ASSESSMENT OF THE QUALITY OF POSTNATAL CARE SERVICES:

A CASE STUDY OF MBEYA DISTRICT COUNCIL

ASSESSMENT OF THE QUALITY OF POSTNATAL CARE SERVICES:

A CASE STUDY OF MBEYA DISTRICT COUNCIL

By

Theopista David Lotto

A thesis Submitted in fulfillment of the
Requirements for Award of the Master of Science in Health Monitoring and Evaluation (HM&E) of Mzumbe University
2015

CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University, a thesis entitled **ASSESSMENT OF THE QUALITY OF POSTNATAL CARE SERVICES: CASE STUDY OF MBEYA DISTRICT COUNCIL,** in partial/fulfillment of the requirements for award of the degree of Master of Health Monitoring and Evaluation.

_____
Major Supervisor

_____
Internal Examiner

_____
External Examiner

Accepted for the Board of

……

Signature

_____

DEAN/DIRECTOR

FACULTY/DIRECTORATE/SCHOOL/BOARD

DECLARATION AND COPYRIGHT

I, **Theopista David Lotto,** declare that this thesis is my own original work and that it has not been presented and will not be presented to any other university for a similar or any other degree award.

Signature _____

Date_____

ACKNOWLEDGEMENT

This evaluation report demanded a huge amount of efforts and determination. Still, the completion would not have been possible if I was not supported by many individuals and organizations. Therefore I would like to extend my sincere gratitude to all of them.

First of all I am thankful to the Ministry of Health and Social Welfare for its financial and logistical support during the whole period of my master's degree studies and the District Executive Director of Mbeya District Council for allowing me further my education career in Health Monitoring and Evaluation.

I am grateful to Mzumbe University for providing expertise and technical support during my Masters' study. I would also like to sincerely thank my supervisor, Prof. Kiwara, for his guidance and support throughout this study, and especially for his confidence in me. Without his competence and experience, it would be difficult to achieve the credential that I have achieved.

I would like to express my sincere thanks to my fellow M&E students who devoted their precious' time and care during the whole period of my study.

I wish with all sincerity, to express my gratitude to my family for their kind support and encouragement which helped me in completion of this work.

DEDICATION

This thesis is dedicated to my parent, who inspires me to study as if everything depend on me and pray as if everything depends on God. It is also dedicated to my lovely Husband ‘Revocatus’ who took good care of our family while I was away.

ABBREVIATIONS AND ACRONYMS

ANC	–	Antenatal Care
CO	–	Clinical Officers
DHS	–	Demographic and Health Survey
EMOC	–	Emergency obstetric care
HMIS	–	Health Management Information System
JHPIEGO	–	Johns Hopkins Program for International Education in Gynecology and Obstetrics
MOHSW	–	Ministry of Health and Social Welfare
MTR-AR	–	Mid-term review of the Health Sector Strategic plan
NGOs	–	Non Governmental Organizations
PMTCT	–	Prevention of Mother To Child Transmission
PNC	–	Postnatal Care
RCH	–	Reproductive and Child Health
TDHS	–	Tanzania Demographic and Health Survey
UNFPA	–	United National Population Fund
UNICEF	–	United Nations Children's Fund
WHO	–	World Health Organization

OPERATIONAL DEFINITIONS

1) **Information** In this study means knowledge women acquire about the activities and benefits of postnatal care either before or after the examination / birth itself.
2) **Maternal death** is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes (WHO, 2008).
3) **Mother** refers to any woman within the reproductive age (15-49) years who attends maternal child health care
4) **Neonatal deaths** refer to deaths occurring during the first four weeks after birth (WHO, 2006).
5) **Postnatal services** are the care provided to women and newborns for the first few months following birth (WHO, 1999).
6) **Preterm birth** is defined as babies born alive before 37 weeks of pregnancy are completed (Blencowe H, 2012).
7) **Quality PNC care** (For the purpose of this evaluation) refers to provision of care that meets the needs of the clients as well as external criteria set. Such needs and criteria can be divided into structure, process, and outcome attributes. Structural refers to the degree to which a health facility is well equipped to deliver PNC services in terms of necessary resources such as essential medicines and equipment required to provide maternal and newborn care, effective referral system and competent Health care providers. Health care providers need to have adequate clinical skills which are sensitive to the women's and newborn's needs. Process attributes focus on the clinical content of care being delivered according to PNC guidelines/standards. This includes timely and accurate diagnosis, appropriate treatment, respectful care, and provision of information to clients. "Outcomes" refer to the health status and satisfaction of the clients served (Donabedian, 1988).

ABSTRACT

Background: Postnatal care services consists of care given to the mother and her newborn for the first six weeks following birth, which enable health care providers identify post delivery problems and provide treatments promptly. This evaluation was conducted to assess the quality of postnatal care services following the unpublished report from Health Management Information System of the District which showed an increase in the number of maternal and infant death within six weeks post delivery.

Methods: The evaluation used descriptive cross sectional study design in which quantitative approach was employed to collect and analyze evaluation data. The study was also guided by Donabedian conceptual framework based on structural and process components. A total of 355 clients attending postnatal care services in five selected facilities participated in an exit interview. Observational checklist adopted from the WHO implementation guideline was used for assessing resource availability. Data was analyzed using STATA version 13.0.

Results: The findings established that health facilities that were involved in the study had basic resources to render quality postnatal care, however, there were some deficiencies in both structure and process components for provision of Post Natal Care (PNC) services. None of the five facilities had separate PNC room equipped with facilities for provision of quality services.

Discussion and policy implications: The evaluated health facilities scored below 90%, based on agreed standard as set by World Health Organization which implies PNC services offered was sub-standard. Mbalizi Hospital and Inyala Health Centre had the average score of 77%, Santilya dispensary scored the third (75%) followed by Ilembo Health Centre 70% and the last was Igoma dispensary which scored 68% which is equal to partial quality. There is a need for the management of Mbeya District Council to plan for improvement of health facility infrastructures by constructing separate rooms for PNC to be able to provide quality health services and reduce neonatal and maternal death and ensure privacy to patients and clients.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

INTRODUCTION

1.1 Background

Postnatal care services consists of care given to the mother and her newborn for the first six weeks following birth, which enable health care providers identify post delivery problems and provide treatments promptly (Charlotte et al, 2006). The WHO (2010), describe the period as the most dangerous time for woman and newborn and that poor care in this period of time causes an increase in morbidity as well as mortality. World-wide, complications due to pregnancy and during childbirth cause more than 500,000 women deaths, of which most occur during or immediately after childbirth (WHO, UN-ICEF, UNFPA, The World Bank, (2005). Every year in the world, three million infants die in the first week of life and another 900,000 die in the next three weeks (WHO, UN-ICEF, UNFPA, the World Bank (2008).

Most reported quality maternal and newborn health indicators are maternal mortality ratio, neonatal mortality and proportion of deliveries which are conducted by skilled birth attendant, according to the African Population and Health Research Centre (APHRC), (2002). Developed countries have an estimated annual maternal mortality rate of 8 to 16 per 100,000 live births (WHO, 2013), whereas in developing countries the estimate is at 237 per 100,000 live births. In sub Sahara Africa the rates are estimated to be over 400 per 100,000 live births. In Tanzania, the estimate is 454 per 100,000 live births. Mbeya district council has an estimate of 165/100,000 maternal mortality rate (MTR-AR, 2013). Several studies show that majority of maternal and newborn deaths across the world occur within the first few hours post delivery (WHO, UNICEF, UNFPA, 2006, World Bank, 2008).). However, in Africa half of all women and their babies do not receive skilled care during childbirth and even fewer receive effective postnatal care (Charlotte et al, 2006). This means that, essential health interventions required during postnatal period, e.g. initiating family planning, are not imple-

mented at all, or are implemented partially. These factors have caused an increase in maternal and neonatal mortality rate and hence render it difficult to attain the millennium development goals.

1.1.1 Causes of deaths during postnatal period

Many maternal deaths results from bleeding and infections following childbirth while preterm birth, asphyxia and severe infections contribute to two third of all neonatal deaths (Khan, 2006). Quality health care in this period could prevent the majority of these deaths (UNICEF, 2008). Worldwide, only 66% of births are covered by skilled birth attendants and some parts of Africa and Asia have much lower coverage rate due to inadequate health care providers, which contribute largely to maternal and neonatal deaths (The World Health Report, 2005). Different studies conducted in Africa show that majority of deliveries take place at home and in the absence of skilled care providers (Baiden et al, 2002). Thus, it is recommended that for the best outcome for both mother and her newborn, all births should be attended by qualified health care providers (Patton, 2009).

1.1.2 Postnatal care in developing countries

Postnatal care services in most developing countries are not available and more often, many women and their newborn babies do not have access to quality health care immediately following birth. According to the World Health Organization (2008), only a small proportion of women in developing countries, less than 30%, receive postnatal care. For instance, according to Dhakal et al (2007), the utilization of postnatal services in Nepal is not common and only 21% of new mothers receive it, the reason could be due to negative perception on PNC services provided. Additionally, in a demographic health survey conducted in Egypt in 2003 only 42.6% of women in Egypt reported having received postnatal care (UNFPA, 2006), which means risk of complications and deaths in such areas is high. It has been estimated in Africa that, if quality postnatal care

services will be provided, 310,000 newborn lives could be saved yearly (Darmstadt et al, 2005).

1.1.3 Postnatal care in Tanzania

Postnatal care in Tanzania is poorly utilized. The MoHSW in 2009 reported that health facilities offering postnatal care services are only 60% of 82% facilities which offers antenatal care. Moreover, 83% of women who delivered at home did not receive post-natal check up. This may be due to lack of skilled and committed health care providers which may have effect on the quality of services. The report also indicated overall poor attendance to postnatal check-up in the country of less than 30%. Mid-term review of the Health Sector Strategic plan, shows an increase from 13.4% to 30.8% respectively, where a major increase was seen in urban areas at a rate of 37% as compared to 22% among rural women (MTR-AR, 2013).

1.1.4 Challenges facing postnatal services in Tanzania

There are a number of challenges facing postnatal services in Tanzania, one of them is poor quality postnatal care services which is due to: - poor referral system required to provide maternal and newborn health care services, inadequate number of skilled personnel and poor adherence to Postnatal check-up (Ministry of Health and Social Welfare, 2009). Other challenges include inadequate infrastructure like PNC registers and guidelines, and irregular supplies of essential drugs and equipment necessary in the provision of PNC services like Oxytocin, BP machines and other tracer medicines (MTR-AR, 2013).

1.1.5 Postnatal services in Mbeya District Council

Reports concerning postnatal care services in Mbeya District Council which have been published are limited. However, the unpublished report from Health Management Information System of the District shows an increase in the number of maternal and infant death within six weeks post delivery. According to the report, in the year 2007, 1033

women attended antenatal care clinics, 712 delivered in public health facilities, but only 209 attended postnatal care clinics. In 2008, 1165 women attended antenatal care clinics, 811 delivered in health facilities and 194 attended postnatal care. And in 2012, the district had a target of 14,368 pregnant women, 6896 (48%), attended first antenatal care clinics and only 3448 (24%) attended postnatal care clinics (Mbeya District HMIS). This underlines the fact that, there could be several reasons for this situation, which may include deficiencies in the Health system that leads to low postnatal attendance.

1.2 Description of the program to be evaluated

The main challenge facing Mbeya district council health care facilities is high morbidity as well as an increase in deaths of mothers and newborns during the postnatal period. In the absence of quality postnatal care services those mothers who do not receive the necessary postnatal care, might be at risk of conditions such as puerperal sepsis, anemia, problems in lactation management, as well as umbilical cord infection, among others, that could result in the ill health of the mother and the baby. Therefore, to deal with this, effective implementation of postnatal services focused on availability, and accessibility of services by the community is highly required

1.2.1 Major strategies

There are a number of strategies which have been put in place by the Ministry of Health and Social Welfare (2009), to improve postnatal services in Tanzania, they include:

i. Capacity building for Maternal and Neonatal interventions to service providers and pre service tutors
ii. Recruitment and deployment of skilled providers to the existing and new health facilities.
iii. Increase intake of students in allied health institutions (Nurse Midwives, AMOs, CO, Anesthetists, and Laboratory technicians)
iv. Strengthening health information system

v. Procurement of Essential Equipment, supplies for maternal and newborn health implementation.
vi. Renovation and building operating theatres, labor wards, RCH Clinics, including staff houses
vii. Procurement and distribution of radio calls and ambulances to be station in selected health facilities (hospitals, health centers) in each districts
viii. Behavioral change communication
ix. Advocacy for maternal, newborn and child health at all levels
x. Community mobilization and empowerment

1.2.2 Program activities and resources

1.2.2.1 Activities

For the above effects to happen, the program will implement the following activities:

i. Conduct training to capacitate health care providers to support maternal and neonatal health
ii. Mobilize and enhance capacity of the communities to support healthy mother and her newborn child development
iii. Conduct maternal and newborn assessment including physical, emotional and psychosocial wellbeing
iv. Conduct counseling to mothers on how to breastfed, nutrition and umbilical cord care of her newborn child.
v. Provide treatment and diagnostic support to mother and her newborn child
vi. Enhance and provide referral systems for urgent and proper follow up for prevention of complication to both mother and her newborn
vii. Conduct interdisciplinary planning and collaborative work between stakeholders to ensure appropriate support with minimal duplication or gaps
viii. Distribute postnatal guidelines and training materials and orient health care providers on quality postnatal care

1.2.2.2 Resources

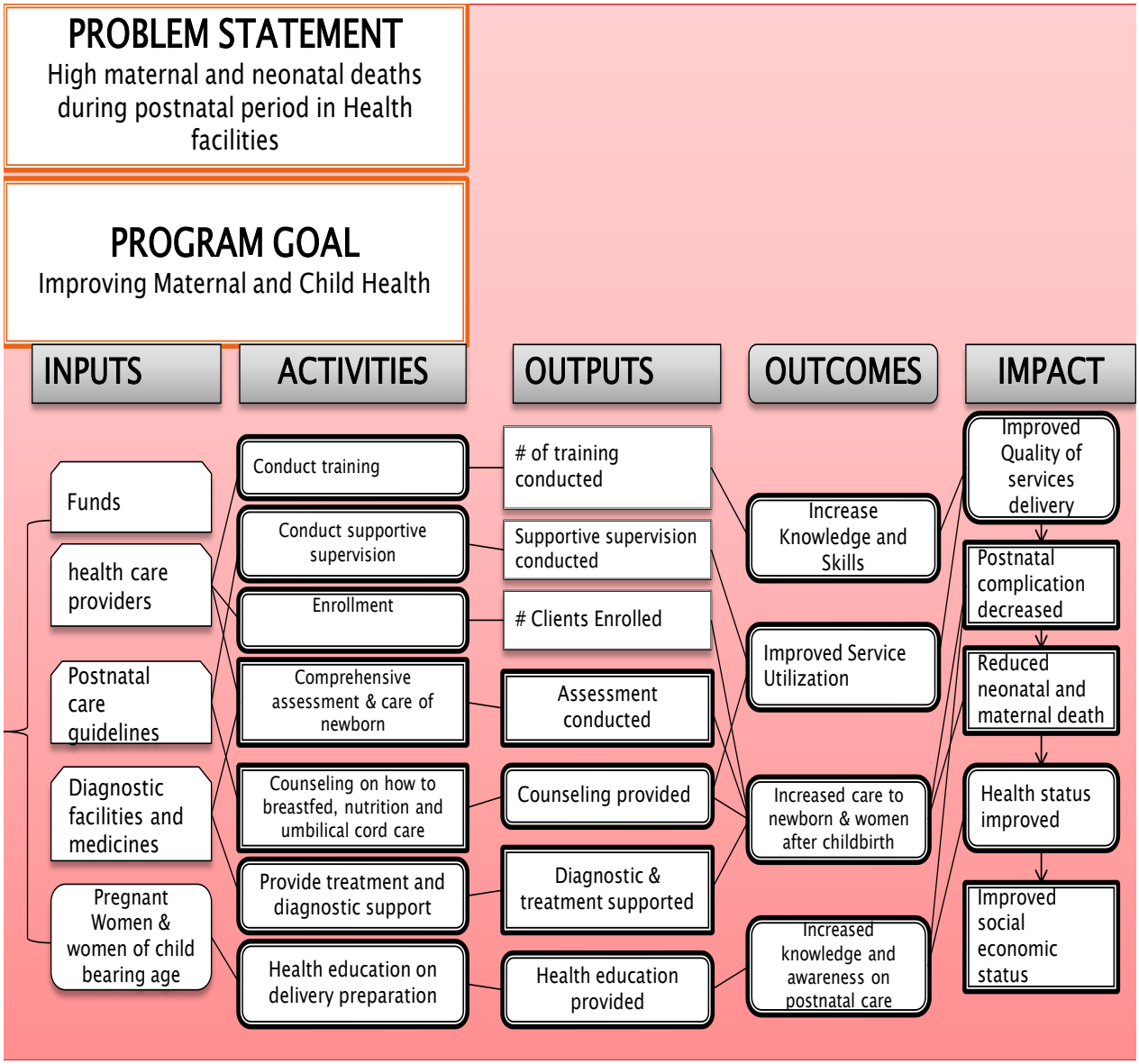
For the program to perform well in maternal and child health activities, the following resources must be in place:

Funds, Human and physical resources, referral systems, maternity information systems, appropriate technologies together with guidelines on good practices on postnatal services. Human resources include quantity and quality of health and non health personnel employed for providing and supporting delivery of patient care including postnatal care services. For proper provision of care, human resources need to be supervised, well managed and trained. Physical resources refer to general facilities infrastructures, which include building, medical and non medical equipments, vehicles and furniture, medical and office supplies.

1.2.3 Program logic model

A logic model below shows how the program is supposed to work by illustrating various elements of the program. Consider Figure 1.1: -

Figure 1.1: Logic model



Source: Author own source, 2014

1.2.4 Program effects/objectives

The following are the expected results of good implementation of PNC services

i. There will be an increase in knowledge and skills with regard to postnatal care services.
ii. There will be an increase in postnatal service utilization due to improved quality of service delivery.
iii. There will be an increase in care to newborn and mother, which ultimately reduces maternal and neonatal complications.
iv. Health care providers will be able to provide comprehensive postnatal care in their facilities.
v. Maternity ward will be adequately equipped to be able to perform its function effectively and consistent with international recognized good practice.
vi. Organizational and management structure of the maternity ward will ensure most efficient use of resources with regard to postnatal services.

1.2.5 Stakeholders Analysis

The evaluation of postnatal care services program at health facilities of Mbeya District, involved a number of steps as follows; it begun by engaging stakeholders to ensure their perspectives are understood, and ensure an evaluation finding addresses important elements of a program's objectives, operations, and outcomes (Gorgens & Kusek, 2009). After careful consideration, the following stakeholders together with their roles were involved during the program evaluation. See Table 1.1

Table 1.1: Stakeholders Matrix

STAKE-HOLDER	ROLE IN THE PROGRAM	PERSPECTIVE ON EVALUATION	ROLE IN THE EVALUATION
CHMTs	Supportive supervision and data auditing, conduct training, mentoring and coaching	Improve postnatal service utilization, Reduce postnatal complications	Primary users of evaluation findings, Build human capacity on postnatal services, Develop and maintain strong partnership,
NGOs e.g. JHPEIGO	Provision of Technical support, funds and materials	Improve quality of service delivery, Reduce maternal and neonatal death, Improve maternal and neonatal health status	Build human capacity on postnatal services, Advocacy and communication, data collection, management and use information for decision making
Health care workers	Provision of health care services, Sensitize and mobilize communities	Increase care to newborn & women after childbirth, Reduce neonatal and maternal death	Routine monitoring of data
Clients	Recipients of services	Wellbeing of mother and newborn	Primary source of information
Communities and family members	Recipients of services	Wellbeing of mother and newborn, provide social support to mother & her newborn	Primary source of information

Source: Author own source, 2014

1.3 Statement of the problem

Postnatal services in Tanzania have been implemented along with other packages of continuum of care in reproductive and child health programs; such packages include; Antenatal care, Childbirth care, integrated management of childhood illness, Nutrition and breastfeeding promotion, PMTCT, and immunization programs. Amongst them, the postnatal care program is the weakest of all continuum of care as only less than 30% of all women are utilizing it compared to 90% of those who are utilizing ANC services (MTR-AR 2013). Additionally, more maternal and neonatal deaths seem to be high during this crucial period. Several factors have been reported to contribute towards low PNC use among mothers in Tanzania, the major one is poor quality of PNC services. Moreover, health care providers across the country do not seems to emphasize or advice mothers to come back to the facility for a postnatal checkup which is considered as visits for survivors and due to this, there is a major gap in the continuum of care. Post-

natal care services are very important in reducing maternal as well as neonatal complications and deaths; however, they are amongst the weakest of all reproductive and child health programs in the country. The situation is even worse in Mbeya district as the figures of mothers attending PNC show. Indicators of quality maternal and neonatal care are all below expected standard (Mbeya District HMIS). There is very little evaluation that has been conducted in the health facilities to establish whether current PNC services offered meet individual health needs. This thesis was an attempt to evaluate some health facilities of Mbeya District Council with regard to provision of quality PNC.

1.4 Evaluation questions and objectives

The overall goal of the project was to evaluate the PNC program in Mbeya district to identify gaps in providing quality postnatal care services offered at health facilities.

1.4.1 Key evaluation questions

Three evaluation questions were examined in this study.

1. Are the postnatal care services at health facilities being implemented as designed?
2. What are the gaps in delivering quality PNC services in health facilities of Mbeya District Council?
3. What are the mothers' views and experiences on the quality of care and support during first month after birth?

1.4.2 Objectives

1. To assess whether postnatal care services at health facilities have been implemented as per guidelines.
2. To determine gaps in delivering quality PNC services in health facilities of Mbeya District Council.
3. To determine mothers' satisfaction on the quality of care and support during first month after birth.

1.4.3 Significance of the program evaluation

Several studies conducted so far elicit factors that influence the use of PNC services, such factors are poor quality of services provided, lack of client's knowledge on PNC, and inadequate knowledge and skills of care providers on PNC services. Of these factors, very little was known on the quality of PNC services and on mother's experiences and views in using PNC services and gaps in providing quality PNC. Since, existence of postnatal services within the facilities of Mbeya district did not guarantee reduction of maternal and much more neonatal deaths, it was important to highlight factors that influence the provision of quality PNC services.

The evaluation findings will help to structure a situation analysis review of quality of care as provided by facilities, experiences and perception of its clients, also, will improve the quality of care through critical examination of activities compared with an agreed standard. This evaluation will ease the investigation process because it will help in identification of opportunities and implementation; hence bring changes closer to the standard. Thus, evaluation findings will help in monitoring of quality in this vital area of maternal and child health care.

The District will explore from the evaluation, information that enhanced the usage of postnatal care provided by health facilities within the catchment areas. This will be done through improved essential package of maternal health thus reduce maternal and newborn complications, and yet reaching the highest postnatal coverage.

Last but not least, this evaluation study will be part of my fulfillment of the requirements for the award of the Master of Science in Health Monitoring and Evaluation of Mzumbe University.

CHAPTER TWO

LITERATURE REVIEW

This part is divided into two main parts, theoretical part and empirical part; furthermore, literature review will focus on different variables by highlighting possible factors that could influence the quality of postnatal care services. These factors will be organized into three main groups, those due to influence of health practitioners, contribution of the clients as well as health care system. The review uses a variety of studies conducted in Africa and other part of the world due to scarcity of literature related to quality postnatal care services in Tanzania.

2.0 Theoretical part

Influence of providers on quality of postnatal care services

The review on how health care providers may influence the quality of postnatal care services, will focus on four different variables, which include; adherence to standard as per PNC guidelines, interpersonal relations, confidentiality and availability of skilled provider.

Postnatal guidelines consist of scientifically developed recommendations to assist health care providers and patient decisions about effective and efficient maternal and child health care for specific clinical circumstances (Clinical practice guidelines, 1990). Evidence based guidelines are the greatest contributors to the quality of care in terms of health care processes as well as patient health outcomes. For instance, a study which was done by Lugtenberg, Burgers & Westert in 2009, showed that, adherence to standards as per guidelines is an effective way in improving the process and structure of patients' care. This implies that failure to adhere to postnatal care guidelines may have effect on the quality of care as several essential interventions could be missed unknowingly, which may have an impact on both women and their babies.

Several factors have been identified to influence implementation of postnatal guidelines. These factors were; inadequate knowledge and skills, insufficient number of care

providers and poorly established processes for integrating guidelines into practice, these in turn affect the quality of postnatal care services (Brand et al., 2005). Similarly, a study which was conducted in Malawi about the quality of PNC services offered to mothers, found number of factors which influences the adherence to PNC guidelines as per World Health Organization. One of those factors was insufficient number of care providers as the same workforce was also involved in providing other care services within a facility. It was also discovered that all facilities that were studied lacked essential medical equipments as well as medicines for diagnosis purposes, thus they failed to meet the required set standard. Moreover, it has been shown in literature, due to inadequate number of skilled personnel, majority of healthcare workers are not using clinical guidelines effectively, as nearly 30% to 40% of clients are not receiving care as planned and almost 20% of care given to patients were unnecessary or harmful (Grol & Grimshaw, 2003).

Influence of clients

Accessing and utilizing skilled care can be influenced by a woman herself, that is, if she cannot afford, get or choose to seek skilled care due to some factors such as geographical, economic and cultural factors; presence of skilled care providers will not have any impact on quality of care (Borghi et al, 2003). Moreover, individual client can influence provision of quality postnatal care services mainly due to negative attitude and lack of knowledge concern postnatal care services. For example, women who do not attend ANC services are less likely to adhere to PNC services as recommend after delivery as they might lack proper information about importance of postnatal visits (Wang et al, 2011). As per WHO report (2005), majority of women who did not attend for prenatal services did not attend for PNC services as well. Furthermore, bad attitude, some religious beliefs and some cultural practices influence majority of women not to adhere to the PNC services as required. For instances, WHO recommend all women who give birth at health facility and those who did not give birth at health facility to receive postnatal care for at least 24 hours after birth. But due to the factors listed above and lack of

knowledge on importance of postnatal services many women break the continuity of care.

To increase utilization of quality postnatal care, health education needs to be employed to mothers and to the community in general. This will motivate mothers to utilize postnatal services, as they will be informed on the procedures and importance of utilizing postnatal care services. Information in this regard should be given during the antenatal period and through other communication means such as radio, television, magazines and leaflets.

Social and cultural context of the healthcare system

Effective healthcare system that take into consideration staff management together with personal and professional development opportunity like on job training, are key to maintain the quality of human resource and hence the quality of care offered to clients (Hulton, Matthews, & Stones, 2000). To provide quality postnatal care services, social and cultural context of the health care system must be well equipped in terms of all necessary resources needed for implementation. The needed resources includes time to access, read, become familiar with and explain guidelines to clients; other inputs include supportive peers and supervisors such as CHMTs, care providers, Adequate medical equipment and supplies, infrastructure such as ambulance for referral system and financial resources for training health workers.

Shortage of qualified staff, inadequate essential drugs and supplies, poor communication skills and lack of training has impact on the quality of postnatal care services given to mothers. A study in Uganda identified lack of quality PNC to be due to inadequate knowledge of health care workers and insufficient number of care workers for provision of care (Jitta & Kyaddondo, 2008). Similarly, a study which was conducted in Kenya, found out the quality maternal and child health in public health facilities, were affected by poor quality of care due to lack of medical devices and medicines (Rosy, 2001).

Effective interpersonal relationship may influence the quality of care given to clients. It is through this clients are motivated and able to communicate with their care providers for the purpose of diagnosis which in turn improve client satisfaction, compliance and good health outcome. As per Donabedian, he characterized this relationship into some components which all together contribute to quality. These are privacy, confidentiality, informed choice, concern, empathy, honesty, tact and sensitivity (Donabedian, 1988). Despite the importance of interpersonal communication during postnatal care services, this subject seems not to be taken into consideration. In a study conducted in China on mothers' opinions about quality postpartum services, it was established that the majority of mothers were not satisfied by the attitude of their care providers as regards the communication process (Lomoro, Ehiri, Qian, & Tang, 2002). The reasons given in that study were caregivers being in a hurry during postnatal visits and also not following up their clients regularly when they have postpartum problems. Thus, care providers need to be trained on effective communication skills so as to be able to provide quality postnatal services.

Good referral system is among the factors that have been seen to contribute into quality postnatal care services due to its effectiveness in preventing maternal death. However, it is among the weakest procedures for maternal and child health in referring clients from lowers to higher health facility. For instance, globally, 15% of all pregnant women develop complication during childbirth, and only a few are able to access proper emergency obstetric care due to poor referral system (Borghi et al, 2003). Weak referral system during postnatal period may limit the care needed to be provided to newborn and to the mother, so this will reduce the overall impact of postnatal care. The following are the criteria for good referral system: admission procedures with timely examination of a mother and her newborn, experienced staff and essential medicines and equipments available to stabilize clients before referring them, reliable transport on 24 hours basis and functional communication system to be able to communicate with the referred health facility (Hulton, Matthews, & Stones, 2000).

2.1 Empirical part

This part comprises information gathered through testing, experimentation or observation on PNC services. It is divided into three parts as follows: early discharge soon after delivery, appropriate PNC visits and PNC counseling.

In practice, mothers and their new born are supposed to be discharged from health facility at least 24 hours after birth for uncomplicated vaginal birth. If birth is at home, the mother and their new born should be sent to a nearby health facility as early as possible within 24 hours (WHO, 2010). Early discharge can compromise health of a newborn child and that of the mother as seen in a prospective study which was conducted in Beirut which established that there was an increased risk for re-admission for both mother and her newborn after hospital discharge below 48 Hours (Farhat, & Rajab, 2011). In developing Countries most specifically Tanzania, many mothers and their newborn are discharged as early as two to three hours following birth. This causes them to miss essential newborn care and hence negatively affects overall quality of care (Borghi et al, 2003). Health facility stay is one of the very important indicators of quality PNC services, however, in Tanzania, less than 47% of women whose deliveries took place in health facilities, are discharged within 24 hours after uncomplicated childbirth (Shija, Msovela & Mboera, 2011).

PNC visits are another important indicator for quality of care offered to mother and their newborn. If birth is conducted at a health facility, then mother and her newborn should receive the first PNC services within 24 hours which is considered as the first PNC visit, and for home deliveries, first PNC contact should be as early as possible within 24 hours after birth. Thereafter, new mothers and their newborn are supposed to make three additional PNC visits to nearby health facility at 7, 28 and 42 days post delivery. Lack of PNC affects the coverage of several essential interventions such as family planning, exclusive breastfeeding and other newborn care including immunization like BCG. In Tanzania this is not the case, as most women do attend for PNC services

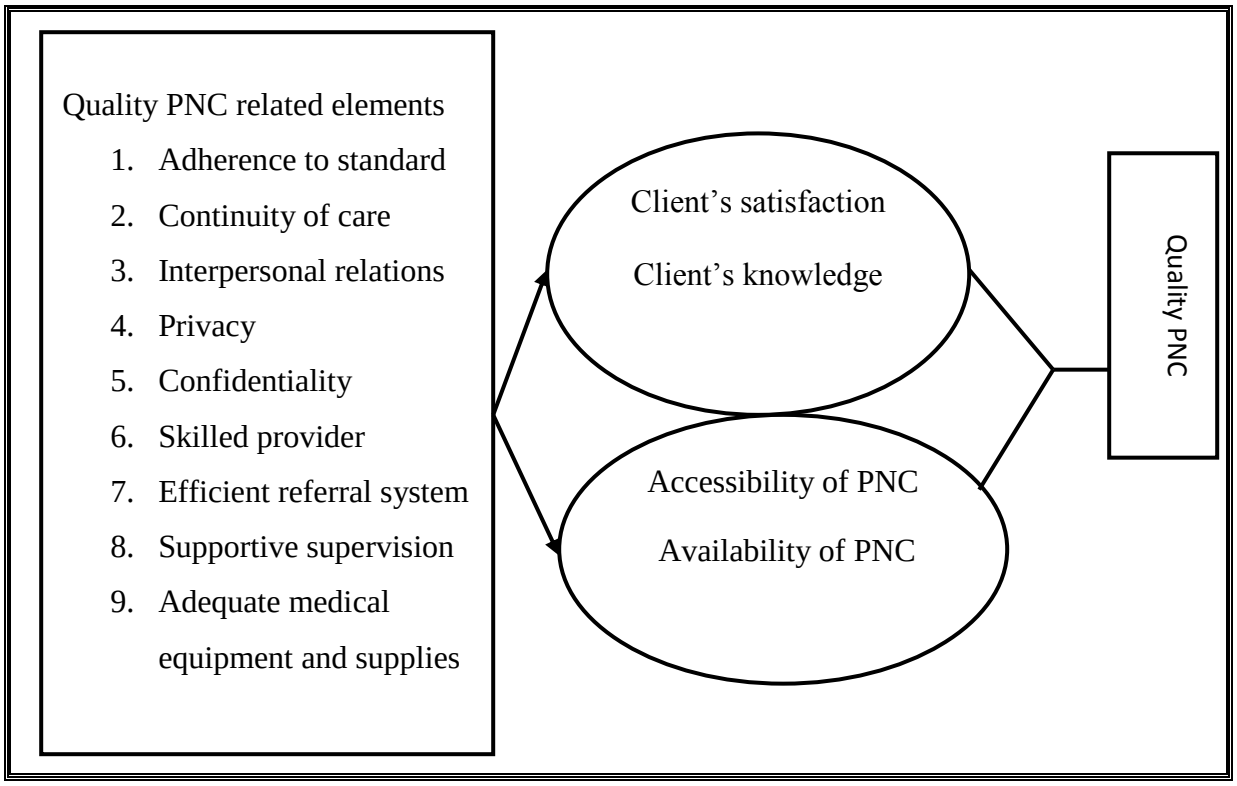
mostly at first contact for health facility delivery, for other visits, they mainly focused on infant immunization (Olsen, et al, 2009).

PNC counseling is another important indicator for quality of maternal and child health-care. The quality of care provided during this crucial period depends largely on the quality of information provided to mothers during counseling sessions. For instance, Singh, Yadav, & Singh, (2012), revealed that newborns whose mothers were advised on keeping their newborn warm soon after delivery were significantly less likely to die during postnatal period compared to those newborn whose mother were not advised. However, in absence of comprehensive approach and skilled care providers, there will be no proper counseling. A study by Jennings et al, (2015) which examined the effect of a job aids-focused intervention on quality of facility-based postnatal counseling revealed that counseling job aids can improve the quality of postnatal services through ensuring mothers and newborns receive essential postnatal services, including health counseling.

2.2 Conceptual framework

The conceptual framework highlight a relationship between variables that influence the quality of postnatal care services among mothers in public health facilities of Mbeya district council.

Figure 2.1: Conceptual framework



Source: Author, 2015

CHAPTER THREE

EVALUATION METHODOLOGY

3.1 Evaluation approach

Process evaluation approach was used to help in finding out whether the program has been implemented as designed where both structural and processes assessment was done. Process evaluation approach was chosen, because it helped to evaluate postnatal care component within an overall comprehensive program of maternal and child health. As per Rossi et al in 2003, it is argued that process evaluation is ideal for examining whether the program was carried out as planned, furthermore will help to explore the views and experiences of clients on a given intervention.

3.2 Evaluation design

Descriptive cross sectional study design was employed in which quantitative method was used to collect and analyze evaluation data. Descriptive cross sectional study design was chosen because it allowed capturing of data about the target population to be obtained at that particular point in time. Furthermore, a descriptive study approach allowed collection of data that provided descriptive estimates of the population parameters and answers on the current status of care (Olsen & St George, 2004).

The study was guided by Donabedian conceptual framework about quality of postnatal care services. Structure assessment involved material resources such as facilities, equipment and medicines; human resources i.e. number of qualified personnel; organizational; structural including methods of peer review and feedback processes. While process assessment denoted the whole procedures of giving and receiving postnatal care services involving both care giver and clients (Donabedian, 1980).

3.3 Evaluation period

Evaluation of PNC services took 2 months, whereby data was collected from February 2015 to April 2015.

3.4 Study area

The study focused on Mbeya district Council which is an area that is within Mbeya Region in the Southern highlands of Tanzania. It is one of the ten districts of Mbeya region which lies between 7^0 and 9^0 south of Equator and between longitudes 33^0 and 35^0 east of Greenwich. It is bordered by Njombe region to the East, Rungwe and Ileje districts to the south, Mbozi district to the West, Chunya and Mbarali districts to the North West. The district has a total population of 305,319 (National Bureau of Statistics, 2012) and 155,036 being women of child bearing age, and has a total of 62 health facilities; 2 Hospitals, 3 health centers and 57 being dispensaries (Mbeya Regional Commissioner Office, 2014).

3.4.1 Study population

The study population included program manager, health workers providing PNC services and a representative sample of clients attending PNC services in health facilities of Mbeya District Council.

3.4.2 Units of analysis

Two study units were involved in data collection; such units include individuals (Healthcare providers and clients) and health facilities providing PNC services. During sampling there were primary, secondary as well as tertiary sampling units which were health facilities, care providers as well as clients.

3.5 Variables and their measurements

3.5.1 Independent Variables:

Independent variable considered include: Social-demographic characteristics of PNC clients include Education level, Occupational, Marital status, Number of children; type of facility and adherence to standards which were measured by number of items of care.

3.5.2 Dependent Variables:

Perceived Quality of postnatal care services was measured based on whether participants rated the quality of health care received as satisfied or not satisfied.

3.6 Focus of evaluation and dimensions

3.6.1 Focus of evaluation

The focus of any evaluation is dependent on following factors: - Purpose of evaluation, stakeholder priorities; available resources, including financial resources; staff and time to conduct evaluation (Fitzpatrick, Sanders & Worthen, 2004). Likewise, Center for Disease Control (CDC) in 2012 suggests that the focus of evaluation will differ with each evaluation situation, the focus depends on: The purpose of the evaluation, user of the evaluation results and on length of program operation. From these remarks, the evaluation was therefore focused on process evaluation of the PNC services of the health facilities in Mbeya District Council with the aim of examining gaps in the provision of quality PNC services for program improvement.

3.6.2 Dimensions of Evaluation

Donabedian (1988) suggested that before conducting evaluation of quality healthcare, one must decide on how quality can be defined. The assessment of quality of health care depends on whether one assesses performance of care providers, contribution of clients or the whole health care system. Therefore, during evaluation it is very crucial to speci-

fy components of care to be evaluated that help in formulation of appropriate dimensions that help in obtaining necessary information and steps required. Consequently, evaluation of quality PNC services at health facilities of Mbeya District Council encompassed the structure components which according to Donabedian (1988) denote attribute in which care occurs; also it assessed PNC processes which denoted actual act of giving and receiving care.

Following an increase in maternal and even more neonatal deaths during postnatal period, the quality maternal and child health services during PNC is very crucial. Quality of care in PNC services encompasses a wide range of issues such as client satisfaction, compliance with the PNC guide line, information given to clients, interpersonal relationship between care providers and clients, availability of necessary resources, provision of services and technical competence which encompasses the level of training of the service providers and how they are doing in accordance with the national guideline. Resource included human resources, infrastructure, materials, supplies, drugs and laboratory reagents to perform different tests. Client satisfaction was one of the indicators for the provision of quality PNC services in which personal concern, respect, attention to the patient's preference, honesty, and good manners are essential ingredients of good care (Donabedian, 1988). The most commonly used dimensions of quality of care among other are: Availability, accessibility, accommodation, effectiveness, Safety, responsiveness, equity, efficiency, competence, acceptability, appropriateness, continuity and timeliness (Kelley & Hurst, 2006). However, after discussing with stakeholders, evaluation team came into consensus and decided that only two dimensions will be used. Those dimensions include: - Availability of resources required in providing quality PNC services for structural component and compliance with PNC guidelines which assess process component.

Different stakeholders were involved in discussion about the agreed standard for the provision of quality PNC services, such stakeholders included CHMTs and health care providers who were working at RCH clinics. In the process stakeholders agreed on the

indicators to be used during evaluation in which each respective indicator were assigned with weight in which scales to measure the dimension of quality was conducted (consider table 3.1 and 3.2 for more elaboration). Before conducting any task, the team highlighted with the components of quality and its measurements so as to reach into consensus.

Table 3.1: Matrix of Analysis and Judgment, Evaluation of the Quality of PNC services at Health facilities of MDC, 2015

DIMENSION	WEIGHT	INDICATOR	VALUES		%	JUDGEMENT PARAMETERS
			EXPECTED	**OBSERVED**		
Availability of resources	33	Number of rooms available for PNC services	1			91-100= Excellent 81-90= Very good, 61- 70 = Partial < 60 = Critical
		Number of skilled health personnel knowledgeable in obstetric warning signs	5			
		Availability of PNC guideline	1			
		Availability of reliable transport and driver for referral system	3			
		Number of days essential equipment stock out needed for management of obstetric complication	10			
		Number of days essential medicines stock out in last 6 months	10			
		Availability of postnatal care monitoring equipment	3			
Compliances with PNC guidelines		Proportion of Mother/newborn receiving PNC within three days and subsequent visits				
		Proportion of newborn timely initiated on breastfeeding within one hour after birth				
		Number of supportive supervision per quarter on maternal and newborn care				
		Proportion of sick newborns taken for treatment				
		Percent of facilities that conduct case review/audits into maternal death.				
		% women receiving postpartum family planning counseling				
		Percent of newborns who receive postnatal care from a skilled provider at each recommended interval				

Source: Monitoring Emergency Obstetric Care: a handbook. WHO, UNFPA, UNICEF, AMDD, 2009

Table 3.2: Indicators definitions

SN	Indicator	Numerator	Denominator
1.	Number of rooms available for PNC services	Available space required to provide PNC with privacy and confidentiality	-
2.	% of skilled health personnel knowledgeable in obstetric warning signs	Number of skilled health personnel who know at least three warning signs for obstetric complications. Skilled attendants include midwives, doctors, and nurses midwifes trained in and capable of delivering (EmOC).	Total number of skilled health personnel interviewed
3.	Availability of PNC guideline	At least one PNC guideline per facility	-
4.	Number of training devoted to essential maternal and newborn care		-
5.	Availability of reliable transport and driver for referral system	Availability of ambulance and driver for H/C and hospital, and effective communication system for dispensaries	-
7.	Number of days essential equipment for management of obstetric complication stock out		
8.	Number of days essential medicines stock out in last 6 months		
9.	Availability of postnatal care monitoring equipment	PNC registers	
10.	Proportion of Mother/newborn receiving PNC within three days and subsequent visits	Number of women within postpartum period who are attended by skilled health personnel following delivery X 100	All live births during the same time period
	% of deliveries attended by skilled health personnel	# of births attended by skilled personnel during the reference period x 100	Total # of live births occurring within the reference period
11.	Proportion of newborn timely initiated on breastfeeding within one hour after birth		
12.	Number of supportive supervision per quarter on maternal and newborn care		
13.	Proportion of sick newborns taken for treatment		
14.	Percent of facilities that conduct case review/audits into maternal death.	# of facilities conducting case review/ audits into maternal death x 100	# of facilities at the appropriate level
15.	% women receiving postpartum family planning counseling	Number of women who received postpartum FP counseling x 100	Total number of women who received postpartum care in a health facility during a specified time

Source: Monitoring Emergency Obstetric Care: a handbook. WHO, UNFPA, UNICEF, AMDD, 2009

3.7 Sample size

The required sample size for the study was determined by using single population proportion formula. In order to achieve adequate precision, the sampling error of the study was taken as 5% and 95% confidence interval. Thus, the following formula for the sample size was employed:

$n = z\ (\alpha/2)^2 p\ (1\text{-}p)/d^2$

Whereby n = sample size, $z = (\alpha/2)^2$ = confidence interval, p = proportion of women receiving PNC according to set standard and guidelines in health facilities of Mbeya District Council and was taken to be 50% due to lack of a reasonable estimate; and d = degree of accuracy (0.05) taken at 95% confidence limit. Therefore from the above formula, sample size was calculated to be: **$n = (1.96)^2 \text{ X } 0.5\ (1 - 0.5)/0.05^2 = 384.16$**

Table 3.3: Sample proportionate to size of each study site

Study site	Total number women attending RCH services at Oct – Dec 2014	Sample proportionate to size
Mbalizi District Hospital	304	159
Inyala Health Centre	233	92
Ilembo Health Centre	198	57
Santilya Dispensary	78	39
Igoma Dispensary	79	37
TOTAL	**892**	**384**

Source: Author, 2015

3.7.1 Sampling procedure/technique

The study employed firstly; non-probability sampling technique in which health facilities with large number of women attending for reproductive and child health services were chosen. Thereafter, simple random sampling was used to randomly select the study respondents.

3.7.2 Inclusion criteria

For the case of care providers, the study targeted all consenting healthcare workers working in the Reproductive and Child Health clinic where PNC services were provided, only public health facilities were included. As for the clients, the study included all consenting mothers attending for PNC services at 6 weeks after delivery who came with their child for immunization at healthcare facilities of Mbeya District Council.

3.7.3 Exclusion criteria

The study excluded all facilities that were not designated to provide basic and comprehensive obstetric services and health care workers working in facilities that were not offering such services. Moreover, all mothers who attended for PNC services from non public health facilities in Mbeya District Council and all those attended for PNC outside the district and those who did not consent to join the study were excluded.

3.8 Data Collection methods

3.8.1 Development of Data collection tools

Structured questionnaire was used to collect the quantitative data from client exit interview. The collected data composed of the socio-demographic features in one part, then assessment of clients' perception using Likert scale on the second. These tools were developed in English, translated to Swahili and pre-tested before administering for the actual data collection. Observation checklist for assessing resource availability was adopted from the WHO implementation guideline. Pre-testing was conducted for 15 clients with the evaluation team at Mbalizi CDH. It tested for acceptability through respondent willingness and reactions, also to check if it could gather relevant required information, to oversee the logical flow of questions and clear wording. Structured observation checklist was used for observations in the facility in which every facility involved in provision of PNC services was included.

3.8.2 Data collection field work

A total 355 clients who came to health facilities of Mbeya District Council for PNC service during the survey were involved in the exit interviews. Data collectors were trained on quality assurance to ensure completeness of the collected data and avoid unnecessary error. Pre-testing of the structured questionnaires was examined for completeness and consistency on a daily basis. Close supervision of data collectors was observed throughout the evaluation process, as daily debriefing and member checking was performed.

3.8.3 Validity issues

Validity can be defined as the degree to which an instrument measures what it is supposed to measure (Polit & Beck 2008). In other words can be described as the extent to which differences found with measuring instrument reflect true differences among those being tested. There are two main types of validity: external and internal validity.

i. External validity

External validity refers to the generalizability of the research findings to populations, settings, treatment variables and measurement variables. The study is externally valid if its findings can be generalized to a larger population. The sample size for this study comprised a total of 355 postpartum mothers aged 16 – 43 who attended for PNC services from five health facilities, with non-response rate of 8%, which indicate that the findings can be generalized to a wider population of rural settings.

ii. Internal validity

Internal validity refers to extent to which an instrument measure what it aims to measure (Wholey, Hatry & Newcomer, 2010). To ensure internal validity, principle evaluator uses the same questionnaire with well structured questions and make sure that there is causal connection between program and intended effects to all participants. Also the questionnaire was pre-tested before being administered to participants. Moreover, all

data collector were trained in advance using standardized training protocols to eliminate bias.

3.9 Data management and Analysis

3.9.1 Data entry

The responses to the survey questionnaires were coded and data entry was done using Microsoft office excel 2007.

3.9.2 Data cleaning

Data cleaning was conducted manually to check for their completeness before making any computations. In a survey, missing values and outliers such as skipped questions or unendorsed options were handled accordingly. For the outliers; Invalid, impossible, or extreme values was removed from the dataset, or marked for exclusion for the purpose of analyses. For the case of missing values they were labeled 99 in order to guarantee accurate bases for analysis.

3.9.3 Data analysis

Data analysis was done by using 13^{th} Stata version where bivariate analysis using cross tabulation was used to compare the clients 'social demographics with satisfaction level. In this type of analysis which involved comparing two categorical variables, chi square ($X^{2)}$ was used to find out whether observed differences between proportions of events in two or more groups were statistically significant.

3.10 Ethical Issues

Evaluation practices usually were guided by a number of principles which was defined as a set of values that guide evaluation practices that help to inform clients to be evaluated and public at large on the anticipated principles. These principles are systematic inquiry, competence, honesty, and respect for people and responsibilities for public at

large (American Evaluation Association, 1995, p. 21). To make sure that all these were adhered principle evaluators make sure that all advice that was provided by my supervisor was adhered accordingly. Brian English in 1997, grouped ethical issues into three main categories, namely protection of people, freedom from political interference, and quality data collection techniques. Thus, to dealing with ethical concerns that arose, the following was taken into consideration: -

Protection of people involved in evaluation

All people that were involved in providing data during evaluation, their information were protected in such a way that only synonyms was used that it became difficult for one not involved in data collection/evaluation to retrieve back or connect with the information they provide. Principle evaluator make sure that during evaluation data collectors took into consideration not to give unrealistic expectation to the clients in a process to express their gratitude or convince people to answer evaluation questions.

Freedom from political interference

The evaluation was conducted in a neutral ground, free from political influence, implementing organization and all other key stakeholders. This became possible through reframing the issue of concern with the stakeholders by negotiation through education and communication which ensured that all stakeholders understood all procedures and basis of the evaluation findings. Also detailed and proper documentation of the evaluation plan helped in providing neutral ground since all parties were provided with clear boundaries.

Quality data collection techniques

In order to ensure sound inputs during analysis, ethical issues that affected the quality of data was considered during data collection, one such issue was participant's reimbursement. In an informed consent it was depicted clearly that no incentives will be granted to any of the participant to avoid offering statements that were supportive of the topic. Furthermore, all data collector were trained on different aspects as far as data collection

process was concerned. Thus, for the evaluation of PNC services at health facilities of Mbeya District Council to be conducted, an approval from the evaluation supervisor thereafter acquire official permission from Mbeya District Medical Officer. Both written and oral informed consent was obtained from the participants in which all consented clients were assured of their confidentiality and their names remained anonymous.

CHAPTER FOUR

PRESENTATION OF FINDINGS

This chapter presents the findings based on the analysis of three evaluation objectives or questions. The objectives of the evaluation were as follows: first was to assess whether postnatal care services at health facilities have been implemented as per guidelines, secondly, to determine gaps in delivering quality PNC services in health facilities of Mbeya District Council and thirdly was to determine mothers' satisfaction on the quality of care and support during first month after birth. Total of 355 postnatal mothers who attended for postnatal visit at five different health facilities of Mbeya District Council were interviewed, with 8% non response rate.

Participant's demographic information

Age is one of the most important variables in maternal and child health. Giving birth at extreme ages (below 19 and above 35) may pose significant risk to both mother and her newborn and hence extensive care is highly needed. The respondent's age was normally distributed with slight skewed, ranged between 16 and 43 years. Mean age of studied sample was 27.7± 6.2 and median was 28, Majority (29%, N=103) of participants were within age range 25-29, the extreme age ranges i.e. 15-19 was (11%, N=40) and that of 35 years old and above was (16.3%, N= 58). With regard to occupation, 61.9% of participants were homemakers, 30.2% were self employed and the least about 7.9% were employed. In terms of marital status, 79.6% were married, 18.2 single, and 1.1% were either divorced or widowed. Regarding mother's education, 63.5% were primary school level, 26.7 were secondary level, 4.9% were illiterate and 4.9% reached advanced level. Table 4.1 displays demographic characteristics of participants.

Table 4.1: Distribution of Socio-demographic characteristics of women attending PNC at 5 health facilities of Mbeya District Council

Maternal age groups	Frequency (N)	Percent (%)
15-19	40	11.3
20-24	71	20.0
25-29	103	29.0
30-34	83	23.4
35+	58	16.3
Marital status		
Single	64	18.2
Married	279	79.6
Divorced	4	1.1
Widowed	4	1.1
Occupation		
Homemaker	219	61.9
Self employed	107	30.2
Employed	28	7.9
Education level		
No schooling	17	4.9
Primary school	222	63.5
Secondary level	93	26.7
A-Level	17	4.9
Place where PNC received		
Mbalizi Hospital	149	41.9
Inyala Health Centre	87	24.5
Ilembo Health Center	52	14.7
Santilya Dispensary	34	9.6
Igoma Dispensary	33	9.3

Source: Author, 2015

Assessment of whether postnatal care services at health facilities have been implemented as per guidelines and identify gaps in delivering quality PNC

This sub section presents the findings based on the first and second evaluation objectives. The objectives attempted to assess whether PNC services have been implemented as designed and identify gaps in delivering quality services.

Structure attributes for quality PNC services

Evaluation of structure component involved material resources such as facilities, equipment and medicines; human resources i.e. number of qualified personnel; organizational structural including methods of peer review and feedback processes.

i. Human resources

A total of 5 health facilities were evaluated out of which one was a designated hospital, two health centers and two dispensaries. The study sites evaluated (N=5), have skilled health personnel knowledgeable in obstetric warning signs who are also providing PNC, and all have been oriented to the PNC guideline. Table 4.2 displays the human resource availability at the evaluated sites (N=5). Most of the health care providers offering PNC and other reproductive and child health services such as antenatal, labor and delivery services were Nurses (N=33); out these, 3 were nursing officers, 13 assistant nursing officers and 17 enrolled nurses. Mbalizi hospital and Inyala health centre had more nurses followed by Ilembo health centre, Igoma dispensary and Santilya had the least number of nurses.

Table 4.2: Human resources providing RCH services in the study sites (N=39)

Facility name	CADRE OF STAFF				
	Nursing Officers	Assistant Nursing Officers	Enrolled Nurses	AMO	CO
Mbalizi hospital	3	5	2	0	0
Ilembo H/C	0	2	5	0	1
Inyala H/C	0	3	7	1	2
Santilya dispel	0	1	1	0	1
Igoma dispensa	0	2	2	0	1
TOTAL	3	13	17	1	5

Source: Author, 2015

ii. Material resources (Infrastructure)

The checklist reveals the facilities evaluated did not have enough infrastructures for provision of quality PNC services. For instance, only one facility (Mbalizi designated hospital) had improvised room for PNC. Others four health facilities utilized labor rooms for PNC activities. However, all five health facilities did not have postnatal care guidelines for references by care providers.

iii. Medicine/medical devices

For the case of basic material resources needed to render quality PNC services, all of the studied health facilities had enough resources which are essential medicines (Ferous sulphate, Folic acid, Co-trimoxazole tab, paracetamol and family planning commodities); medical equipments (Thermometer, sphygmomanometers and examination beds).

A. Process attributes of PNC services

i. Supportive supervision and Case review of maternal death

In the year preceding the evaluation, all of the five health facilities had been supervised quarterly particularly on maternal and new born care. This increased the chances that health care providers gained professional skills from the supervisors' expertise to provide quality PNC services. As for the training, all staff offering PNC services in health

facilities evaluated had been trained on essential maternal and newborn care, although in all five (5) health facilities there were no records/training attendance list that portray names and type of training given. Mbalizi hospital is the only facility found to conduct case review/audits into maternal death.

ii. Referral system

The referral system of the evaluated sites was not functioning well as in four health facilities there was neither a reliable transport on twenty four hours basis nor had functional communication system to be able to communicate with the receiving health facility.

iii. Health facility scores according to the Standard of Postnatal care

The evaluated health facilities scored below 90% which implies that PNC services offered was sub-standard. Mbalizi Hospital scored 74%, Santilya dispensary scored (71.5%) followed by Inyala Health Centre with the score of 71%, Ilembo Health Centre 66.5% and the last was Igoma Health Centre which scored 65% which is equal to partial quality, see table 4.3 and annex 3

Table 4.3: Health facilities scores according to PNC standard

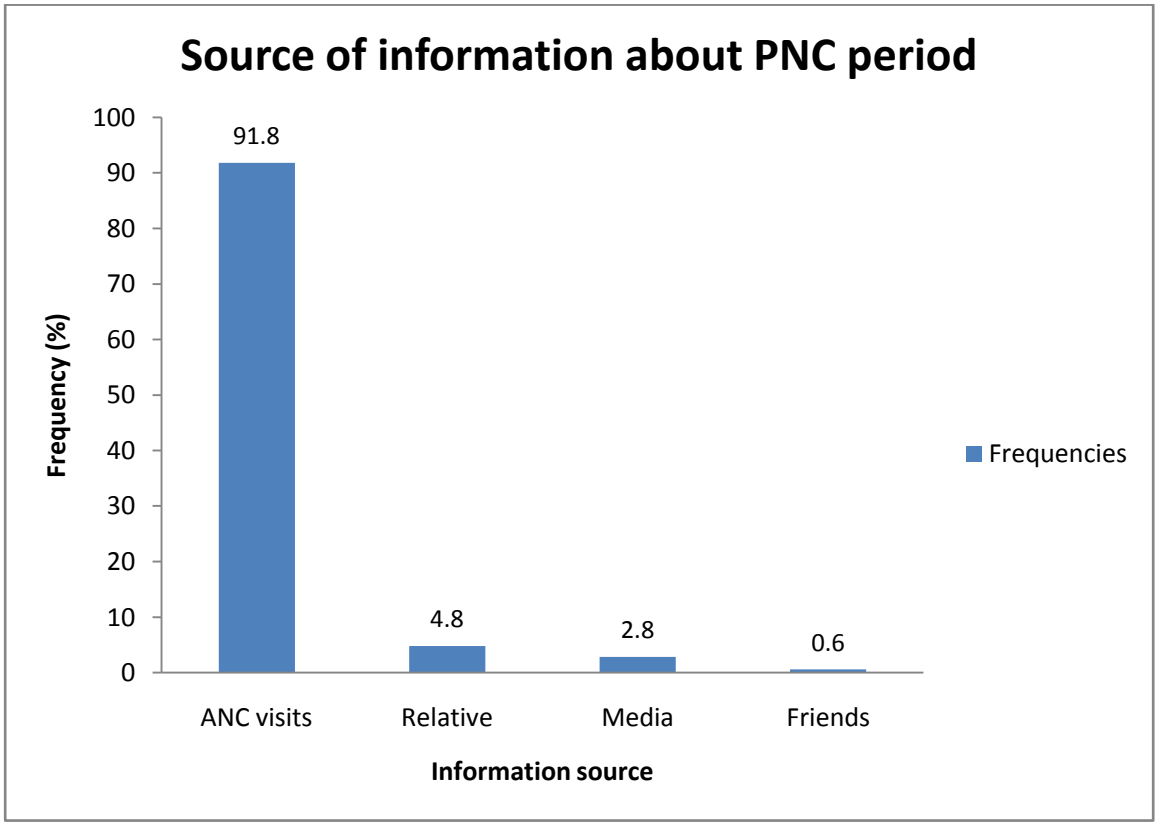
SN	Health facility	Structure attribute (%)	Process attribute (%)	Average (%)
1.	Mbalizi Hospital	86	62	74
2.	Inyala Health Center	71	71	71
3.	Ilembo Health Center	71	61.4	66.2
4.	Igoma dispensary	71	60	65.5
5.	Santilya dispensary	66	77	71.5

Note: 91-100=Excellent, 81-90=Very good, 71–80=Average, 61-70=Partial, < 60=Critical

iv. Participants' knowledge about PNC services

Study findings revealed that all study participants (N=355) had delivered in health facility and all had ever heard about PNC services of which majority about 91.8% heard about it during ANC visits. Others, 4.8% were informed by their relatives, 2.8% through media and 0.6% by their friends, see figure 4.1.

Figure 4.1: Source of information with regard to PNC services (where mothers get it from)



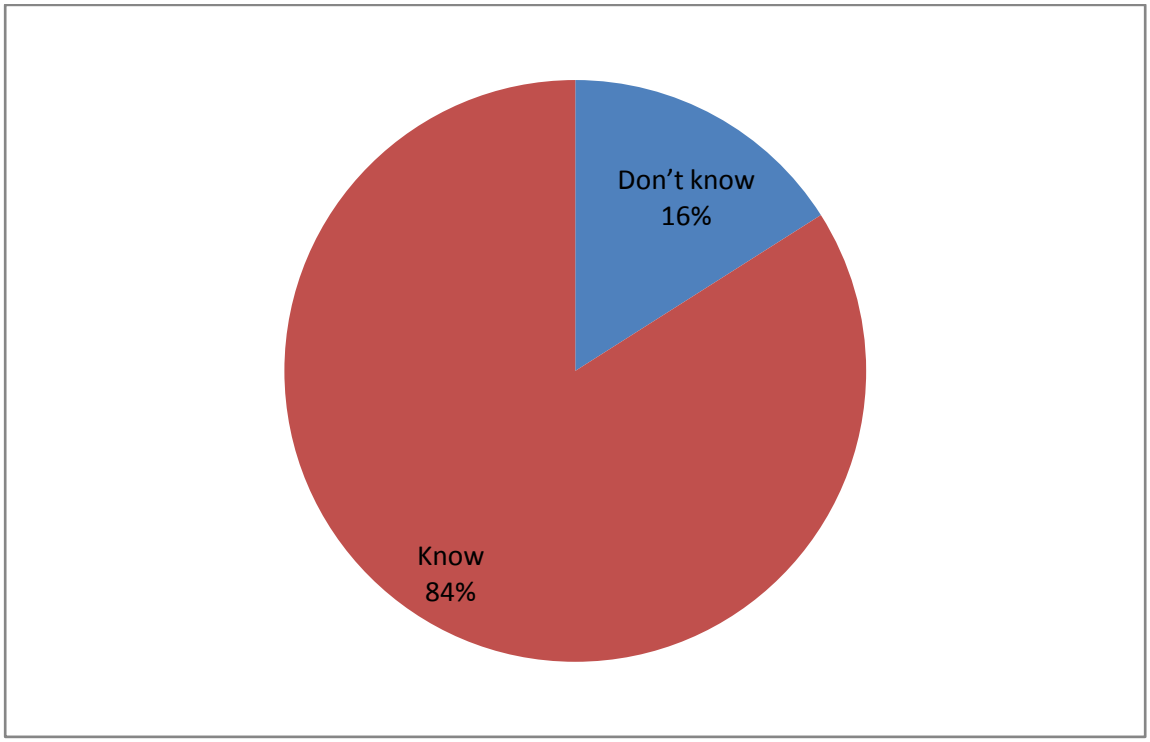
Source: Author, 2015

When asked what they know about PNC services, respondents gave multiple responses as follows: 45.9% (n=162) of respondent state PNC as a care given to mother and her newborn soon after delivery to 6 weeks, 27% (n=96) understood PNC as services that

deals with knowledgeable about breastfeeding, 15.6% (n=55) thought PNC as services that deals with family planning services and 11.3% (n=40) think PNC as advice on infant feeding.

Mothers were asked if they know about the appropriate number of visits required attending for PNC visits, the following were the response: Majority about (N = 299, 84%) knew the right time required was first six weeks or day 1, 7, 28 and 42 after delivery. Others about (N = 56, 16%) did not know and they state that it supposed to be three month after delivery or any day when they're not ok, See figure 4.2.

Figure 4.2: Mothers' knowledge about appropriate number of visits to PNC clinic



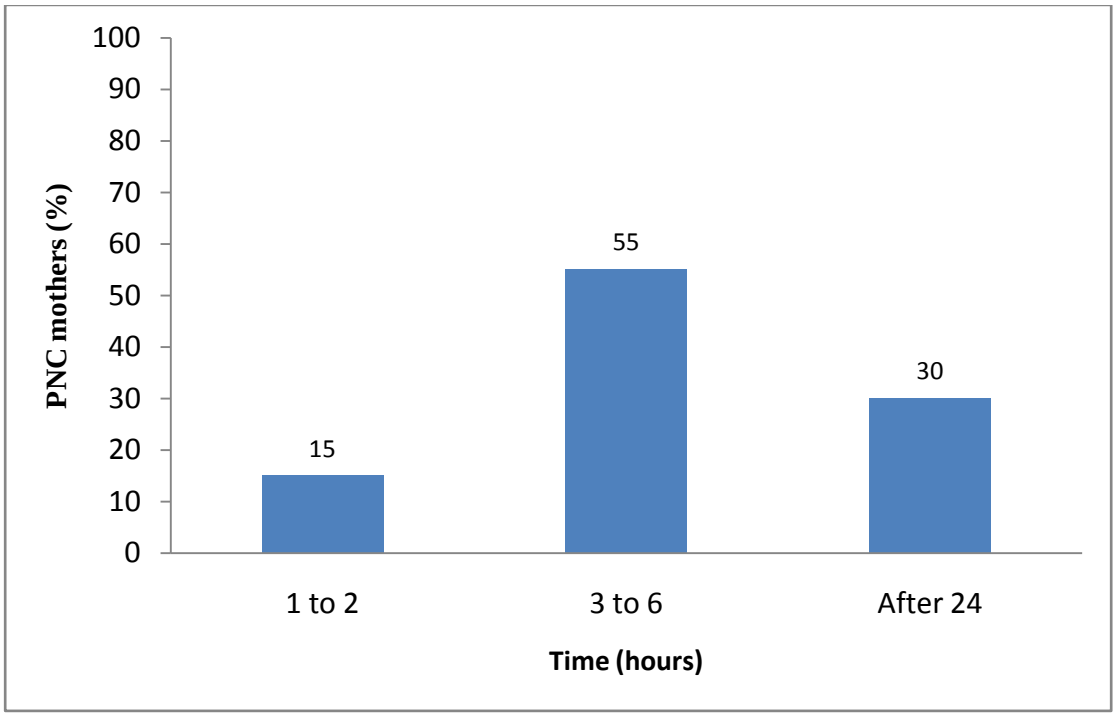
Source: Author, 2015

v. Mothers' experiences with PNC services rendered during PNC visits

PNC mothers were asked to state the time spent at health facility after delivery to the moment of discharge. Most women (N = 194, 55%) reported being discharged from the

health facility between 3 to 6 hours, followed by (N = 105, 30%) who were discharged after 24 hours. The rest (N = 56, 15%) were discharged between 1-2 hours. See figure 4.3.

Figure 4.3: PNC mothers' time spent in health facility before being discharged



Source: Author, 2015

Mothers' satisfaction on the quality of care and support during first month after birth

This sub section presents the findings based on the third evaluation objective. The objectives attempted to assess mothers' satisfaction on the quality of care and support during first month after birth.

i. Respondents' satisfaction with post-natal care

Based on mother's experiences during PNC visits, Likert scale was used to measure mothers' satisfaction with care provided during PNC visits. They were asked to tick

whether they were fully satisfied, satisfied or not satisfied with several facilities and services provided as stipulated in the PNC guidelines.

Table 4.4: Perceived satisfaction with several services provided during PNC period

ITEMS	LEVEL OF SATISFACTION			
	Total number N (%)	**Fully satisfied N (%)**	**Satisfied N (%)**	**Not satisfied N (%)**
Attitude & behavior of care providers	355 (100)	4 (1.1)	32 (9.0)	319 (89.9)
Information about family planning and postnatal follow up visits	355 (100)	73 (20.6)	64 (18.0)	218 (61.4)
Physical examination done	355 (100)	3 (1.7)	28 (7.9)	321 (90.4)
Checked vital signs	355 (100)	34 (9.7)	73 (20.5)	248 (69.8)
Maintenance of privacy	355 (100)	4 (1.2)	20 (5.6)	331 (93.2)
Cleanliness of the facilities	355 (100)	9 (2.6)	44 (12.4)	302 (85.0)
Information on exclusive breastfeeding	355 (100)	6 (1.7)	56 (15.8)	293 (82.5)

Table 4.4 shows how clients rated their satisfaction with different services offered during PNC period. From the interpersonal point of view, majority of clients (89.9%) were not satisfied with the attitude and behavior of care providers and the least were satisfied with interpersonal relationship. As far as family planning and postnatal follow-up is concerned, more than half of clients (61.4) were dissatisfied with the information provided while about (20%) were fully satisfied and (18%) were satisfied with information provided. Participants were also asked if health care providers checked their vital signs (blood pressure, temperature and pulse rate) during their visit to health institution. Majority 69.8% were not satisfied that care provider checked the vital signs, 20.5% were satisfied and only 9.7% were fully satisfied that they were checked for vital signs. As for the other aspects, the trends of satisfaction with the services were similar as shown in table 4.4.

Orientation to PNC services, information provided to clients during postnatal visits and communication/interpersonal relationship between care providers and the clients were also studied and the findings are as described below.

ii. Orientation to PNC services

When asked to rate their answers of whether they were oriented onto different services as far as quality PNC is concern, the result was as shown in the figure 4.4. The results shows that majority of participants strongly disagreed that they were oriented to PNC services during their visits to health facilities. Only 1% agrees they were oriented to several services during their PNC visit.

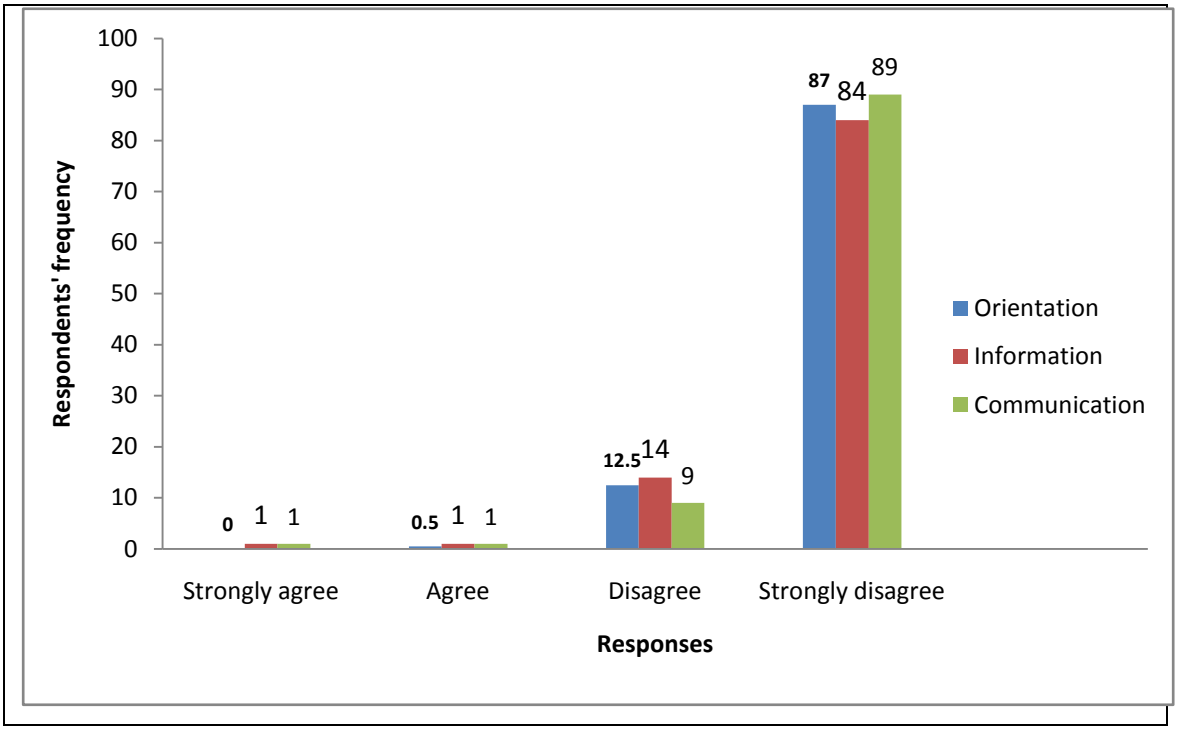
iii. Information with regard to PNC services

In terms of whether the clients were informed about services offered during postnatal period, the results reveal that, most of clients strongly disagreed that they were informed about different services required to be given as per PNC guidelines. Highest percentage of strongly disagree about 86.5% was on whether PNC mothers were given information on various services during PNC. However, very few clients about 2% actually agree that they were informed on basic information as stipulated in the figure 4.3.

iv. Interpersonal relationship (communication)

From communication aspects, clients were strongly disagreeing that they had good communication with their care providers. Figure 4.4 shows that majority (89%) strongly disagreed that they communicated well with their providers, (9%) just disagree and only (1%) agree that there were good communication with their health care providers.

Figure 4.4: Percentages Agreement whether mothers oriented, informed and Communicated well with health care providers at health facilities of Mbeya District Council



Source: Author, 2015

Women were asked to rate the quality of PNC services received during their visits in the respective health facilities as satisfied or not satisfied with the care given to them. Findings reveal that 89.8% of the interviewed mothers were not satisfied with the PNC provided and only 10.2% were satisfied with the PNC services.

v. Relationship between perceived quality of PNC services provided and social-demographic characteristics

The association between satisfaction with PNC services provided and socio-demographic characteristics were tested by using Fisher's exact test. The socio-demographic factors assessed include marital status, age group, health facility attended, number of children each clients had, education level, and occupation of clients. Table 4.5 showed the sample's socio-demographic characteristics in relation to whether they were satisfied or not during their visits for PNC services. Majority of women inter-

viewed were not satisfied with the quality of care given. For instance in extreme age groups, age groups (15-19) only 5% were satisfied and 95% were not satisfied with the quality of care provided. As for the age group 35 and above, 6.9% were satisfied and 93.1% were not. The trend is similar across all age groups as shown in Table 4.5. However, the results were not statistically significant as the Fisher's exact test gives the p-value of 0.46 which is great than 0.05. As per marital status, descriptive statistics reveals differences between those satisfied with PNC services provided and those who were not satisfied. Majority of participants were married women, and about 90% were not satisfied with the care provided and only 10% were satisfied with care given. However, the results was not statistically significant as the p-value was 0.09 which is great than P-value. Occupation-wise, majority of participants were homemakers, where 90.9% were not satisfied with PNC services provided and only 9.1% were satisfied with PNC services. For self employed participants, only 7.5% were satisfied with care given while 92.5% were not, likewise for employed women, only 28.6% were satisfied and 71.4% were not satisfied with the quality of PNC services. The result was found to be statistically significant since the P-value (0.008) was less than 0.05.

According to women's education level, majority were primary school, in which 6.3% were satisfied with the quality of PNC provided and most of them about 93.7% were not satisfied with care provided. For the remaining groups as far as education is concerned, 10.8% of secondary school level were satisfied and 89.2% were not satisfied with the quality of PNC provided. The result was statistically significant since the P-value (0.003) was less than 0.05. Based on where care was provided, Mbalizi hospital had many clients where most of the women again were not satisfied with care provided as shown in table 4.5. For those who received care at Mbalizi hospital, 87.9% were not satisfied with care provided and only 12.1% were satisfied with care provided. Also the trend is similar in other health facilities evaluated, as those who attended at Inyala Health Centre, 98.9% were not satisfied and only 1.1% was satisfied. The differences in

health facilities between those who were satisfied and those who did not, were statistically significant since the P-value (0.000) was less than 0.05.

Table 4.5: Distribution of the sample by socio-demographic characteristics in relation to satisfaction with PNC services

Variables		Perceived quality of PNC		F-test (P-value)
		Satisfied	**Not satisfied**	
		N (%)	**N (%)**	
Age group	**15-19**	**2 (5.0)**	**38 (95.0)**	**4 (0.46)**
	20-24	**6 (8.5)**	**65 (91.5)**	
	25-29	**12 (11.7)**	**91 (88.3)**	
	30-34	**12 (14.5)**	**71 (85.5)**	
	35+	**4 (6.9)**	**54 (93.1)**	
Marital status	**Single**	**4 (6.3)**	**60 (93.7)**	**8.8 (0.09)**
	Married	**28 (10.0)**	**251(90.0)**	
	Divorced	**2 (50.0)**	**2 (50.0)**	
	Widowed	**0 (0)**	**4 (100.0)**	
Occupation	**Homemaker**	**20 (9.1)**	**199 (90.9)**	**11.5 (0.008)**
	Self employed	**8 (7.5)**	**99 (92.5)**	
	Employed	**8 (28.6)**	**20 (71.4)**	
Education level	**No schooling**	**2 (11.8)**	**15 (88.2)**	**16.5 (0.003)**
	Primary school	**14 (6.3)**	**208 (93.7)**	
	O-level	**10 (10.8)**	**83 (89.2)**	
	A-Level	**6 (35.3)**	**11 (64.7)**	
Number of children	**1 – 2**	**16 (8.6)**	**170 (91.4)**	**5.9 (0.047)**
	3 – 4	**20 (14.1)**	**122 (85.9)**	
	5 – 6	**0 (0.0)**	**27 (100)**	
Health facility	**Mbalizi**	**18 (12.1)**	**131 (87.9)**	**32.9 (0.000)**
	Inyala	**1 (1.1)**	**86 (98.9)**	
	Ilembo	**0 (0.0)**	**52 (100)**	
	Santilya	**7 (20.6)**	**27 (79.4)**	
	Igoma	**10 (10.1)**	**23 (89.9)**	

Source: Author, 2015

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

This chapter discusses the findings presented in chapter four based on three evaluation objectives or questions. Thus, discussion in this chapter will also focused on discussing the findings in relation to research objectives or questions in chronological order, i.e. from first objectives to the third one.

5.0 Structural Quality Attributes, Does it meet the set standard? What are the gaps?

The findings of structure and process components for the evaluation of PNC services in five health facilities had gaps; this demonstrate that women and their newborn received postnatal care services which were sub-standard. These results could be attributed to inadequacy of infrastructure as there were no PNC room and the fact that the same healthcare workers were also providing other RCH activities like antenatal care, labor and conducting deliveries.

The results from the evaluation showed that the health facilities did not have enough skilled staff for provision of quality PNC (With respect to human resource qualifications.). Moreover, the same staffs were found to have other duties such as providing services at the antenatal clinic, conduct deliveries and also provide care at the out-patient department. This implies that the quality of PNC services offered to mothers and their newborn might be sub-standard as majority of women interviewed state that health care providers did not check their vital signs probably due to work pressure. The results are similar with other studies done in Kenya and Tanzania where health facilities were found to have inadequate number of healthcare providers for provision of quality health services (Rosy, 2001, Mpembeni, 2007). Moreover, in Malawi due to shortage of healthcare providers RCH department was found to combine PNC services with other

maternal and child health services that lead to compromising the quality of PNC provided (Chimtembo et al, 2013).

The results revealed the inadequacy of the infrastructure required for provision of quality PNC. In five health facilities evaluated, none had postnatal room for provision of quality PNC to mothers and their newborn as stipulated in the guideline. This hindered provision of complete PNC package i.e. ‘’breastfeeding support, Health education of parents and facilitating rest and recovery for women following birth’’ as the same room that was used for PNC also provides other services like labor and delivery, and hence lack of privacy (Rayner, McLachlan, Forster, Peters, & Yelland, 2010). However, all five health facilities had enough other resources for provision of PNC services. Such resources were medicines and medical devices, monitoring equipment (Thermometer, sphygmomanometers and examination beds) for checking vital signs, also the evaluated health facilities had enough logistic management tools such as PNC registers, though none of the health facility had PNC guidelines. The availability of medicines, medical equipment and PNC registers had been contributed by availability of funds from UNICEF that support RCH activities in few selected districts of Mbeya region, Mbeya District Council being among the selected districts.

5.1 PNC Process Quality Attributes, Does it meet the set standard? What are the gaps?

In the year preceding the evaluation, Healthcare providers were supported and supervised regularly by experienced supervisors on maternal and child health care as set in PNC guideline. Provision of quality PNC services needs effective and regular Supportive supervision so as to strengthening relationship through identification and resolution of challenges faced during the process of giving and receiving care. A study done in Tanzania and Malawi established that without effective supportive supervision in the midst of shortage of human resource for health, the quality of health care services would be compromised as it plays one of a key roles in motivating and retaining human

resource and hence the quality of health services including PNC services (Bradley et al, 2013).

a. Case review/audits into maternal death

Case review into maternal death was not done according to the guidelines, only one facility found to have maternal death audit, this may compromise the quality of maternal healthcare services and may lead to increased in mortality rate (WHO, 2004). The standards stipulate that all health facilities are supposed to conduct thorough discussion once maternal deaths occur at least once in a month (De Brouwere, Zinnen & Delvaux, 2014). Health facilities Case review on maternal and/or neonatal deaths within 42 days prior to giving birth are very crucial into reducing mortality and morbidity rate. For every death that occurs at health facility, investigating contributing medical and non-medical factors will help to obtain comprehensive picture of what causes such death and provides a good opportunity for learning. If maternal death audit is not done at facility level, it will be very difficult at national level to monitor causes and circumstances that lead to deaths of mother and/or her newborn

b. Referral system

Referral system in the district was not good as only one (Mbalizi hospital) out of the assessed facilities had appropriate referral facilities in place. For a referral system to be of quality, it must have well defined protocols explaining referral procedures, reliable transport on 24 hours basis, there must be good communication and cooperation throughout the chain, experienced staff and essential medicine to stabilize patient before being referred. However, all five health facilities did not have protocols in place to ease the process of referring patients to higher health facilities. This deters the quality of healthcare in the district. This finding concurred with the research findings of Okafor and Rizzuto, (1994) who established that poor referral system is a constraint of receiving quality maternal healthcare in case of emergencies.

c. Participants' knowledge about PNC services, what are the gaps?

The results showed that all women have ever heard about PNC services, where the most cited source of information was during ANC visits which highlight the usefulness of providing health education to clients attending for prenatal care services. The high rate of awareness could be due to male involvement during antenatal visits where healthcare workers provide health education and counseling in health facilities of the district. However, majority of participants scored low in terms of their knowledge on what constitute PNC which implies that mothers may have receive fewer PNC services without their knowledge. Therefore, care providers need to put more emphasis on providing health education on maternal health services including PNC services so as to have a great impact on quality of health services. In agreement with these findings, a study done in Ethiopia revealed that PNC mothers in health facilities were aware of the PNC services provided but had poor knowledge on the package of PNC which in turn affected the services in general (Hulton et al, 2000).

The results reveal many women knew the appropriate number of visits and the right time to begin attending PNC services. The health of mothers and their newborn can be significantly improved when women know the right time to start receiving PNC services. Failure to receive care timely could result into delay in identification and management of post delivery complications and hence more morbidity and mortality rate. A study conducted in Bangladesh found that neonatal mortality was low for those women who made their PNC timely (Baqui et al, 2009).

d. Time spent at heath facility after delivery

Early discharge of mother and their newborn soon after delivery is an indicator of poor quality of health services. Women are supposed to be discharged at least 24 hours in resources constrained areas. This study reveal high percentage of early facility discharge which poses high risk to maternal and neonatal health. These findings are supported by findings of a study done by Cargill, et al, (2007), who showed even in developed countries, postpartum length of stay has decreased tremendously. However, early

discharge in health facilities of Mbeya District Council is attributed to poor infrastructure such as inadequate PNC room and inadequate numbers of healthcare providers. This is an indication of poor quality of PNC services as care providers were unable to adhere to PNC guideline.

e. **Checking for vital signs**

Study results reveal that Health care providers did not check for vital signs among women attending postnatal care services. This is a significant omission in the provision of PNC, indicating poor quality PNC rendered to mothers. Checking for vital signs helps in symptomatic identification of puerperal complications and their management as they are the indicators of wellness for postnatal mothers. For instance, temperature measurement will enable the health care staff to know whether the client is free from fever or otherwise. When fever is above 38^{o}C it indicates infection to mothers. Checking for blood pressure will help the care providers to be sure that there is no sign of pre-eclampsia or maternal shock and checking for pulse rate is an indication that maternal heart is in good condition. These symptoms are early signs of major causes of maternal mortality during postnatal period. Thus, health care providers need to adhere to postnatal guideline for provision of quality PNC services.

f. Interpersonal care as element of quality care

The study reveals there was poor orientation to PNC services, poor information provided about several services required to be offered and the clients were not satisfied with the way they communicate with their healthcare providers. The findings are similar to those found by Campero et al. (1998) who studied the influence of support during labor and delivery among women in Mexico. The interviewed women reveals that there were lack of information provided to them by medical staff about their health, their newborn health, health facility routines as well as medical intervention required. These aspects of quality care i.e. orientation, communication and information on PNC services is very crucial in contributing to satisfaction with health care services provided. These

will help women feel that they understand what is going on and that they have the right to know different medical and non medical procedures supposed to be provided to them. Women' clear understanding of what is happening to them and to their newborn and specific information on symptoms that may signal complications is very crucial as they determine subsequent behavior of clients.

5.2 Mothers' satisfaction on the quality of care and support during first month after birth

Clients' satisfaction is very important indicator of quality of health care services. Proportion of clients who were not satisfied with the services provided was almost more than three quarter of all clients and very few were fully satisfied (see figure 4.3 and table 4.3). Moreover, some of the dimensions of client's satisfactions related to quality PNC services such as attitude and behavior of healthcare providers, information about family planning and postnatal visits, physical examination conducted, maintenance of privacy, information on exclusive breastfeeding and cleanliness of health facilities were assessed and found that high proportions of clients were not satisfied with all the selected aspects of care.

The results reveals majority of mothers were not satisfied with the care given to them during PNC visit. Several socio-demographic features were also found to affect women satisfaction about postnatal care services. Age is one of the most important variables in maternal and child health. Giving birth at extreme ages (below 19 and above 35) may pose significant risk to both mother and her newborn and hence good and adequate care is needed. The results reveal that the youngest participant was 16 years old and the oldest was 43 years of age with mean age of 27.7± 6.2 and median was 28. Most of participants were within the age group 25 – 29 having primary education level. Majority of participants were homemakers with average of 2 to 3 children.

The evaluation results showed that the association between age group, number of children and marital status were not statistically significant. The results were similar to the

study done by Lomoro et al, (2002) on Mothers' perspectives on the quality of postpartum care in Central Shanghai. He found that age and marital status were statistically insignificant with the satisfaction level. However, a study done by Devitt, (1992) found that older people tend to be more satisfied with health services than the younger one do. The results of this evaluation revealed that education-wise, there is significant difference between level of education and satisfaction with PNC services provided. Clients with secondary school levels were found to be more satisfied with services compared to other level. These results concurred with findings by Haran et al, 2008, who showed that level of satisfaction is directly proportion to the education level; however, in another study done by Scott in 2004, it was shown that education status affect satisfaction level both positively and negatively. With regards to occupation and satisfaction with PNC services, it was found out that the level of satisfaction among homemakers was significantly higher than those who were either employed or self employed. These could be due to level of awareness among women as majority of the homemakers were primary of school level. These findings are contrary to those established by Zadoroznyi in 1996. He found out that Women who were well-off in terms of economic, educational and other social resources reported a highest level of satisfaction.

5.3 Health facility scores according to the Standard of Postnatal care and identified gaps

Mbalizi hospital scored the highest (74%) (see table 4.2) due to the following reasons: Structure-wise; RCH department have improvised room for provision of PNC services where women and their new born babies had the space to relax and provided essential interventions like how to breastfed babies, and be given advice on family planning, also the facility had enough number of skilled healthcare providers for provision of quality PNC services. Furthermore, availability of essential medicine and monitoring equipment that is very crucial in taking care of postpartum mother and her neonate. However, the facility lacks PNC guideline which is very important for healthcare providers to adhere to and make reference whenever needed. As far as process attributes is concerned,

Mbalizi hospital scored poorly compared to structure attributes, the reasons could be due to low proportion of mother/newborn. About 33% receiving PNC services within three days and subsequent visits and also the facility had very low proportion of women receiving postpartum family planning counseling refer Annex 3.

Igoma dispensary had scored the last probably due to deficiencies in structure as well as process attributes. Structure-wise, the facility did not have PNC room for provision of care to mother and her newborn; secondly, there was no PNC guideline for healthcare providers to refer to. In terms of process attributes, the facility was in critical condition because the proportion of Mother/newborn receiving PNC within three days and subsequent visits was zero and the indicator for women receiving postpartum family planning counseling was very low about 15%, see annex 3.

The main reasons for average scoring of health facilities of Mbeya District Council on PNC guidelines and reproductive and child health standards were that all the health facilities had enough equipment, medicines and medical devices required for provision of PNC, although, all five facilities had no special room for postnatal care services, additionally, there were shortage of human resource for health as the same healthcare workers were also assigned with other duties such as attending prenatal clients. The findings concurred with those found by Kim et al, in 2013 where almost all of the care providers interviewed offered at least three to four key health services i.e. ANC, labor, PMTCT and delivery making it difficult for them to master all of the performance standards. Additionally, all health facilities lacked PNC logistics management tools like PNC guideline (refer annex 2). Hence, with these limitations; it could be difficult for health facilities to meet the required standard of care as stipulated in the guideline.

5.4 Evaluation dissemination plan

Publishing evaluation report may not be useful as they may not reach the intended audiences (CDC, 2011). For the dissemination to be effective, all key stakeholders have to be contacted through meeting. The meetings will be facilitated in such a way that the

evaluation findings will feed into methods to improve the quality of PNC services by gathering all relevant comments from stakeholders that will not affect the findings but rather improve usefulness of the findings. Draft of the evaluation report will be presented to Mzumbe University whereby all relevant comments received from audience so far will be included in the final report. For more information, just consider table 5.1

Table 5.1: Report Dissemination Plan, Evaluation of the Quality of PNC services at health facilities of Mbeya District Council, 2014

SN	STAKE-HOLDER	INFORMATION NEED	DISSEMINATION FORMAT	WAY OF COMMUNICA-TION
1.	**Donors**	i. Provide lessons learned for both in country and international programs ii. Improve program management and planning	i. full research report ii. audiovisual presentation	Oral and Written
2.	**Ministry of health**	i. Advocate for policy change, ii. Improve coordination among agencies working with Reproductive and Child Health iii. Encourage increased resources allocation to Reproductive and Child Health	i. Dissemination workshops ii. face-to-face meetings iii. summary reports iv. audiovisual presentations	Oral and written
3.	**CHMTs**	i. Assess quality of care ii. Identify weaknesses of program implementation, iii. Determine demand for service modification or expansion Determine areas for future research needs	i. audiovisual presentation ii. face to face meetings iii. summary reports	Oral and written
4.	**NGOs e.g. JIEPIGO**	i. Highlight program strengths and accomplishments ii. Improve program management and planning	i. fact sheets ii. brochures and other handouts iii. audiovisual presentations	Oral and written
5.	**Health care workers**	i. Highlight program strengths and accomplishments ii. Identify weaknesses of program implementation iii. Assess quality of care	i. face to face meetings ii. summary reports	Oral and written

Source: Author own source, 2014

CHAPTER SIX

SUMMARY, CONCLUSION AND IMPLICATIONS

6.0 Summary and conclusion

In this chapter, summary, conclusion and implications of the evaluation findings are discussed based on three evaluation objectives discussed in previous chapters. Discussion will follow the same trends from objective one to objective three. Three objectives were as follows: First, was to assess whether postnatal care services at health facilities have been implemented as per guidelines, secondly, to determine gaps in delivering quality PNC services in health facilities of Mbeya District Council and thirdly was to determine mothers' satisfaction on the quality of care and support during first month after birth.

The quality of postnatal care services offered to clients at Mbeya District Council was sub-standard. The structure and process components required for provision of quality PNC had gaps and has not been implemented as per guideline. Structural attributes of care based on postnatal care guideline and reproductive and child health standard requires health facility to have separate room equipped with all facilities for provision of PNC services. This was not so in all five health facilities evaluated, instead, Mbalizi hospital has just improvised space in labor room for postnatal clients, this implies that there is lack of privacy and confidentiality for postnatal clients. Also, facilities had inadequate infrastructures, human resources, PNC logistics such as ambulances for referral in case of emergencies, guidelines were all missing or inadequate in health facilities. Healthcare providers were insufficient because the same work force was also assigned with other services like prenatal care, labor and deliveries. However, all health facilities had enough medicines/medical devices required for provision of quality PNC services.

The process attributes which entail several activities of giving and receiving quality PNC services also faced some deficiencies. Case review of maternal deaths was not done according to the guidelines as only one facility Mbalizi hospital was found to con-

duct maternal death audit. The referral system in the district was not good as only one (Mbalizi hospital) out of the assessed facilities had appropriate referral facilities in place. For a referral system to be of quality, it must have well defined protocols explain referral procedures, reliable transport on 24 hours basis, there must be good communication and cooperation throughout the chain, experienced staff and essential medicine to stabilize patient before being referred. Majority of postnatal mother were aware of postnatal care services provided in health facilities, this was due to the fact that health providers provided information about postnatal care services during prenatal care. Early discharge of mother and their newborn soon after delivery reported as indicator of poor quality of health services. Women are supposed to be discharged at least 24 hours in resources constraints areas. Checking for vital signs were not done as stipulated in PNC guidelines which is the gap in provision of quality PNC services. Women who participated in the study reveals that they were not oriented to PNC care package during their visit to health institution nor were they informed about several services required to be offered to them by healthcare providers and there were poor communication with their health care providers. The results revealed that majority of mothers were not satisfied with the care given to them during PNC visit. The attitude of healthcare providers also contributed to the substandard of quality of postnatal care services in this study. Several socio-demographic features were also found to affect women satisfaction about postnatal care services.

6.1 Policy implications

Postnatal care services in health facilities of Mbeya District Council have not been implemented as designed. The evaluated health facilities neither had special room for provision of quality health services nor health care providers that had been assigned for provision of PNC services. Efforts are needed to redesign maternal and newborn health services in public health facilities in order that postnatal services became independent unit for provision of the quality PNC provided to clients.

6.2 Programmatic implications

Postpartum mothers and their newborn were being discharged early contrary to WHO postnatal care guideline. This may lead into missed opportunities for early maternal and child health interventions like early initiation of breastfeeding. There is a need for health care providers to be revised on PNC guideline and standards of reproductive and child health services in order to improve the quality of health care provided. Clients satisfaction with PNC provided was very poor. The dissatisfaction with care provided was on interpersonal relationship, lack of privacy and being not oriented into different components of postnatal care. More efforts are needed to improve healthcare services through conducting refresher training course for health care providers on maternal and newborn care with special emphasis on quality postnatal care services. Furthermore, healthcare providers need to provide comprehensive and sustained information, communication and orientation strategies to ensure knowledge about PNC is translated into effective practices.

6.3 Use of findings for strategic planning

The district should plan for expansion of health facility physical infrastructures by constructing separate rooms for PNC to be able to provide quality health services and reduce neonatal and maternal morbidity as well as mortality and ensure privacy to patients and clients. A plan is needed for a district to equip postnatal rooms with relevant facilities such as medical equipments, medicines and examination table.

The district to plan and distribute PNC guideline and conduct orientation workshops to health care providers to ensure healthcare workers adhere to provision of quality PNC services as it was designed.

The district to establish and strengthen health facility-based case review/maternal death audit committee to all health facilities to identify the causes of maternal deaths and how to reduce maternal deaths that occur at health facility and outside health facilities.

Supply forms for maternal death review and conduct supportive supervision and mentorship on effective ways of conducting maternal death audit.

The district to ensure all health facilities have protocol for referral system and all health care providers are oriented and adhere to it and that it is operational. Strengthen link between lower health facilities and referral point by displaying phone numbers and responsible personnel on a 24 hours basis. The district should conduct regular exit interview to clients/patients on behavior and attitudes of healthcare providers and provide immediate feedback/report which will help shape their behavior.

6.4 Limitations

The evaluation was conducted in rural health facilities of Mbeya region and comprised only women who delivered at health facilities living apart home deliveries; hence the findings may not be generalized to other health facilities of urban settings and of those who delivered at home.

6.5 Areas for further evaluation/research

Qualitative research is necessary to determine factors that influence mothers' satisfactions with postnatal care services in rural settings. Furthermore, empirical research should be conducted to assess compliance to PNC guideline based on process and outcomes components of care provided by healthcare workers.

REFERENCES

African Population and Health Research Centre (APHRC), (2002), Population and health dynamics in Nairobi's informal settlement, *African Population and Health Research Centre*, Nairobi, Kenya

American Evaluation Association, Task Force on Guiding Principles for Evaluators. Guiding Principles for Evaluators." In W. R. Shadish D. L. Newman, M. A. Scheirer, and C. Wye (eds.), *Guiding Principles for Evaluators*. New Directions for Program Evaluation, no. 66. San Francisco: Jossey-Bass, 1995.

Baiden, F., Hodgson, A., Adjuik, M., Adongo, P., Ayaga, B., & Binka, F. (2006). Trend and causes of neonatal mortality in the Kassena–Nankana district of northern Ghana, 1995–2002. *Tropical Medicine & International Health*, *11*(4), 532-539.

Baqui, A. H., Ahmed, S., Arifeen, S. E., Darmstadt, G. L., Rosecrans, A. M., Mannan, I & Black, R. E. (2009). Effect of timing of first postnatalevel care home visit on neonatal mortality in Bangladesh: a observational cohort study. *Bmj*, *339*.

Benett, V.R. & Brown, L.L, 1993, *Myles Textbook for Midwives.* London: Churchill: Living stone.

Blencowe H, Cousens S, Oestergaard M, Chou D, Moller AB, Narwal R, Adler A, Gar cia CV, Rohde S, Say L, Lawn JE, June 2012. National, regional and worldwide estimates of preterm birth. The Lancet. 9; 379(9832):2162-72.

Borghi J, Hanson K, Acquah CA, Ekanmian G, Filippi V, Ronsmans C, 2003, Costs of near-miss obstetric complications for women and their families in Benin and Ghana. Health Policy Plan; 18(4):383-390.

Bradley, S., Kamwendo, F., Masanja, H., de Pinho, H., Waxman, R., Boostrom, C., & McAuliffe, E. (2013). District health managers' perceptions of supervision in Malawi and Tanzania. *Human resources for health*, *11*(1), 43.

English, B. (1997). Conducting ethical evaluations with disadvantaged and minority target groups. *American Journal of Evaluation*, *18*(1), 49-54.

Cargill, Y., Martel, M. J., & Society of Obstetricians and Gynaecologists of Canada. (2007). Postpartum maternal and newborn discharge. *Journal of obstetrics and gynaecology Canada: JOGC*, *29*(4), 357-363.

Centers for Disease Control and Prevention, Sep 17 1999, Framework for program evaluation in public health. MMWR Vol 48 No. RR-11, P. 5-7

Charlotte Warren, Pat Daly, Lalla Toure, Pyande Mongi, 2010, Opportunities for Afri ca's newborn, postnatal care. Chapter 4, P. 82-90

Darmstadt GL, Bhutta ZA, Cousens S, Adam T, Walker N, De Bernis L, 2005, Evi dence-based, cost-effective interventions: how many newborn babies can we save? 365:977-988.

De Brouwere, V., Zinnen, V., & Delvaux, T. (2014). How to conduct maternal death reviews (MDR). Guidelines and tools for health professionals. London: FIGO; 2013.

Dhakal, S., van Teijlingen, E., Raja, Dhakal, KB, 2011, Skilled care at birth among ru ral women in Nepal: practice and challenges, *J Health Popul Nutr*, **29** (4), pp.371-378.

DHS, 2010, Department of Maternal, Newborn, Child and Adolescent Health, World Health Organization

Donabedian, A, (1980) models for organizing the delivery of health services and criteria for evaluating them. Milbank Quarterly, 50, 103-154.

Donabedian, A. (1988). The quality of care: How can it be assessed?. *Jama*, *260*(12), 1743-1748.

Farhat, R., & Rajab, M. (2011). Length of postnatal hospital stay in healthy newborns and re- hospitalization following early discharge. *North American Journal of Medical Sciences*, *3*(3), 146–151. doi: 10.4297/najms.2011.3146

Field, M. J., & Lohr, K. N. (Eds.). (1990). *Clinical Practice Guidelines: Directions for a New Program* (Vol. 90, No. 8). National Academies Press.

Fiscella K, March 1995, Does Prenatal Care Improve Birth Outcomes? A Critical Re view. *Obstetrics & Gynecology* **85** (3): 468–479.

Fitzpatrick, J. L., Sanders, J. R., & Worthen, B. R. (2004). Program evaluation: Alterna tive approaches and practical guidelines.

Hulton, L., Matthews, Z., & Stones, R. W. (2000). A framework for the evaluation of quality of care in maternity services.

Jennings, L., Yebadokpo, A., Affo, J., & Agbogbe, M. (2015). Use of Job Aids to Im prove Facility-Based Postnatal Counseling and Care in Rural Benin. *Maternal and child health journal*, *19*(3), 557-565.

Jitta, J., & Kyaddondo, D. (2008). Situation Analysis of Newborn Health in Uganda. *Kampala Uganda: Ministry of Health, The Republic of Uganda*.

Khan & Khalid S., 1 April 2006, WHO, Analysis of Causes of Maternal Death. A sys tematic review, *The Lancet*, vol. 367, p. 1069

Kim, Y. M., Banda, J., Hiner, C., Tholandi, M., Bazant, E., Sarkar, S. & Makwala, C. (2013). Assessing the quality of HIV/AIDS services at military health facilities in Zambia. *International journal of STD & AIDS*, *24*(5), 365-370.

Koblinsky M, Matthews Z, Hussein J, 2006, Going to scale with professional skilled care. Lancet 2006; published online Sept 28. DOI: 10.1016/S0140-6736(06)69382-3.

Lomoro, O. A., Ehiri, J. E., Qian, X., & Tang, S. L. (2002). Mothers' perspectives on the quality of postpartum care in Central Shanghai, China. *International Journal for Quality in Health Care*, *14*(5), 393-401.

Luc de Bernis, Della R Sherratt, Carla AbouZahr and Wim Van Lerberghe, 2003, Skilled attend ants for pregnancy, childbirth and postnatal care, *World Health Organization, British Medical Bulletin, Geneva, Switzerland*, Vol. 67, P. 39–57

Marelize Gorgens & Jody Zall Kusek, 2009, Making M & E System Work, P. 201-205

Mbeya Regional Commissioner Office, 2014

Mpembeni, R.N.M., Killewo, J.Z., Leshabari, M.T., Massawe, S.N., Jahn, A., Mushi, D. & Mwakipa, H, *2007,* Use pattern of maternal health services and determinants of skilled care during delivery in southern Tanzania

Olsen, C., & St George, D. M. M. (2004). Cross-sectional study design and data anal ysis. *College Entrance Examination Board*.

Olsen, Evjen-Olsen, Ø.E. & Kvåle, G. 2009, Achieving progress in maternal and neona tal health through integrated and comprehensive healthcare services–experiences from a program in northern Tanzania. *International Journal for Equity in Health 8:27.*

Patton GC, Coffey C, Sawyer SM, Viner RM, Haller DM, Bose K, Vos T, Ferguson J, Mothers CD, 2009, Global patterns of mortality in young people: a systematic analysis of population health data. *Lancet*, Vol 374 P. 881–892.

Rayner, J. A., McLachlan, H. L., Forster, D. A., Peters, L., & Yelland, J. (2010). A statewide review of postnatal care in private hospitals in Victoria, Australia. *BMC pregnancy and childbirth, 10*(1), 26.

Rossi, P. H., Lipsey, M. W., & Freeman, H. E. (2003). *Evaluation: A systematic ap proach*. Sage publications.

Rosy, M. (2001) Assessing quality and availability of maternal health services: Kenya. http://C:Documentsandsetting/assessingqualityandavailabilityofmaternalhealthse rvics

Rutstein, S.O., and K. Johnson, 2004. The DHS Wealth Index. In DHS Comparative Reports No. 6, Calverton, Maryland USA.

Singh, A., Yadav, A., & Singh, A. (2012). Utilization of postnatal care for newborns and its association with neonatal mortality in India: an analytical appraisal. *BMC pregnancy and childbirth*, *12*(1), 33.

Shija A, Judith Msovela & Leonard E.G. Mboera, Dec 2011, Maternal health in fifty years of Tanzania independence: Challenges and opportunities of reducing ma ternal mortality, *Tanzania Journal of Health Research Volume 13, Suppl 1*

Tashakkori, A., & Teddlie, C. (1998). *Mixed methodology: Combining qualitative and quanti tative approaches*. Thousand Oaks, CA: Sage.

The United Republic of Tanzania, 2012, Population and Housing Census, Volume II, Age and Sex Distribution, Central Census Office, National Bureau of Statistics, Presidents Office, Planning and Privatization; 2013

United Republic of Tanzania October 2013, Mid Term Review of the Health Sector Strategic Plan III 2009-2015 Maternal, Neonatal and Child Health.

van der Weijden, T., Légaré, F., Boivin, A., Burgers, J. S., van Veenendaal, H., Stig-gelbout, A. M., & Elwyn, G. (2010). How to integrate individual patient values and preferences in clinical practice guidelines? A research protocol. *Im plement Sci*, *5*(10).

WHO, 2010, Department of Making Pregnancy Safer, Technical Consultation on Post partum and Postnatal Care, Geneva, Switzerland, MPS 10.03

WHO, UNICEF, UNFPA, 2006, P. 7, The World Bank, 2008, Maternal mortality in 2005, Geneva, Switzerland

World Health Organization. (2004). Beyond the numbers: reviewing maternal deaths and complications to make pregnancy safer.

Wholey, J. S., Hatry, H. P., & Newcomer, K. E. (2010). *Handbook of practical program evalua tion* (Vol. 19). John Wiley & Sons.

Zadoroznyj, M. (1996). Women's satisfaction with antenatal and postnatal care: an analysis of individual and organisational factors. *Australian and New Zealand journal of public health*, *20*(6), 594-602.

APPENDICES

Annex 1: Questionnaire on assessment of quality postnatal care services of health facilities in Mbeya district council

Health facility name…….

Qn.	Survey questions	Response
	Section A: Demographics	
1.	Age in years at your last childbirth	Enter number
2.	Marital Status	1. Single 2. Married 3. Divorced 4. Widowed
3.	Number of children	Enter number
4.	Occupation (Tick where appropriate)	1) Homemaker 2) Self employed 3) Employed
5.	Educational Level	1) No schooling 2) Primary school 3) High school, 4) diploma, and above
6.	Number of PNC visit	Enter number
	SECTION B: KNOWLEDGE ABOUT POSTNATAL CARE SERVICES	
7.	Have you ever heard about Postnatal Care Services?	0) No 1) Yes
8.	If yes, what do you understand by Postnatal Care Services?	1. A care given to mother and her newborn soon after delivery to 6 weeks 2. Advice on infant feeding 3. Family planning services 4. Knowledge on breastfeeding 5. Others (specify)
9.	How did you hear about Postnatal Care Services?	1. Through friends 2. Through relatives 3. During ANC visit 4. During a visit to health institution through media
10.	In your view when should women access Postnatal Care Services?	1. 1st six weeks after delivery. 2. Three months after delivery. 3. Day 1, 7, 28 and 42 days after delivery. 4. Any day when she is not ok 5. Others (specify)
11.	How many visits should women make to the Postnatal Care Services after delivery?	1. 1 2. 2 3. 3 4. 4 5. More than 4 (Specify)
12.	Why is it important for a mother attending PNC?	Infants receiving immunizations Advice on infant feeding Family planning services Knowledge on breastfeeding
13.	Have you ever delivered at health facilities? (If no skip to question number 19)	1) Yes 0) No
14.	If yes, how much time did you spent at facility before being discharged to go home?	1) 1 to 2 hours, 2) 3 to 6 hours, 3) After 24 hours 4) Other (specify)

Based on your experience as a client in this facility, please tick mark whether you are strongly agree, agree, Disagree, Strongly disagree with the PNC services provided

Sn	Item	Strongly agree	Agree	Disagree	Strongly disagree
	SECTION C: QUALITY OF CARE RENDERED				
	I. ORIENTATION				
16	I was given a warm welcome and made me comfortable on admission.				
17	I was oriented to the health team members and postnatal unit.				
18	I was oriented to toilet, bathroom, washing area and availability of safe drinking water.				
19	I was oriented about visiting hours for family and doctors.				
	II. Information				
20	I was informed about ward routines				
21	I was informed regarding rules & regulations of the hospital.				
22	Care provider used to convey message, which I hesitated to ask my doctor.				
23	I was informed about informed consent before any procedure				
	III. Communication				
24.	All my questions were answered promptly with positive attitude.				
25.	Care provider maintained a good IPR with me and my family members.				
26.	Care provider communicated in my own language and was free to talk.				
27.	Care provider answered all doubts asked by me concerning my treatment results and prognosis				
	IV. Satisfaction with PNC services rendered				

		Fully satisfied N (%)	Satisfied N (%)	Not satisfied N (%)
28	Attitude & behavior of care providers			
29	Information about family planning and postnatal follow up visits			
30	Physical examination done			
31	Checked vital signs			
32	Maintenance of privacy			
33	Cleanliness of the facilities			
34	Information on exclusive breastfeeding			

40. Were you satisfied with overall quality of PNC services provided? 1) Yes
2) No

Annex 2: Check list for health facility resources required for postnatal clients (tick where appropriate whether available or not available)

SN	ITEM(S)	Mbalizi hospital	Inyala health centre	Ilembo health centre	Igoma dispensary	Santilya dispensary
	A. EQUIPMENTS					
1.	Adult Weighing Scale	Available	Available	Available	Available	Available
2.	Baby Weighing scale	Available	Available	Available	Available	Available
3.	Examination bed	Available	Available	Available	Available	Available
4.	Blood Pressure Machine	Available	Available	Available	Available	Available
5.	PNC room	Not available	Not available	Not available	Not available	Not available
6.	Thermometer	Available	Available	Available	Available	Available
	B. DRUGS					
7.	Oxytocin injection	Available	Available	Available	Available	Available
8.	(Ferous sulphate	Available	Available	Available	Available	Available
9.	Co trimoxazole tab	Available	Available	Available	Available	Available
10.	Tab paracetamol	Available	Available	Available	Available	Available
11.	I.V fluids	Available	Available	Available	Available	Available
12.	Anti-hypertensive drugs	Available	Available	Available	Available	Available
13.	Family planning commodities	Available	Available	Available	Available	Available
14.	Surgical gloves	Available	Available	Available	Available	Available
	C. LOGISTICS					
15.	PNC guideline	Not available	Not available	Not available	Not available	Not available
16.	PNC register	Available	Available	Available	Available	Available
17.	Telephone/mobile phone	Available	Available	Available	Available	Available
18.	Ambulance	Available	Available	Available	Not available	Not available
19.	Training attendance list on maternal and new born care	Not available	Not available	Not available	Not available	Not available
20	Case audits into maternal death (document in place)	Available	Not available	Not available	Not available	Not available
21.	Support supervision checklist (Filled and compiled)	Available	Available	Available	Available	Available

Source: Monitoring Emergency Obstetric Care: a handbook. WHO, UNFPA, UNICEF, AMDD, 2009

Annex 3: Matrix of analysis and judgment, for Santilya dispensary, Igoma dispensary, Inyala H/C, IlemboH/C and Mbalizi Hospital, Mbeya DC, 2015

FACILITY NAME	VALUES	INDICATORS FOR STRUCTURAL DIMENSION							INDICATORS FOR PROCESS DIMENSIONS				
	E = Expected values, O = Observed values	Number of rooms for PNC services	Number of skilled health personnel	PNC guideline	reliable transport & driver	essential equipment stock out	essential medicines stock out	PNC monitoring equipment	% of Mother/newborn receiving PNC within three days and subsequent visits	%of newborn timely initiated on breast-feeding within one hour after birth	Number of supportive supervision per quarter on maternal and newborn care	Percent of facilities that conduct case review/audits into maternal death.	% women receiving postpartum family planning counseling
MBALIZI HOSPITAL	(E)	1	5	1	3	0	0	3	277	277	1	1	277
	(O)	1	5	0	3	0	0	3	91	171	1	1	41
	(E/O X 100)	**100**	**100**	**0**	**100**	**100**	**100**	**100**	**33**	**62**	**100**	**100**	**15**
INYALA H/C	(E)	1	5	1	3	0	0	3	18	18	1	1	7
	(O)	0	5	0	3	0	0	3	6	17	1	1	2
	(E/O X 100)	**0**	**100**	**0**	**100**	**100**	**100**	**100**	**33**	**94**	**100**	**100**	**29**
ILEMBO H/C	(E)	1	5	1	3	0	0	3	27	7	1	1	7
	(O)	0	5	0	3	0	0	3	2	5	1	1	2
	(E/O X 100)	**0**	**100**	**100**	**100**	**100**	**100**	**100**	**7**	**71**	**100**	**100**	**29**
IGOMA	(E)	1	5	1	3	0	0	3	7	7	1	1	7
	(O)	0	5	0	3	0	0	3	0	5	1	1	2
	(E/O X 100)	**0**	**100**	**0**	**100**	**100**	**100**	**100**	**0**	**71**	**100**	**100**	**28**
SANTILYA	(E)	1	5	1	3	0	0	3	30	30	1	1	30
	(O)	0	3	0	3	0	0	3	13	21	1	1	21
	(E/O X 100)	**0**	**60**	**0**	**100**	**100**	**100**	**100**	**43**	**70**	**100**	**100**	**70**