travelling to the health facility for maternal health care?

1. Foot ( )
2. Bodaboda  ( )
3. Public Transport (Daladala)  ( )
4. Private car

QN7. Conditions of transportation infrastructure/roads

1. Good (at least you can reach health facility below ½ hour travel)  ( )
2. Average (Reach health facility 1-2 hrs travel)  ( )
3. Bad (more than 3 hrs of travel to health facility)  ( )
QN8. Have you ever faced any problem caused by distance to H/Facility due to condition of transport system during and after pregnancy?

1. Yes (    )
2. No (    )

Qn9. Do you understand any complications associated with pregnancy?

1. Yes (Mention at least 3).................................................................
   .........................................................................................
   .........................................................................................
   .........................................................................................
2. No (    )

QN10. With all your children’s how many:

1. Delivered at health facility .........................
2. Delivered at home  .........................

B. Have you ever delivered with the aid of TBAs?

1. Yes (    )
2. No (    )

QN11. Which complication did you experience during or after delivery(if any mention and explain)

........................................................................................................
........................................................................................................
........................................................................................................

QN12. With your experience in maternity, how many ANC visits do you always attend until you deliver?

1. 1 (    )
2. 2 (    )
3. 3 (    )
4. 4 (    )
QN13. How many visits of post-partum care at the facility?

1. 1 ( )
2. 2 ( )
3. 3 ( )
4. 4 ( )

QN14. Have you ever lost your relative/s due to maternal complication?

1. Yes ( )
2. No ( )

QN15. If yes what was the factor for her death if No jump to the next question

1. Delay to decide to reach care ( )
2. Delay to reach care ( )
3. Delay in receiving care ( )

QN16. Level of income

1. Lower income ( )
2. Middle income ( )
5. Higher income ( )

B. If Low and middle income how does your level of income affects the quality and accessibility of maternal health care during and after pregnancy?

.................................................................
.................................................................
.................................................................
.................................................
How do you rate the quality of maternal Aids you receive from the physicians when you totally have no money here at MMH?


Qn19. Have you ever experienced lack of maternal service at Mount Meru Hospital because you don’t have money?

1. Yes
   How…………………………………………………………………………………………

2. No

Qn20. Do you have enough autonomy on when and where to seek maternal health assistance from health facility of your preference considering your level of decision making and income?

1. Yes ( )

2. No ( )

QN 21. When you are pregnant, when do you decide to go to seek Obstetric Care eg starting clinic visits?

1. Periodically as recommended ( )

2. When complication arise ( )

3. When near to delivery ( )

4. Not seek at all ( )

PART B: QUESTION ON QUALITY OF CARE

QN22. Before pregnancy, did you get/attained any maternal education about pregnancy related issues?

1. Yes (If Yes where and explain the main education you have attained)
   ……………………………………………………………………………………………
   ……………………………………………………………………………………………

2. No () If No what was the reason ……………………………………………………..
QN23. How many health personnel attended you during previous delivery?
   1. Only one ( )
   2. Two ( )
   3. Three ( )
   4. More than three ( )

QN B. How long did you stayed at the facility after delivery before being discharged
   1. Below One day
   2. One day
   3. Two days
   4. More than two days

QN24. On arrivals to the labor ward until delivery how did the medical personnel treated you?
   1. Very good ( )
   2. Good ( )
   3. Bad ( )
   4. Very bad ( )

Qn25. During antenatal care/or previous delivery visit, have you ever provoked or being ill-treated by the nurse or physician?
   1. Yes
      (How)........................................................................................................
      ...........................................................................................................
      ...........................................................................................................
      ..................................................

   2. No
QN26: How long did you wait until you get delivery assistance after starting labor pain?

1. Instantly ( )
2. Less than an Hour ( )
3. 1Hr-2Hrs ( )
4. 3hrs ( )
5. More 3Hrs ( )

Qn27. During Labor/delivery how do you rate the services delivered by physicians or nurses

5. Good ( )
6. Average ( )
7. Bad ( )

QN 28. With your views what do you think is/are the reasons leading to most women not prefer to deliver at health facility like Mount Meru Hospital?

1. ......................................................
2. ......................................................
3. ......................................................
4. ......................................................

QN29. Did you given any instruction or education concerning post natal care services after delivery?

QN30. How do you comment on the maternal health services at MMH
APPENDIX II. INTERVIEW GUIDE FOR HEALTH PROVIDERS

1. What is the current rate of maternal mortality at Mount Meru hospital in the year?

2. What are the main interventions that government has adopted to reduce the rate of maternal mortality in Tanzania practiced at Mount Meru Referral Hospital?

3. Are these interventions effectively achieved the target at Mount Meru Hospital?

4. What are the challenges faced by health providers in interventions for reducing maternal mortality rate?

5. What are the reasons and trend behind what has been achieved in maternal mortality rate in relation to Millennium Development Target 5?

6. What are the challenges faced by service providers in general and Mount Meru hospital in particular in the implementation of these interventions of reducing maternal mortality rate?

7. By your experience and knowledge why these interventions failed to achieve the MDG target 5 of reducing maternal mortality by ¾ by year 2015 referring Mount Meru Hospital?

8. What should be done in Mount Meru Hospital and Tanzania in General in order to achieve maternal mortality reduction?