

ASSESSING QUALITY OF FOCUSED ANTENATAL CARE PROVIDED TO
PREGNANT WOMEN AT BWAILA ANTENATAL CLINIC IN LILONGWE DISTRICT

MSc (MIDWIFERY) THESIS

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By

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DECLARATION

I, Florence Tamanda Lungu hereby declare that this thesis on assessing quality of focused antenatal care provided to pregnant women at Bwaila Antenatal Clinic in Lilongwe is my original work and has not been presented for any other awards at the University of Malawi or in any other University. All sources that I used or quoted have been indicated with complete references and acknowledgements.

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CERTIFICATE OF APPROVAL

The undersigned certify that this thesis represents the student's own work and effort and has been submitted with our approval.

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DEDICATION

I dedicate this thesis to my lovely children, Wongani and Chimwemwe and my husband Douglas for their endurance, support, and encouragement throughout my study period. This thesis is also dedicated to my late parents, Ignatious and Mary Chiguma who did not live to witness the fruits of my hard work.

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ABSTRACT

Although antenatal care coverage is high in Malawi (93%), worrying gaps exist in terms of its quality and ability to prevent, diagnose, or treat complications. According to Multiple-Indicator Cluster Survey (MICS, 2006), there is limited content of focused antenatal care services (FANC), indicating that pregnant women are not getting the quality care that would assist in the identification and management of complications. This contributes to the risk of maternal and neonatal mortality in Malawi which is currently 675 per 100, 000 live births and 33 per 1, 000 live births respectively (Malawi EmNOC Needs Assessment Report, 2010).

The purpose of this study was to assess the quality of FANC services provided to pregnant women at Bwaila Antenatal Clinic in Lilongwe District. Specifically, the study identified the availability and functioning of the basic infrastructure and material resources necessary for offering quality FANC services. It also aimed at exploring the process of delivery of quality FANC services provided during antenatal consultation. Additionally, the study determined if provision of FANC services at Bwaila Antenatal Clinic met the required reproductive health standards as stipulated by Ministry of Health (MoH) in Malawi.

A descriptive quantitative study was conducted on a convenience sample of 369 antenatal mothers. Following informed consent, these mothers were interviewed using a structured questionnaire to assess the perceived quality and content of FANC services provided during consultation. A checklist was used to assess structural quality and to determine if FANC services at Bwaila Antenatal Clinic met the required standards, as stipulated by Ministry of Health in Malawi. Descriptive statistics were computed using SPSS version 10.0.

Study findings indicated proper structure for providing FANC services. Consultation rooms had basic equipment and essential drugs for providing FANC services. However there were inconsistencies in taking comprehensive history, incomplete physical examination, inadequate laboratory investigations and poor health education. There was lack of reagents for investigating Hemoglobin (Hb), and Syphilis. Only reagents for HIV test were readily available. Based on the national reproductive health standards; Bwaila Antenatal Clinic scored above standard on structural quality (87%) and below standard in performance (60%).

It is recommended that community mobilization and training of health care providers be conducted in the district to promote awareness of the new approach in order to provide evidence based practice. The necessary material resources for providing FANC should be consistently supplied to provide an enabling environment for providing FANC services.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANC	Antenatal care
COMREC	College of Medicine Research and Ethics Committee
DHO	District Health Officer
DNO	District Nursing Officer
EHP	Essential Health Care Package
EmONC	Emergency Obstetric and Neonatal Care
FANC	Focused Antenatal Care
HB	Haemoglobin
HIV	Human Immuno- Deficiency Virus
ICPD	International Conference on Population and Development
IEC	Information, Education and Counselling
KCN	Kamuzu College of Nursing
MCH	Maternal and Child Health
MDG	Millennium Development Goals
MDHS	Malawi Demographic and Health Survey
MICS	Multiple Indicator Cluster Survey
MMR	Maternal mortality rate
MOH	Ministry of Health
NSO	National statistics office
PMTCT	Prevention of mother to child transmission of HIV
RH	Reproductive Health
RHU	Reproductive Health Unit

SP	Surphurdoxine Pyrimethamine
SPSS	Statistical Package for Social Scientist
STI	Sexually Transmitted Infection
VCT	Voluntary Counselling and Testing
VDRL	Veneral Diseases Research Laboratory
WHO	World Health Organization
ART	Antiretroviral Therapy
TTV	Tetanus Toxoid Vaccine

CHAPTER ONE

Introduction

Quality of focused antenatal care (FANC) services provided to pregnant women at Bwaila Antenatal Clinic were determined by assessing infrastructure, equipment, drugs, supplies, and standards for antenatal care (ANC). The content and quality of services provided to pregnant women during antenatal care consultation was explored. This included comprehensive history taking, observations and clinical investigations, physical and obstetrical examination, drug administration and immunization, and client education and counselling. An evaluation was done to determine if FANC services at Bwaila Antenatal Clinic met the required Reproductive Health (RH) standards (MoH, 2008) as stipulated by Ministry of Health in Malawi.

Antenatal period provides important opportunities for reaching pregnant women with a number of interventions that are vital to both their health and well being and that of their infant. During this period the midwife provides antenatal care services with the aim of providing quality care to pregnant women. The growth and development of the fetus in relation to the mother's health is monitored to ensure that the woman and her newborn survive pregnancy and childbirth in good health (World Health Organization [WHO], 2004).

The World Health Organization (2005) estimated that worldwide more than 500,000 women die every year from complications of pregnancy and childbirth. Ninety- nine percent of maternal deaths occur in developing countries while less than one percent of these deaths occur in developed countries. In Sub-Saharan Africa, the life time risk of maternal death is one in every 13 women compared to one in every 4, 085 in developed countries. Maternal

mortality is therefore a health indicator with the greatest disparity between developed and developing countries (WHO, 2005).

Malawi is one of the developing countries in Sub-Saharan Africa with a high maternal mortality ratio (MMR). The Malawi Demographic and Health Survey (1992) reported a MMR of 620, per 100,000 live births which doubled to 1,120 per 100,000 live births in 2000. A ratio of 984 per 100,000 live births was reported in 2004 and currently the MMR is 675 per 100,000 live births (Malawi EmONC Needs Assessment Report, 2010).

The direct obstetric causes of maternal mortality in Malawi are obstructed labour and ruptured uterus (36%), post partum sepsis (19%), obstetric haemorrhage (14%), pre-eclampsia and eclampsia (8%), and complications of abortion (5%) (Malawi EmONC Needs Assessment Report, 2010). One tragic consequence of poor antenatal care is the risk of developing complications of pregnancy and child birth which contribute to maternal and neonatal morbidity and mortality.

Recent global evidence indicates that provision of quality antenatal care is an effective route to emergency obstetric care and skilled delivery which have proved to be effective strategies to reduce maternal and neonatal mortality (Carroli, Villar, Piago, Khan, Guilmezoglu, Muyford, Limbiganon, & Bersiago, 2000). Quality ANC has been designated one of the four pillars of Safe Motherhood along with clean and safe delivery, essential obstetric care and family planning which contribute to reduction in maternal mortality.

Fawole, Okunlola, and Adekunle (2008) support quality of care as a key element in the provision of health care because it links the outcome of care with the effectiveness, compliance, and continuity of care.

WHO Bulletin (2005) reported a high coverage of ANC in industrialized countries (98%) than developing countries (68%). Approximately 70% of women worldwide attend

one ANC visit with a skilled attendant during their pregnancy. In the Middle East and North Africa, utilization of ANC was estimated at 65% with women attending four antenatal visits. In Sub-Saharan Africa about 68% of women attend at least one ANC visit in their second or third trimester of pregnancy.

According to the National Statistics Office [NSO] report (2004), ANC coverage in Malawi health facilities is estimated at 93%. Despite this high attendance, only 8% of women initiate ANC in the first trimester which indicates that a large proportion of pregnant women in Malawi miss out on the intended benefits of early antenatal care services. A report on Emergency Obstetric Care Assessment in Malawi indicated that lack of early ANC poses a challenge to Malawian women and health care providers because pregnant women report to the antenatal clinic when complications have already occurred and this contributes to the high MMR (MoH, 2007).

ANC in Malawi is provided by public and private health facilities, and Christian Health Association of Malawi (CHAM) hospitals. According to National Reproductive Health Standards for Malawi (MoH, 2008) provision of quality ANC requires antenatal care clinics to have adequate infrastructure, essential equipment, drugs and laboratory supplies for providing FANC. Specific guidelines outline the provision of FANC services.

Despite a high ANC attendance in most developing countries including Malawi, inadequate resources hinder the provision of quality ANC services. Studies on assessment of maternal services in Malawi indicated shortage of equipment, supplies, and drugs for providing quality ANC (Ministry of Health [MoH], 2007).

ANC clinics in Malawi provide pregnancy surveillance of the woman and her unborn child. Preventive measures including immunization (especially with TTV), and screening for underlying conditions and diseases such as sexually transmitted infections are also done.

Screening for syphilis is of particular importance owing to its negative impact on maternal and neonatal health and the links to high incidence of stillbirth and low birth weight (MoH, 2006).

Steketee, Nahlen, Parise, and Menendez (2001) demonstrated that Malaria increases the incidence of maternal anaemia, abortion, stillbirth, prematurity, intrauterine growth retardation, and infant low birth weight. It is estimated that as many as 30% of deaths during pregnancy in Africa directly result from Malaria infection. Subsequently, malarial anaemia is estimated to cause as many as 10,000 maternal deaths each year in Africa. Consequently, Malaria prophylaxis is given during pregnancy.

The antenatal period also acts as an entry point for HIV prevention, detection, and care. Most complications of both early and late pregnancy occur in women infected with HIV. These complications include spontaneous abortion, ectopic pregnancy, preterm labour, and post partum infections (Mclyer, 1999). ANC provides HIV positive women access to care through provision of antiretroviral drugs, services for prevention of HIV transmission from mother to child, and nutritional support. All these interventions indicate that the antenatal period offers opportunities for developing health information and services that can significantly enhance the health of women and their infants thereby reducing maternal and neonatal morbidity and mortality (WHO, UNICEF, & UNFPA, 2000).

According to WHO (2002) antenatal care worldwide was previously based on the traditional approach where pregnant women had no limit to antenatal care visits. These women were expected to report for antenatal care early at 12 weeks. They would make at least twelve visits to the clinic by the end of pregnancy. The timing of the visits for the traditional model was monthly from the booking visit to 28 weeks, fortnightly to 36 weeks and then weekly until delivery.

Malawi has been using this type of approach for decades. Utilization of this conventional approach has been challenged over the past two decades. Recent evidence by World Health Organization supports that in a normal pregnancy, a woman does not need to make so many antenatal visits.

Based on the review of findings on the effectiveness of different models of antenatal care, the World Health Organization (2002) designed and tested a new approach to antenatal care known as focused antenatal care (FANC). In 2001, the WHO issued guidelines based on the new model of antenatal care for implementation in both developed and developing countries.

The guidelines state that in a normal pregnancy, WHO recommends four antenatal care visits with goal directed interventions that are appropriate to the gestational age and individual needs of the pregnant woman.

FANC encourages promotion of maternal and newborn health and survival through targeted assessment of pregnant women to ensure a normal child bearing cycle. The major goal of FANC is to help women maintain normal pregnancy through early detection of problems and complications such as anaemia, pre-eclampsia, HIV and STIs that may impact the outcome of pregnancy if not treated (MoH, 2006).

FANC also encourages prevention of diseases and complications, birth preparedness and complication readiness planning, and health promotion. The recommended four visits are distributed at specific times in pregnancy. The first visit is scheduled in the first trimester when gestation is less than 16 weeks. The early initiation of ANC is important for early identification, prevention, and treatment of potential problems. Screening tests for anaemia, HIV, and syphilis are performed during the first visit (MoH, 2006). The second visit takes place in the second trimester between 20 to 24 weeks of gestation where screening and

monitoring of pregnant women continues together with development of individualized birth plans. A third visit is scheduled in the third trimester between 28 and 32 weeks gestation and the fourth and last visit is also in the third trimester at 36 weeks gestation (MoH, 2006). According to the FANC matrix, screening and monitoring continue during each of these visits and emphasis is made on the individualized birth plan. The targeted visits indicate how each of these interventions will help to prevent maternal mortality. After each assessment, follow up and referral is instituted if indicated (MoH, 2006).

The National Statistics Office (2004) reported that use of skilled attendants at birth is estimated at 54% in Malawi. For 57% of these births, mothers attend the recommended number of four focused antenatal care visits. This indicates that since the introduction of the FANC in Malawi in 2002, 43% of mothers who give birth do not meet the recommended four visits and therefore miss out on the specific interventions targeted for those visits. This can consequently affect the outcome of pregnancy.

In response to the evidence of effectiveness of FANC, several countries in Sub-Saharan Africa moved to adapt the new approach as a way of promoting the health and survival of mothers and babies. In Malawi, since the International Conference on Population and Development (ICPD) in 1994, several strategies have been instituted to reduce MMR. The Ministry of health (MOH) through Reproductive Health Unit (RHU) developed the Reproductive Health Policy in 2002. The integrated performance standards for reproductive health and the Essential Health package (EHP) were developed in 2004. The Road Map for accelerating reduction of maternal deaths was developed in 2006.

Despite these interventions, there has not been major focus on ANC. Most interventions have concentrated on the quality of intra-partum and post-partum care. Bearing in mind the high maternal death rates in Malawi and high numbers of women delivering

under non-skilled care, it is equally important to consider interventions to improve the quality of ANC provided to women so as to improve maternal and newborn outcome.

Problem Statement

As reported by Family Health International [FHI], (2007) pregnancy and child birth are natural processes but many women are at risk of developing complications which are the leading causes of death and disability among women of reproductive age. Maternal mortality is a health indicator which shows the greatest disparity between developing and industrialized countries. Globally, one woman dies each minute as a result of pregnancy. An estimated 500,000 maternal deaths occur every year and over 99% of these deaths occur in developing countries. For every mother who dies a maternal death, 15 to 20 others suffer serious long term complications. Over 90% of low birth weight infants (less than 2,500grams) in the world are born in developing countries and account for 30% of all infant deaths (FHI, 2007). Malawi has one of the highest maternal mortality ratios in the world estimated at 675 per 100,000 live births (Malawi EmONC Needs Assessment Report, 2010).

The main obstetric causes of maternal mortality in Malawi include haemorrhage, infection, unsafe abortions, pre-eclampsia and eclampsia, and obstructed labour. Some of these problems can be identified during antenatal care and managed before they become life threatening (MOH, 2007).

According to Multiple Indicator Cluster Survey [MICS], (2006) although antenatal care coverage is high in Malawi, worrisome gaps exist with respect to its quality and ability to prevent, diagnose and treat complications. There are limited FANC services provided to pregnant women in Malawi which indicates that women are not getting the quality care that would assist in the early identification, prevention, and management of complications.

Brawley (2000) indicated that benefits of FANC in influencing outcomes of pregnancy depend to a large extent on the quality of services provided to pregnant women.

A systematic review of successful interventions to reduce maternal mortality by Lindroos and Luukkainen (2004) identified quality FANC as an effective health intervention tool for detecting and treating existing diseases early, recognising mothers at risk, and identifying signs of danger timely so that pregnancy complications can be prevented. Assessing the quality of care for clients is very crucial because quality care is something that meets the client's perceived needs. Quality of antenatal care is a strong influencing factor in determining whether a person seeks medical advice, complies with treatments, and maintains a relationship with the provider or health facility (Brawley, 2000). Ultimately the dimensions of quality of antenatal care affect the health and well being of the mother and the baby.

Therefore assessing quality of FANC services is important because provision of quality FANC can potentially improve maternal outcomes of pregnancy and have a tremendous impact on the future health of Malawian mothers and children. It was therefore imperative to undertake a study in order to assess the quality of FANC services provided to pregnant women in order to identify gaps and develop strategies for improving maternal and child health in Malawi.

Significance of the Study

A study by Fawole, Okunlola, and Adekunle (2008) demonstrated that provision of high quality antenatal care is one of the service interventions that can potentially have a positive impact in reducing high maternal and neonatal mortality rates. Attending ANC is one of the promotive and preventive strategies through which women are empowered to take

responsibility for their health and the health of their babies. Provision of quality antenatal care services provides a valuable contribution towards the health of the mother and the baby.

Although studies of ANC have been carried out in Malawi, there is little information on quality of FANC services provided to pregnant women. Knowledge regarding quality of FANC provided in Malawi is needed in order to identify deficiencies and formulate intervention strategies that will improve provision of quality antenatal care and therefore reduce maternal and neonatal mortality. Assessing quality of FANC may strongly influence acceptance and sustained utilization of FANC services which would help in the reduction of maternal and child morbidity and mortality due to complications of pregnancy and childbirth.

Results of this study provide new knowledge regarding quality of FANC services provided to pregnant women. This knowledge will assist health care providers and guide development and refinement of policies in reproductive health programs. The revision of policies could subsequently help to overcome the gaps identified in service delivery and improve quality ANC. The results can also influence maternal health curriculum for pre-service and in-service education.

The conceptual framework that guided this study was the Donabedian theoretical framework on quality of health care. The framework consists of three components; structure, process, and outcome (Donabedian, 1980). Structure examines the characteristics of the setting in which the care is provided. Process examines what is done in giving and receiving care, and outcome examines the effects of care on the health status and welfare of individuals and populations (Figure 1).

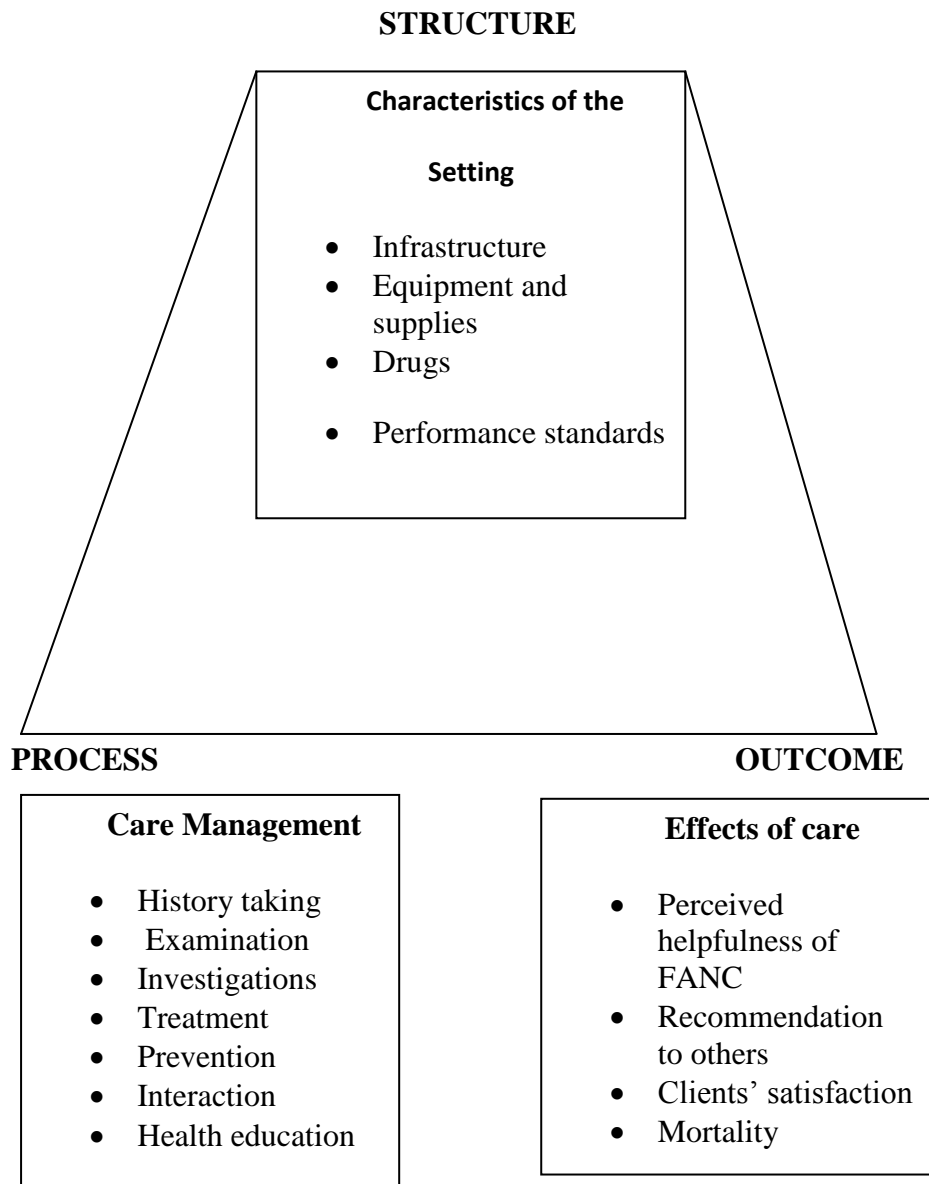


Figure 1 Modified conceptual framework of quality care and its attributes adapted from Donabedian, 1980.

Objectives of the Study

Main Objective

The main objective of the study was to explore the quality of focused antenatal care services provided to pregnant women at Bwaila Antenatal Clinic in Lilongwe.

Specific Objectives

- To identify the availability and functioning of the basic infrastructure and material resources necessary for offering quality FANC services
- To explore the process of the delivery of FANC services provided during antenatal care consultation
- To evaluate the outcome of FANC service provision at Bwaila in consistence with the required Reproductive Health standards as stipulated by MoH in Malawi

Research Questions

- Is Bwaila Antenatal Clinic infrastructure adequate for providing quality FANC services?
- What essential equipment, drugs, laboratory supplies, and material resources are available at Bwaila Antenatal Clinic for providing quality FANC services?
- What type of FANC services are provided to pregnant women during antenatal care consultation?
- Is provision of FANC services at Bwaila Antenatal Clinic consistent with Reproductive Health Standards for Malawi?

Operational Definitions of Key Concepts

Antenatal Care

- Care that a woman receives throughout her pregnancy at a health facility.

Focused Antenatal Care

- Care of the pregnant woman provided during four targeted visits.

Quality Health Care

- Providing health services to individuals and communities to improve health outcomes which should be consistent with current standards and professional knowledge.

Client

- Pregnant woman attending antenatal care.

Health Care Providers

- Nurse midwives, clinical officers and doctors providing FANC.

Client Perception of Quality Antenatal Care

- Pregnant woman's interpretation of antenatal care experience.

Components of FANC Services Provided to the Client During FANC Consultation

- Comprehensive history taking, physical and obstetrical examination, laboratory investigations, drugs, immunization and client education and counselling.

Health Facility

- Antenatal care clinics offering FANC.

Counselling

- One to one interaction between the provider and the client where there's information exchange and health education on antenatal care.

Skilled Worker

- Trained health worker attending to pregnant women.

Infrastructure

- Attributes of an environment in which quality FANC is possible (conducive waiting area, adequate counselling and examination area, working toilets for clients and providers).

Equipment

- Essential equipment for providing FANC services (examination couch, weighing scale, Bp machine, adult and fetal stethoscope, gestational age calculator, tape measure, examination gloves, soap, disinfectant, sharps container).

Drugs

- Essential drugs for providing FANC services (Folic acid, ferrous sulphate, SP, TTV, Albendazole, Bactrim, Neverapine, antibiotics for STI management).

Performance Standards

- Guidelines and protocols for the provision of FANC services which outline the relevant knowledge, attitude and skills necessary to provide evidence based interventions.

CHAPTER TWO

Literature Review

Quality health care means providing health services to individuals and communities to increase the likelihood of desired health outcomes which are consistent with current standards and professional knowledge (Brawley, 2000). According to Malawi National RH Guidelines (2001) quality ANC implies the extent to which antenatal care resources and services correspond with antenatal standards of a particular country. Standards for FANC set a yardstick by which quality of RH services are measured uniformly across the country. Implementation of FANC standards requires adequate infrastructure, essential drugs, equipment and laboratory supplies. Clinical skills of the health care provider are equally essential in conducting ANC examinations, performing laboratory investigations, providing drugs and immunizations and providing health education and counselling.

The literature review will focus on structural quality which includes aspects of infrastructure and resources for providing quality ANC services. Review of process quality will include components of FANC services provided to pregnant women during ANC consultation. Outcome measures will be reviewed by literature on performance standards for FANC and antenatal care and mortality.

Structural Quality of Focused Antenatal Care Services

Infrastructure and Resources for Providing Quality FANC

National Reproductive Health Standards in Malawi (2008) stipulate that an important aspect in the provision of quality FANC is the facility dependent characteristics which include availability of appropriate infrastructure, adequate essential equipment, drugs and supplies which affect health facility effectiveness as a pre-requisite for full provision of

quality antenatal care services. Quality ANC implies the extent to which antenatal care resources and services correspond with antenatal standards of a particular country.

Infrastructure standards for providing FANC services in Malawi include having a conducive waiting area, an adequate counselling and examination area with good ventilation and lighting, working toilets for clients and providers, essential equipment and laboratory supplies and specific guidelines (MoH, 2008).

Birungi and Ouma (2006) investigated on acceptability and feasibility of introducing the WHO FANC package in Kenya. An integrated case study design was used and 419 client exit interviews were conducted to assess the quality of services received during FANC consultation. Clinic preparedness to offer quality FANC services was evaluated using five indicators of availability of infrastructure (score 0-6), availability of equipment (score 0-8), availability of essential drugs (score 0-10), availability of essential laboratory supplies (score 0-10) and availability of FANC guidelines Score 0-8.

Overall, infrastructure had a mean score of 5.1, equipment 6.3, drugs 3.0, essential laboratory supplies 3.2 and guidelines 4.8. These results demonstrate that availability of guidelines, essential drugs and laboratory supplies were very low in all clinics. This suggests that introduction of focused ANC was not accompanied by facility strengthening of the essential drugs, laboratory supplies and guidelines for quality ANC services.

Similar indicators were used to assess the quality of ANC services provided in Ghana (Nyarko, Birungi, Klemesu, Arhinful, Deganus, Agyarko, & Brew, 2006). A total of 341 client-provider interactions were observed to assess quality of ANC services provided.

The study included a facility assessment using a checklist to determine coverage and availability of infrastructure, equipment and supplies. The results demonstrated that the physical infrastructure, equipment and supplies within facilities were below standards. This

situation could apply in Malawian setting where a degree of variation exists on availability of resources for providing quality care. Therefore there is need to design a standard list of equipment and supplies to be procured for facilities implementing FANC services.

Contrary to the above findings, an assessment of quality and access to ANC which used descriptive cross sectional design on 1,000 participants in Kosovo achieved a satisfactory level on infrastructure (Hoxha, Bajraktari, & Kotori, 2009). Eighty- six percent of women reported that there was a waiting area where they asked advice, 94.5% of women reported that examination room was separate from other working spaces and 93.7% reported that there was water for hand washing. In spite of these high ratings, equipment deficiencies were emphasized during focus group discussions.

An infrastructure assessment for quality ANC at Lungwena Health Centre in Malawi revealed that a small room which was intended to be a store room for labour ward was used for providing ANC (Mgawadere, 2009). The room was clean, however there were no counselling chairs or waiting seats for women outside the room. As a result women were sitting outside on the ground while waiting for their consultation. An investigation of resources revealed shortage of gloves, lack of syringes, and lack of laboratory reagents for VDRL, haemoglobin and urine.

These findings illustrate that lack of resources are a challenge for providing quality ANC in Malawi. Since the introduction of FANC in Malawi, more resources are needed as FANC is used as an entry point for implementing preventive interventions. Other studies on assessment of maternal services in Malawi have revealed a lack of proper infrastructure for providing maternal services and a shortage of equipment and supplies (MoH, 2007). Hence the researcher was motivated to undertake the current study to identify gaps at Bwaila Antenatal Clinic so as to find intervention strategies to improve quality of ANC services.

These studies support that provision of quality ANC in line with the key components of FANC requires availability of the necessary material resources, drugs and equipment for maternal, new born and child survival (MoH, 2006). Provision of pharmaceuticals and medical supplies is important because when material resources are inadequate, the health care providers cannot provide quality care to antenatal clients and this predisposes women and children to high risk for maternal and child morbidity and mortality.

Process Quality of Focused Antenatal Care Services

Quality of maternal health consists of performance of appropriate interventions that are known to be safe and affordable to the society. These interventions must have the ability to produce impact on mortality and morbidity in accordance with established standards (Prakash, 2009). According to the RH Standards for FANC as stipulated by MOH in Malawi, service quality of ANC includes taking a comprehensive medical, surgical, obstetrical, and gynaecological history. It also includes conducting systematic physical and obstetric examination, performing laboratory tests and providing drugs and immunizations. Health promotion consists of education and counselling (MoH, 2008).

ANC Examinations and Clinical Investigations

An investigation on the quality of antenatal care services offered to pregnant women in rural western Kenya was done to determine if women were receiving appropriate care (Eijk, Bles, Odhiambo, Ayasi, Blokland, Rosen, Adazu, Slutsker, & Lindblade, 2006). A population based cross sectional study on 635 participants was conducted. A structured questionnaire was used to conduct face to face interviews with the participants. The results demonstrated that although all women were examined and given tetanus toxoid vaccine (TTV) during their antenatal visits, other components of care were lacking. Laboratory tests

and health education was infrequently performed. About 67% of participants had a BP measurement and 3% were treated for helminthiasis. One out of five women (21%) underwent a syphilis test and 53% received iron supplementation care (Eijk et al., 2006).

Among the 14% of women who received health talks during the ANC visit, the two most frequent topics cited were care during pregnancy, care for the new born, and family planning. These results illustrate incomplete and inadequate services provided to pregnant women during FANC. Some care components were not done as stipulated in the RH standards. This means the opportunity to deliver important FANC services even in Malawi could be affected by inadequate and incomplete care.

Similarly, Nissar and Amjad (2007) conducted a study on the pattern of antenatal care provided to pregnant women in Pakistan in order to examine the level of quality of ANC services. The study used a cross-sectional design and used a pre-tested semi-structured questionnaire to collect data on 161 participants. The findings indicated that routine antenatal investigations were provided to a majority of women (urine, blood, antenatal examination and blood pressure). With regards to medicine, only 37% were satisfied with medication given and 75% of women did not get tetanus toxoid vaccine. Only 67 % received health information. Overall, these results demonstrate poor compliance with the set standard of FANC which can contribute to poor state of maternal and child health.

Another investigation was conducted on the content of antenatal care services in secondary health care facilities in Nigeria and the implication for quality of ANC (Osungbade, Oginni, & Olumide, 2008). This was a cross sectional descriptive study where 6 hospitals and 6 comprehensive health centres were randomly selected for the study. A sample of 390 consecutive pregnant women seen on the day of the field visit was included in the study. Antenatal care exit interviews were used to obtain information on services received by

the pregnant woman. Respondents were asked to identify whether they received the following services during ANC visit; taking history of previous and current pregnancies, blood pressure measurement, abdominal palpation and detection of fetal heart rate, health education, blood samples taken for haemoglobin and syphilis test, urine samples taken for proteinuria and bacteriuria, distribution of iron and folate supplements and malaria prophylaxis.

The results of the study demonstrated that in both categories of health facilities, observations and physical examinations were conducted to all the participants. History of previous and current pregnancies was taken in 87% of participants. Health education was discussed with 92.3% of the participants. Additionally, 42% had Hb estimated, 43.1% had urine analysis for protein, 36.4% had iron and folate supplementation and 6.4% had malaria prophylaxis (Osungbade, Oginni, & Olumide, 2008).

Results indicated that health education and physical examination were given priority over the laboratory investigations and prophylactic treatments which are equally important when providing quality ANC. In Malawi not all women could benefit from laboratory investigations due to shortage of reagents for conducting tests. This could also compromise quality of the performance standards for FANC and ultimately affect the outcome of pregnancy (MoH, 2008).

Health Education and Counselling

A report by Family Health International (2007) supports the Safe Motherhood Initiative which advocates the provision of education during ANC on potential pregnancy complications and when to seek medical care. Various studies have indicated that the educational opportunity offered in FANC is an important component in reducing maternal and child morbidity and mortality.

An assessment of information and advice on pregnancy complications given during the antenatal period was conducted in 19 countries of Sub-Saharan Africa (Nikiema, Beninguisse, & Haggerty, 2009). The extent to which women recall receiving information about pregnancy complications was analyzed to determine their recognition of the need to seek emergency obstetric care as a way of reducing mortality. The results revealed a high level of unmet need for information on pregnancy complications in Sub-Saharan Africa. The percentage of women recalling information about potential complications of pregnancy during FANC varied widely ranging from 6% in Rwanda to 72% in Malawi and in 15 of the 19 countries evaluated, less than 50% of women reported having received information.

This indicated that providers did not routinely give women information and advice on pregnancy complications as part of ANC or the information was not conveyed in a way that women remembered having received it. Malawi had the highest percentage (72%) of unmet need for pregnancy information. This could hinder the women's right to be knowledgeable of the potential health risks they are facing which contributes to failure to make informed decisions about their reproductive health (Nikiema, Beninguisse, & Haggerty, 2009). Given the fact that the vast majority of women in Africa, including Malawi, attend one antenatal care visit during pregnancy, it is critical to ensure that birth preparedness and counselling is given to improve pregnancy outcomes.

Similar results were reported by Pembe, Urrasa, Carlssted, Lindmark, Nystrom, and Darj (2009) in a study where women's awareness of danger signs of obstetric complications was assessed in rural district of Tanzania. A cross-sectional study was conducted where a total of 1,118 pregnant women were interviewed using a structured questionnaire. Antenatal cards were also reviewed for documentation on the advice given. The findings revealed that women had low awareness of danger signs of obstetric complications. Twenty-six percent of

women could identify at least one obstetric danger sign related to pregnancy, 23% related to delivery, and 40% related to post natal (Pembe et al., 2009). These results suggest that although FANC advocates for individual counselling on birth preparedness and complication readiness which includes danger signs of obstetric complications, there is still low awareness. This can negatively affect the outcome of pregnancy and contribute to maternal mortality and morbidity.

This notion is also supported in a study on how much time health workers spent on FANC education and counselling and the implications for the introduction of the new approach in Tanzania (Both, Fleba, Makuwani, Mpembeni, & Jahn, 2006). Health workers in four dispensaries in Southern Tanzania were observed providing specific components of FANC to 28 initial clients and 43 subsequent antenatal clients. The results of the study demonstrated that individual counselling was performed in 30% of the consultations. The average contact time spent with an initial client was 15 minutes and 9 minutes for a subsequent client. Specific counselling and preparation for individual birth plans did not take place in the subsequent clients.

Similar results were noted in The Gambia where an examination of the provision of ANC information, education, and communication was done (Anya, Hydera, & Jaiteh, 2008). The findings demonstrated that although a large proportion of women attended antenatal clinics, they were not receiving adequate information, education and communication which together form one of the primary purposes of ANC. Ninety percent of those interviewed had attended ANC more than once and 52% four or more times. However, 70% said they spent 3 minutes or less with the ANC provider. An even smaller proportion (19%) recalled being educated about what to do if there was a complication. This indicates failure to obtain adequate care in time and hence increase maternal death in The Gambia.

These results demonstrate that women who do not have adequate and appropriate information about pregnancy and child birth are ill equipped to make choices that could contribute to their own well being. The quality of the information given during pregnancy ultimately affects maternal and neonatal health. The emphasis on ensuring that women are given adequate health information is one of the most promising but challenging component of the new FANC model. The results of these studies are very interesting and could be applicable in Malawian setting because of time, workload, and staff constraints. These constraints could hinder midwives and other health care providers to spend enough time with the clients in order to exchange all the necessary information needed during the antenatal period.

Client Provider Interaction

Clients are more likely to utilize health care services when they are treated with respect and dignity. The antenatal visit is a time when personal information is obtained and provides an opportunity to establish good client provider-relationship which contributes to overall quality of FANC services. If this relationship is poor, it affects the quality of services offered and subsequent use of antenatal services (WHO, UNICEF, UNFPA, 2000).

An investigation of the client perception of quality of interaction with the health worker was done in Afghanistan (Hansen, Peters, Viswanathan, Rao, Mashkoo, & Burnham, 2008). A cross sectional survey was done in 25 primary health care facilities where direct observations and exit interviews were conducted on 5,597 participants. Lack of communication and interaction with the health care provider was reported in one-third of the participants. The client-provider relationship in all facilities lacked privacy (50%) and the

women were rarely involved in discussions about their social and psychological well being. Most of the discussions with the midwife could be heard clearly by all strangers in the room.

These results are different from findings of a similar study in South Africa where the effect of FANC on quality of client-provider interaction was assessed (Chege & Askew, 2005). A quasi experimental design was used. Client provider observations and exit interviews were conducted on 494 participants. Three behaviours were assessed to measure interpersonal relations; whether the provider greeted the client, introduced himself or herself to the client, and encouraged or gave opportunity to the client to ask questions. Providers greeted over 90% of the clients, 58% introduced themselves and only 26% of providers encouraged clients to ask questions. Privacy was not a problem, as 96% of clients had audio and visual privacy (Chege & Askew, 2005).

The results of these studies pinpoint that women are aware of what aspects of care are important to them, their expectations of care and how they perceive quality of services provided to them. Therefore efforts to improve client-provider interaction and communication are likely to increase client perceived quality in the antenatal care settings. In Malawi, Client-provider interaction is most likely to affect the quality of ANC services due to poor attitude of health workers.

Outcomes of Focused Antenatal Care Services

Standards of ANC and Mortality

According to the Malawi National Reproductive Health Service Guidelines (2001) standards of care guide and monitor proper performance of interventions that are appropriate to impact mortality and morbidity. These standards guide in the provision and evaluation of all aspects of FANC. As in any area of public health, the delivery of FANC services should

be undertaken consistently with the established national standards and protocols. Lack of defined standards can lead to substandard care which can result in increased morbidity and mortality.

A report by WHO (2005) estimated that everyday 1,500 women die from pregnancy or child birth related complications and a total of 99% of all maternal deaths occur in developing countries. More than half of these deaths occur in Sub-Saharan Africa and one-third in South Asia. Mothers die from a wide range of complications in pregnancy, child birth, or during the postpartum period. These complications develop because of their pregnancy status and co-existing diseases during pregnancy. Several studies have shown a relationship between ANC and mortality.

An investigation on the effect of antenatal care on the probability of neonatal survival at birth was done in Wad Medani Teaching Hospital in Sudan (Yousif & Hafeez, 2006). A comprehensive prospective cohort study was conducted on 236 primgravidas. All pregnancy outcomes (still and live births) were examined and then recorded together with mother's health state. The results of the study demonstrated that 45% of women received good antenatal care and only two of them had still born babies. Twenty-four percent of women received moderate antenatal care and accounted for 8 stillbirths and 31% who received no antenatal care services resulted in 16 stillborn babies.

These results suggest that women who regularly attend antenatal care institutions and have good health are more likely to have live births while women with poor health and no antenatal care services are more prone to stillborn babies. Women who had good health and received no or insufficient antenatal care services are more likely to have live births except in cases with co-existing medical problems which increase their probability to have still born babies (Yousif & Hafeez, 2006). The probability of having a live birth increased with ANC

attendance and receiving good care consistent with the set standards. This is a challenge to women in Malawi who on average make one visit and initiate ANC late in second or third trimester. This reduces the chances of survival of the baby if complications are experienced (NSO, 2004).

Similarly, Begum, Nisa and Begum (2002) conducted a descriptive observational study of maternal mortality at Ayub Teaching Hospital in Pakistan. A total of 400 pregnant women were enrolled to assess the quality of antenatal care and its implications to maternal health. The results of the study showed that there were 26 maternal deaths with maternal mortality ratio of 12.7 per 100, 000 live births. The major causes of the maternal mortality were haemorrhage (34.6%), hypertensive disorders (30.7%), and sepsis.

These complications were attributed to poor quality of antenatal and delivery care services in the diagnosis and treatment of complications which led to the maternal deaths. The authors recommended strengthening of safe motherhood pillars of ANC, clean and safe delivery, and the use of a skilled attendant to detect and treat complications early. This could apply to the situation in Malawi where hypertensive disorders and haemorrhage are among the major direct obstetric causes of maternal deaths. Therefore identifying risk factors and treating them promptly during the antenatal period could help to save women and new born babies in Malawi.

Likewise, Sinha (2006) explored the outcome of antenatal care, maternal deaths, early neonatal deaths and their correlation with the extent of ANC in an urban slum of Delhi in India. This retrospective study included 799 record reviews to ascertain relationship between antenatal care and mortality. The results of the analysis demonstrated that out of 799 births, 737 clients were registered in the antenatal clinic and 19 ended up with stillbirths. Out of 780 live births, 150 babies had birth weight less 2,500 grams (19.2%) which was associated with

45% of early neonatal deaths. A total of 11 babies died within seven days of giving birth and two pregnancies ended in maternal deaths.

These findings indicate that women who had two or more antenatal care visits had significantly less perinatal deaths as compared to those with one or none. The analysis demonstrated that the outcome of pregnancies in terms of prenatal deaths, low birth weight, and maternal deaths improved significantly for women who had at least two or more antenatal care checkups (Sinha, 2006). Women in Malawi should be encouraged to attend the recommended four targeted visits and facilities should implement FANC according to set standards in order to improve pregnancy outcomes.

Summary of Existing Literature

Pregnant women are encouraged to seek antenatal care which is a major component of maternity care. This care is necessary since many potential problems can be identified and treated or at least anticipated prior to birth. Antenatal care with a skilled attendant has great potential of recognising complications in time and initiating prompt treatment in order to save the lives of the mother and the baby. The review of the literature has shown that ANC is the best preventive care medicine can offer to women to reduce morbidity and mortality in both women and their babies.

The role quality of care plays in the decision to seek antenatal care is related to people's own assessment of service delivery. This largely depends on their experiences with the health system. The perceived quality of services available at the antenatal clinic focus on provider competence in taking a comprehensive history, conducting physical and obstetrical examination, conducting laboratory tests, giving treatment and immunizations, and providing health education and counselling.

From the literature review, evidence to support that ANC screening and interventions are effective in reducing maternal mortality have identified a variety of deficiencies. Different findings have been presented on the perceived quality of services on the key elements of FANC. Adherence to the set ANC standards helps the health worker to provide quality evidence based and goal oriented interventions that assist in early detection and treatment of problems and complications, prevention of complications and diseases, birth preparedness and complication readiness, and health promotion to the pregnant woman thereby reducing the risk of maternal death.

The findings suggest that much attention needs to be given to counselling skills and attitudes during FANC training. Counselling, especially the development of individual birth plan, and birth preparedness is one of the major components of FANC. Information and communication are essential elements of health care provision and the review of women's experiences of FANC services highlight their importance.

Basic health system infrastructure including availability of essential equipment, drugs and supplies is a critical determinant of whether health workers are able to provide quality care. Therefore adequate supplies, equipment and infrastructure are all necessary components of an enabling environment for providing quality antenatal care.

Conceptual Framework

Overview of the Conceptual Framework and its Application to the Study

A quality framework is a tool used to facilitate the systematic analysis of the general practice environment in terms of the quality of care. While quality is perceived as a broad, generic sometimes subjective concept, a quality framework is more objective, applicable, and measurable within a particular discipline or setting. It is an evolving entity that can be

extended and improved over time and is useful as a model, a reference, a plan, a source of ideas and a bench mark to review progress and identify positive high quality and gaps in service (Booth, Snowdon, & Lees, 2005).

The concept of quality of care provides a point of reference for the content of the services provided and how those services address the needs of those who seek them. FANC is centred on ensuring, supporting, and maintaining maternal and fetal wellbeing throughout normal pregnancy and childbirth (MoH, 2006).

Structure

According to Maclaughlin and Kaluzny (1999) structure refers to attributes of material resources available to provide health care. Donabedian believed strongly in the importance of a health care structure, seeing it as a driving force for later care. Structural elements are needed to ensure an environment in which good care is possible and helps to define aspects of quality from which the measures and standards can be developed. The components of structure which are outlined in this modified framework are infrastructure, drugs, equipment and supplies and performance standards for the provision of quality antenatal care.

In order to provide quality ANC in line with the key components of FANC, the health care providers require the necessary material resources, drugs and equipment for maternal, new born and child survival. This improves the quality of ANC and subsequently reduces mortality among mothers, new born babies and children under five years of age (MOH, 2006). Provision of these pharmaceuticals and medical supplies is important because where material resources are inadequate, the health care providers cannot provide quality care to

antenatal clients. Consequently, women and children are predisposed to high risk for maternal and child mortality.

Guidelines and protocols outline provision of care according to set standards. In view of the new approach to ANC, the MOH in collaboration with other organizations designed integrated standards for reproductive health in 2004. These standards are a resource for health workers providing FANC. The standards outline the relevant knowledge, attitude, and skills needed to provide evidence based and goal oriented interventions that are appropriate to the gestational age of pregnancy (MoH, 2006).

Performance standards are established for most dimensions of quality such as technical competence, effectiveness, efficiency, safety and coverage. The National RH Standards for Malawi (2008) outline a total of twenty- three standards which a facility has to meet to provide quality ANC in Malawi. The quality indicators measured against the standards in this study are availability of infrastructure, resources, and services provided during antenatal period. In this study, the structural service quality was assessed by a checklist adapted from the MOH Reproductive Health standards on focused antenatal care to measure the extent to which a provider has sufficient equipment and materials to adequately carry out responsibilities (MoH, 2008).

Process

Process refers to activities that constitute health care and the interaction between client and care giver. It includes the extent to which professionals perform according to accepted standards. Process measures are used to determine whether the professional has performed adequately for those conditions where there is substantial agreement on what constitutes care and what technology is reasonably effective (Maclaughlin & Kaluzny,

1999). Although performance of the professional is more correlated with improved outcomes, the outcomes are not solely determined by professional performance.

Process in this study includes technical aspects of care which involve comprehensive history taking, and the diagnostic plan which include observations, laboratory investigations, and physical and obstetrical examination. The treatment plan includes drug administration and immunization. The educational plan involves client education and counselling (Maclaughlin & Kaluzny, 1999).

Through these plans, the provider carries out specific interventions which help to detect and treat existing diseases early and manage identified conditions. Such conditions include malaria, severe anaemia, pre-eclampsia and eclampsia, HIV and AIDS, and sexually transmitted infections. All these have a direct bearing on maternal mortality and morbidity in Malawi (MoH, 2006). The interventions proven to be effective in reducing maternal and newborn morbidity and mortality include giving tetanus toxoid immunization to prevent tetanus, giving iron/folate supplementation to prevent iron deficiency anaemia, intermittent presumptive treatment for malaria prevention, HIV testing and counselling and VDRL testing (MoH, 2006).

Equally important as the range of available services is the quality of client-provider interaction and quality and type of information given to the antenatal clients. Adequate information increases access to antenatal care services. The clients become more aware of the options available to them which enable them to take greater responsibility for their own reproductive health. As reported by WHO (2005) information given to antenatal clients assists them in making informed decisions about their lives. Health education and counselling of the pregnant woman helps her to be well prepared for normal birth and identification of

possible complications. This information helps women to make informed decisions during pregnancy thereby reducing the risk of maternal morbidity and mortality (MoH, 2006).

Measuring the process of care can make a substantial contribution of quality of care because process measures are sensitive to deficiencies in care and are indicators for action (Maclaughlin & Kaluzny, 1999). In this study, process service quality was assessed through the use of a structured questionnaire to clients. The questionnaire examined Adherence to ANC and guidelines and assessed client satisfaction.

Outcomes

This component refers to desirable or undesirable changes in individuals that is attributed to health care provided (Maclaughlin & Kaluzny, 1999). The outcomes of care are monitored to detect treatment effectiveness of the client's condition. In maternal health care, outcome includes the direct impact of treatment on the current and future health of a pregnant woman and her new born. The indirect impact is on satisfaction with the services offered and the health seeking behaviour of the pregnant woman. In FANC, positive outcomes are attributed to perceived helpfulness of FANC services which creates satisfaction and the client's recommendation of the services to others. The outcome measures was assessed through a structured questionnaire on content and perceived quality of FANC services provided to pregnant women.

Quality health care is equated with providing health services to individuals and communities to increase the likelihood of desired health outcomes which are consistent with current standards and professional knowledge (Booth, Snowdon & Lees, 2005). Standards for FANC provide a yardstick by which the quality of RH services is measured uniformly across the country. Implementation and compliance of these standards will help to contribute to the

achievement of RH targets which are reduction in MMR to 560 per 100, 000 live births and Neonatal Mortality Rate by 25 per 1, 000 live births by 2010 (MOH, 2008). Implementation and compliance with FANC standards requires an adequate infrastructure, essential drugs, equipment and laboratory supplies. Proficient clinical skills of the health care provider are essential for conducting ANC examinations, performing laboratory investigations, providing drugs and immunizations and providing health education and counselling (Booth, Snowdon, & Lees, 2005).

In Malawi, National Reproductive Health Standards were developed in 2004. A facility with a score of at least 80% of the standards is considered as providing good quality FANC. If a facility is rated below 80%, it is rated as providing poor quality of antenatal care services (MoH, 2008). These standards guide health care providers in providing and evaluating the structural and process service quality provided to pregnant women. Health facilities providing FANC are mandated to implement FANC according to the required standards as stipulated in the national guidelines. There are twenty- three performance standards for FANC which a facility must comply to provide quality ANC (MoH, 2008).

CHAPTER THREE

Methodology

This chapter describes the methods and procedures used to conduct the research study on assessment of the quality of focused antenatal care services provided to pregnant women during ANC consultation. The research design, setting, sampling and sample size, instrumentation, data collection, data management and analysis and ethical considerations are presented in this chapter.

Research Design

In this study, a descriptive research design of the quantitative paradigm was used to explore the quality of FANC being offered to pregnant women. This design was chosen because it helps to discover new meaning and describe what exists. This design allowed the research to describe the current practice on FANC as a new approach and allowed assessment of the quality of FANC services that are provided to pregnant women (Polit & Beck, 2007). The data collected identified problems and possible solutions associated with provision of quality antenatal care at Bwaila Antenatal Clinic in Lilongwe, Malawi.

Setting

The study was conducted in Lilongwe district in the central region of Malawi. Bwaila Antenatal Clinic is a tertiary care setting at Lilongwe District Health Office. Lilongwe district is the capital city of Malawi. The district covers an area of 35,592 square kilometres and has an estimated population of 669, 021 with 339, 030 males and 329, 991 females (NSO, 2008). This site was chosen because it is a referral and teaching centre with a large population and it was very likely to implement FANC services and provide emergency obstetric care. Referral backup for pregnant women is crucial in order to manage

complications during pregnancy which subsequently reduces the risk of maternal and neonatal morbidity and mortality.

Target Population

Target population is the aggregate of cases about which the researcher would like to make generalizations (Polit & Hungler, 1995). For this study, the target population was antenatal mothers at Bwaila Antenatal Clinic which included both primigravid and multigravid pregnant women currently receiving antenatal care on a first, second, third or fourth visit. They were allowed to form their own opinion on the quality of care they received. It was believed that these women would be able to comment on the different elements of service provision during FANC consultation.

Inclusion and Exclusion Criteria

To be included in the study, primigravid and multigravid pregnant women must have been attending their first, second, third or fourth antenatal care visit. Additionally, the pregnant women were to be able to communicate in either English or Chichewa language. The exclusion criteria were non pregnant women and those that could not communicate in Chichewa or English language.

Sample and Sample Size

According to Polit and Hungler (1995), a sample is a subset of the units that compose the population. The sample size for this quantitative study was 360. To determine the sample size, the researcher utilized information from Bwaila Antenatal Clinic which indicated that there were 27, 307 pregnant women who attended ANC services in 2008. Out of these pregnant women, only 12, 096 delivered at the hospital. Therefore to determine the sample size for this study the infinite proportion was calculated using interval estimate of 95%

confidence interval and a maximum allowable error of 5%. According to Lemeshow, Hosmer, Klar, and Lwanga (1990) the equation for this interval estimate is:

$$n = \frac{Z^2 P(1-P)}{E^2}$$

Where n= sample size

Z= the Z value associated with levels of confidence. For 95% confidence, Z is equal to 1.96

P= estimated population of pregnant women who attended antenatal care at Bwaila Antenatal Clinic and those who delivered at Bwaila hospital.

That is:

$$\frac{12,096 \times 100}{27,307}$$

= 44% (mothers who attended ANC)

∴ 56% (mothers who didn't attend ANC)

E= maximum standard error and is equal to 5% (0.05).

Therefore $n = (1.96)^2 \times (0.56) \div (0.05)^2$

$$n = 0.9 \div (0.05)^2 \quad n = 360$$

The sample size was 360 antenatal mothers.

Sampling Procedure

Sampling refers to the process of selecting a portion of the population to represent the entire population (Polit & Hungler, 1989). The participants were selected using convenience sampling technique where the most readily available antenatal clients from Bwaila antenatal clinic were used for the study. This sampling method was chosen because the researcher was seeking individuals with specific traits and first hand information. Additionally, this

technique is inexpensive and accessible and requires less time to acquire the sample (Polit & Hungler, 1989).

The prospective antenatal participants were selected from pregnant women who came to the clinic while the researcher was available at the clinic. Following informed consent, pregnant women attending ANC on a first, second, third or fourth visit were recruited to participate in the study until the required number was accomplished. Detailed information about the study was given to the participants in common language before consent to participate (Appendix D and E).

Data Collection

Data was collected from 8th to 31st March, 2010 (Appendix G). Antenatal care services were provided on daily basis. The official opening time for the antenatal clinic was 7:30 in the morning. Services started with a general health talk mostly about HIV addressing all gathered clients coming for family planning, antenatal care and under five clinic services. Basic activities of the clinic included registration, history taking, examination, drug administration, immunization and individual counselling. The organization of the antenatal care services was that a different service provider was responsible for each service component. All clients were attended prior to two o'clock in the afternoon and on busy days, the antenatal care consultations continued until three o'clock in the afternoon.

Research Instrument

In order to determine structural service quality regarding availability and functioning of the basic infrastructure, and material resources necessary for providing FANC services, an observation checklist based on guidelines established by the MoH for delivery of FANC services was used as a standard for evaluating the quality of FANC (Appendix A). An index

of the structural quality was constructed using five indicators; availability of the infrastructure, essential equipment, essential drugs, essential laboratory supplies, and FANC guidelines (MoH, 2008: Appendix A). Observation of the available resources and a clinic inventory was undertaken through interviews with the clinic midwife to determine the extent to which the provider had equipment and materials necessary to provide quality FANC services at Bwaila.

In order to assess process service quality, all pregnant women who came for antenatal care were notified about the study after the group antenatal health talk. The antenatal women were informed that only eligible clients would participate in the study. If criteria were met, informed consent was given to the client in Chichewa language. Immediately after antenatal care consultation, consent form was read to the client and upon signing consent, a structured questionnaire for FANC based on performance standards for RH in Malawi was used to collect data through face to face exit interview with each pregnant woman (Appendix B).

This tool helped to avoid misinterpretation and enabled the researcher to provide consistency in asking questions. This tool covered the dimensions of care provided to the pregnant woman during the four targeted visits during the consultation. The clients were asked to recall components of care received. These components included comprehensive history taking, observations and laboratory investigations, physical and obstetric examination, drugs and immunizations, management of obstetric complications and health education (Appendix B).

The researcher collected the data herself. The questions on the questionnaire were in English (Appendix B) and Chichewa (Appendix C) and the interviews were conducted in Chichewa for easy communication and understanding of the questions.

In order to determine if FANC services met the required standards as stipulated by MoH in Malawi, a checklist with 23 criteria derived from the RH standards was used to score the facility according to achieved standards (Appendix D). A facility has to score at least 80% of the standards to be considered as providing quality FANC. The quality indicators which were measured against the standards in this study were availability and functioning of basic infrastructure, materials and resources for providing FANC and quality of FANC services provided during the consultation.

Instrument Measurement

Content Validity

Validity refers to the degree to which an instrument measures the attribute it is designed to measure (Polit & Hungler, 1989). The structured questionnaire focused on content validity in order to measure the accuracy of factors under study. The research instrument was tested and reviewed by a panel of experts which included directors of Maternal and Child Health (MCH) programs, supervisors, and a professional statistician to establish whether the instrument was sufficiently comprehensive to elicit the proper range of responses, flow of questions and adequacy (Polit & Hungler, 1989). Questions were developed from the National Reproductive Health Standards in Malawi on FANC.

Reliability

Reliability of an instrument is the degree of consistency with which it measures the attribute it is supposed to measure (Polit & Beck, 2006). To ascertain reliability, pre-testing of the instrument was conducted on five pregnant women at Queen Elizabeth Central Hospital Antenatal Clinic. Participants were approached and eligibility status was verified.

Eligible clients were informed about the details of the study in order to obtain their consent (Appendix E). The participants were informed that their participation was voluntary and that they could withdraw consent at any time. Participants were given a chance to ask questions and later they were asked to sign a consent form to ensure their willingness to participate in the study (Appendix E).

After the consent was signed, the structured questionnaire was used to conduct face to face interviews with each participant to ensure accurate and careful phrasing of the questions to avoid ambiguity (Polit & Beck, 2006). The interviews were conducted immediately after antenatal care consultation. Interpretation of the results obtained from the pilot study was discussed with colleagues and the research supervisors at KCN. The results of the pilot study revealed that some questions were repeated and other questions needed clarification. The pre-test therefore helped clarification of the questions and checked if the questions were answering the set objectives (Polit & Beck, 2006). Participants interviewed in the pilot study were not included in the main study to avoid bias.

Ethical Considerations

The main ethical issues which were considered when conducting the research included the voluntary nature of participation, reduction of risk of participants, obtaining informed consent, ensuring confidentiality and privacy of participants, and institutional ethical issues which included obtaining authority to conduct research (Mappes & Degrazia, 2001).

The proposal was submitted to Kamuzu College of Nursing Review and Publications Committee and College of Medicine Research Ethics Committee (COMREC) for approval. In addition, permission to conduct the study was sought by writing a letter to the District Health

Officer (DHO) of Lilongwe with a copy to the District Nursing Officer (DNO) and the unit matron. Permission for conducting a pilot study was also sought from the Director of QECH with a copy to the unit matron and head of obstetrics and gynaecology (Appendix F).

Consent

According to Mappes and Degrazia (2001) respect for people is a basic human right. Acknowledging a person's right to act based on personal beliefs and values is to respect a particular person's autonomous choice. Apart from seeking clearance from the authorities, participants were given the freedom to choose whether to participate in the study or not. The participants were given full information about the study in Chichewa language that they easily understood. The details included the purpose and duration of the study, methods and procedures of data collection, how data would be used and the risks and benefits of the study to the community and to the nation.

Participants were given a chance to ask questions during the briefing session to ensure clear understanding of issues involved. Emphasis was made that participation was voluntary and that they were free to withdraw at any point during the study. There after the participants were asked to sign a Chichewa translated consent form to indicate their willingness to participate in the study (Appendix E).

Avoiding Harm

Avoiding harm is another basic human right to be considered when conducting research on human beings. Risks that may be encountered during research include physical, psychological, emotional, social and financial (Mappes & Degrazia, 2001). In this research study, the only probable risk was psychological because of the time spent with the

participants during the interview and some questions which made other respondents uncomfortable. The researcher attempted to meet the participants at the agreed time and maintained confidentiality, anonymity and privacy to minimize psychological risk.

Confidentiality

Confidentiality is one of the basic ethical principles and anonymity is one way of maintaining confidentiality. Apart from being an ethical obligation, maintaining confidentiality and anonymity shows the high integrity and dignity of the researcher as a basis of any professional research (Mappes & Degrazia, 2001). To ensure anonymity and confidentiality in this research study, no names were indicated on the questionnaires, instead identification numbers were used. The interviews were conducted in a private room with closed doors where no third person could overhear the conversation. Once the information was collected, it was kept in a locked drawer.

Justice

Justice is another ethical issue to be considered when conducting research and it is a basic human right that relates to fair treatment. To ensure justice, the study participants signed an informed consent prior to participation in the study and they were free to withdraw at any time without negative consequences regarding entitlement to health care (Mappes & Degrazia, 2001).

The researcher explained clearly to the research participants that there were no direct benefits of the study. The potential benefit was that their participation may assist to re-organize FANC services in order to improve quality of antenatal care. Informed consent is very crucial because it is a legal requirement before one can participate in the study

(LoBiondo-Wood & Haber, 2006). That is why after full explanation of the nature of the study, respondents were asked to give both verbal and written consent to show their willingness to participate in the study (Appendix D).

Data Management and Analysis

All information was collected using a questionnaire which had a client number and a checklist which had a facility name. The questions were checked for completeness and accuracy of information at the end of each interview day. The completed questionnaires were kept in a locked drawer for safety purposes.

Data was analysed by Statistical Package for Social Scientist (SPSS) version 10. Means and proportions were computed for the demographic data. Descriptive statistics were computed for structural and process quality data. The means and proportions for quality components were compared to the WHO standards. Scores above 80% as recommended by WHO meant that the clinic is providing quality care for the component. Scores below 80% showed inadequate quality care for the component.

Limitations of the Study

The study was confined to one hospital hence the results may not be a true reflection of the whole Lilongwe district and may therefore not be generalized country wide. As a scholarly research, this project had budget constraints due to lack of funding. Time was also a limiting factor because the research was supposed to be carried out within the two years of the study and therefore it was not possible to evaluate outcome of the FANC services provided in terms of mortality.

CHAPTER FOUR

Results

This chapter presents findings from a descriptive quantitative study which assessed the quality of FANC provided to pregnant women at Bwaila Antenatal Clinic in Lilongwe. The study evaluated structural quality through a checklist based on performance standards for reproductive health in Malawi. Process service quality was evaluated through one to one interviews with the pregnant women using a pre-tested structured questionnaire immediately after the ANC consultation to explore services provided. Bwaila Antenatal Clinic was also evaluated if services provided met the required standards as stipulated by MOH in Malawi using a performance standard scoring checklist. Demographics of the study population are presented followed by study results in accordance with the specific objectives and Donabedian's quality elements.

Socio Demographic Characteristics of Participants

A total of 369 pregnant women participated in the study. Their ages ranged from 21years to 30 years with a mean of 25 years. Almost 50.4% of the participants had either one or two children. Ninety-three percent of the participants were married and 39% were educated up to primary level. Thirty-eight percent had secondary level education and very few (about 5%), did not go through any formal education.

As shown in Table 1, the majority of participants were Christians (85.4%) while one participant did not identify a known religion. Majority of participants were housewives (70%), followed by those that were engaged in business (about 20%). Most of the participants had an average gestation of 28 to 32 weeks (about 26%). Only 8% of the first visit clients initiated ANC in the first trimester of pregnancy.

Table 1

Distribution of Socio Demographic Characteristics of Respondents (n=369)

Characteristic	Frequency	Percent
Age		
15-20	70	19
21-25	134	36.3
26-30	105	28.5
31-40	60	16.3
Marital Status		
Married	344	93.2
Single	22	6.0
Widowed	3	0.8
Number of children		
0	98	26.6
1	94	25.5
2	92	24.9
3	53	14.4
4	25	6.8
5	6	1.6
6	1	0.3
Level of Education		
Primary education	201	54.5
Secondary education	143	38.8
Other	6	1.6
Religion		
Christians	314	85.2
Moslems	54	14.6
No religion	1	0.3
Occupation		
Teacher	3	0.8
Business	72	19.5
House wife	257	69.6
Domestic worker	3	0.8
Other	34	9.2
Gestation (Weeks)		
<16	7	1.9
16-19	22	6.0
20-24	40	10.8
25-27	26	7.0
28-32	87	23.6
33-35	63	17.1
36	24	6.5
>36	67	18.2

Structural Quality Attributes

In order to determine the availability and functioning of infrastructure, equipment, supplies and drugs for providing FANC services, a checklist with 64 criteria was used (Appendix A). An index of structural quality was constructed using five indicators; infrastructure, essential equipment, essential drugs, essential laboratory supplies and antenatal care guidelines. Information was obtained through observation of the available material resources and by asking the service providers at the antenatal clinic.

Based on availability and functioning of infrastructure, equipment, supplies and drugs that are provided for FANC services, Bwaila Antenatal Clinic scored a total of 56 scores out of 64 (Table 2). These scores represent 87.5% of structural quality that was constructed based on the five indicators of infrastructure, essential equipment, essential drugs, essential laboratory supplies and antenatal care guidelines.

Table 2

An index of structural quality indicating achieved scores

Structural quality indicator	Total Score	Score achieved	Percent Achievement
Infrastructure for providing FANC services	25	24	96.2
Essential equipment	18	15	83.3
Essential drugs	11	10	90.9
Essential Laboratory supplies	8	6	75.0
Antenatal Care Guidelines	2	1	50.0
Total Score	64	56	
Percentage	100%	87.5%	

Structure

Bwaila Antenatal Clinic was new and had four antenatal care consultation rooms. Two of the rooms were used for initial client consultation while the other two were used for subsequent clients. The rooms were lockable, very spacious and had curtains and screens for providing privacy. Each room had an examination couch, hand washing facilities and chairs for client, provider and companion. Clean toilets with running water were available for both clients and providers. The clinic also had a protected client waiting area. As a result the clinic scored high (96.2%) on infrastructure (Table 2). The study however found that the protected waiting area was not adequate because it was also used for other clients coming for family planning and under five clinic services.

Equipment and Supplies

Bwaila Antenatal Clinic had adequate essential equipment and supplies, consequently the clinic scored 83.3% which was above the recommended WHO standards (Table 2). Each consultation room had a functioning blood pressure machine, stethoscope, fetoscope, gestational age calculator and a tape measure. There was one adult weighing scale, which was located at the waiting area. A fridge and cooler boxes for immunizations were available at the clinic and each room had examination gloves, needles and syringes. However, the results revealed that there were no thermometers in either of the rooms, no vaginal speculum and no drum for sterile gauze and cotton wool swabs.

The clinic had inadequate laboratory reagents hence scored below WHO standards on reagents (Table 2). There were no laboratory reagents for investigating Hb and VDRL on antenatal mothers. The only reagents available were those for testing HIV.

Drugs

Regarding the presence of standard medications prescribed during FANC consultations, results show that the clinic had adequate (90.9%) essential drugs (Table 2). Available essential drugs included iron, Sulphadoxine Pyrimethamine (SP), Tetanus Toxoid Vaccine (TTV) and Albendazole. No antibiotics were kept at the antenatal clinic. All drugs for Sexually Transmitted Infections (STIS) were available and kept at the STI clinic and the pharmacy.

Reproductive Health Standards

The clinic had inadequate (50%) antenatal care guidelines (Table 2). The standards were available in only two of the consultation rooms for subsequent clients.

Process Quality Attributes

Process service quality was evaluated through comprehensive history taking, physical examination, obstetric examination, laboratory investigations, drug administration, and immunization and client education and counselling. Participants were asked to recall the antenatal care services provided during the consultation on that particular day.

Comprehensive History Taking

Participants' recall of all indicators for comprehensive history taking is indicated in Figure 2. The clinic scored above WHO standards on the following history components during the first visit; past medical history (100.0%), past and presents obstetric history (97.8%) and surgical history (84.6%). However, the clinic scored below WHO standards on family history (68.1%).

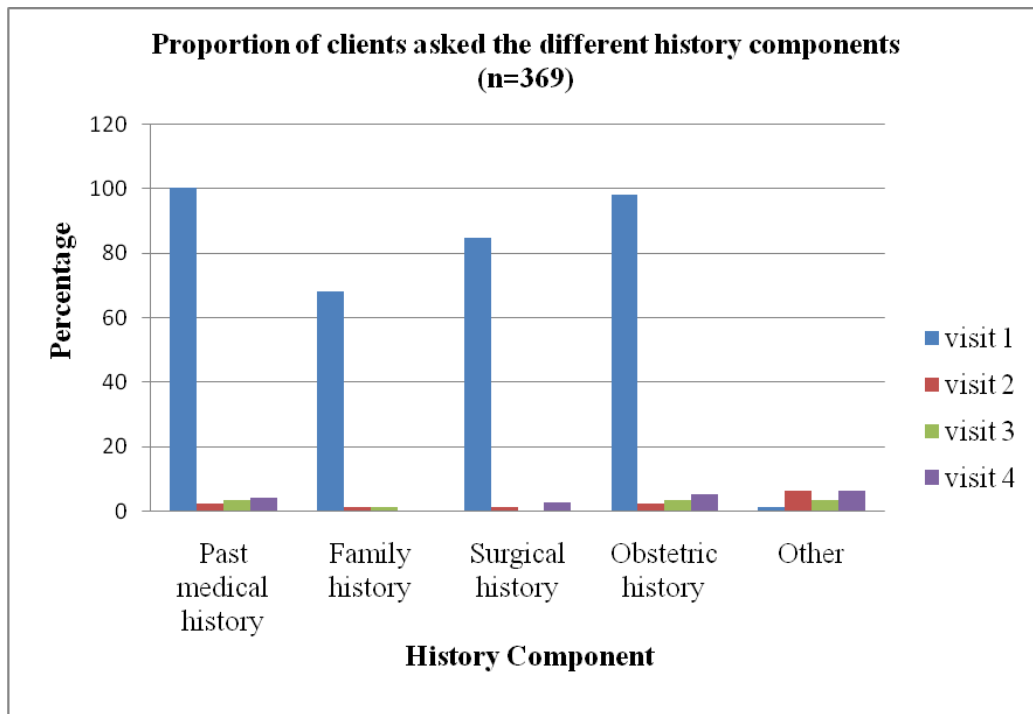


Figure 2 Graphic presentation of percentage of clients that were asked the different history components on each visit

Physical Examination on clients

Components of physical examination evaluation are shown in Table 3. The clinic scored above WHO standards in the following components; blood pressure checks (95%), body weight (100.0%), fundal height measurement (98.9%) and fetal heart rate monitoring (92.7%). The clinic however scored below the WHO standards in the following physical examination components; height measurement (75%), checking for pallor (43%), breast examination (9.8%), pedal oedema (17.6%), and vaginal examination (0.5%).

Table 3

Proportion of clients who were examined

	Visit 1		Visit 2		Visit 3		Visit 4		Other		Total	
	N=91		n=97		n=98		n=80		n=3		n=369	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Blood pressure	90	98.9	97	93.8	91	92.9	74	92.5	3	100	349	94.6
Height	87	95.6	1	1	4	4.1	2	2.5	-	-	94	25.5
Weight	90	98.9	97	100	98	100	80	100	3	100	368	99.7
Pallor	34	37.4	41	42.3	45	45.9	37	46.3	3	100	160	43.4
Pedal oedema	16	17.6	12	12.2	25	25.5	11	13.8	1	33.3	65	17.6
Breast exam	7	7.7	6	6.1	18	18.4	3	3.8	2	66.6	34	9.2
Fundal height	90	98.9	97	99	96	98	80	100	2	66.6	365	98.9
Fetal heart rate	70	76.9	94	95.9	97	99	79	98.8	2	66.6	342	92.7
Vaginal exam	0	0	1	1	1	1	0	0	0	0	2	0.5
Pelvic exam	0	0	0	0	0	0	0	0	0	0	0	0
Other exams	0	0	0	0	0	0	0	0	0	0	0	0

Key: -= no examination done, % = percentage, Freq = frequency

Laboratory Investigations

FANC guidelines stipulate that antenatal clients undergo a number of laboratory investigations according to RH standards. These include urine test (for protein, sugar and acetone), HIV, syphilis, and haemoglobin tests. The study results demonstrated that not all procedures required to detect diseases in pregnancy were performed. The clinic scored below the WHO standards in all laboratory investigations except for HIV test whose score was as high as 96% during first visit (Table 4). HB and CD4 count tests were conducted on all HIV positive clients. Syphilis screening and blood grouping are part of essential antenatal investigations but were not performed at all. Urine test for protein and sugar was performed in only 0.3 % of the clients (Table 4).

Table 4

Proportion of Clients who had Laboratory Investigations Performed During Each Visit

(a) <i>Blood Tests</i>	Visit 1 n=91		Visit 2 n=97		Visit 3 n=98		Visit 4 n=80		Other n=3		Total n=369	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Haemoglobin	9	9.9	-	-	4	4.1	-	-	-	-	13	3.5
Grouping	0	0	0	0	0	0	0	0	0	0	0	0
HIV	87	95.6	4	4.1	3	3.1	5	6.3	-	-	99	26.8
Syphilis	0	0	0	0	0	0	0	0	0	0	0	0
CD4 count	9	9.9	-	-	4	4.1	-	-	-	0	13.	3.5
Other	2	2.2	3	3.1	5	5.1	-	-	1	33.3	11	3.0

(b) <i>Urine Tests</i>	Visit 1 n=91		Visit 2 n=97		Visit 3 n=98		Visit 4 n=80		Other n=3		Total n=369	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Protein	-	-	-	-	-	1	1	-	-	-	1	0.3
Sugar	-	-	-	-	1	1	-	-	-	-	1	0.3
Other	8	8.8	-	-	6	6.1	-	-	-	1	15	4.1

Key: - = no investigation performed, % = percentage, Freq= frequency

Drug Administration and Immunization

For the prevention of anaemia, malaria and tetanus in pregnancy, the study findings show that the clinic scored above WHO standards on iron supplementation (98.4%) but scored below standard on TTV injection (72.4%), malaria prophylaxis (57.2%) and Albendazole (40.9%) as shown in Figure 3.

Analgesia and antibiotics were prescribed to clients with minor ailments. Anti-retroviral drugs (ARVs) were prescribed to all clients that met the criteria for starting Anti-retro viral treatment that is those that were positive and had low CD4 count as recommended by WHO. The clinic had stock pile of all essential drugs as recommended by WHO.

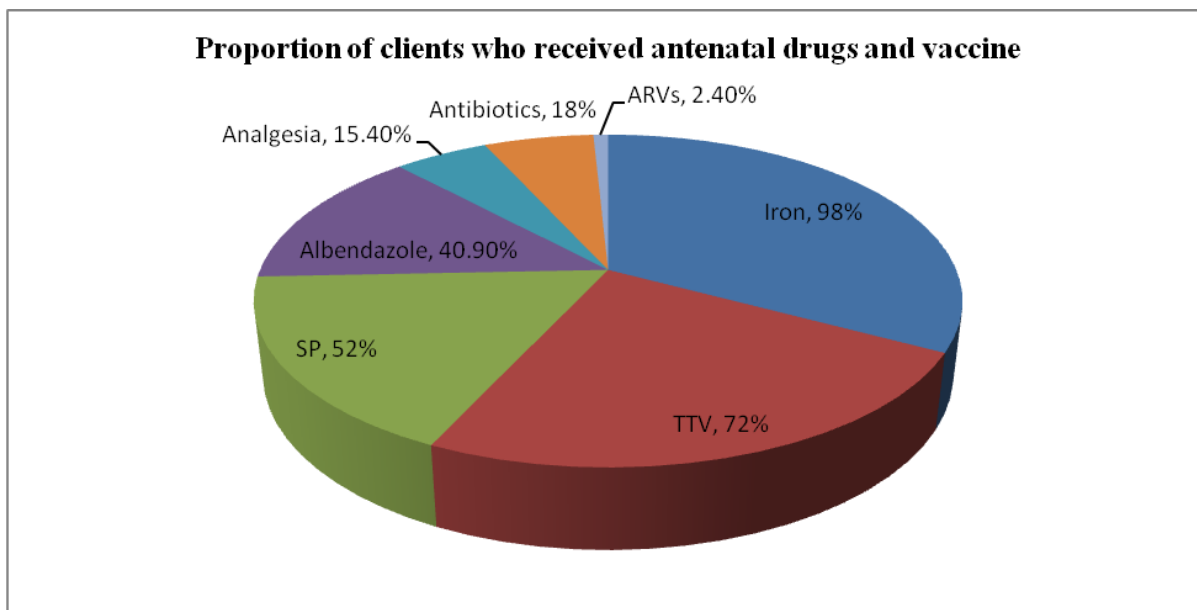


Figure 3 *Proportion of clients who received antenatal drugs and vaccine*

Health Education and Counselling

FANC advocates for individual health education and counselling during antenatal care consultation. Bwaila Antenatal Clinic did not have an outline for child birth education. The FANC matrix stipulates health education to be discussed with clients during the first and subsequent visits so that clients can plan appropriately for potential complications and delivery. The results show that 70% of first visit clients were encouraged to deliver at the hospital on first visit. During subsequent visits, above 80% of the clients were educated on this component and therefore scored above WHO standards.

Similarly, 74.4% of first visit clients were encouraged to prepare for transportation and during subsequent visits, above 80% of the clients were educated on preparation for transportation which was above WHO standards. Less than 10 % of the clients were encouraged to seek skilled assistance at birth. Other components that scored below standard across all visits were; saving money to pay for bills and companionship in labour. The trend

showed that birth planning education was mostly emphasised on the last (4th) visit to the antenatal clinic (figure 4).

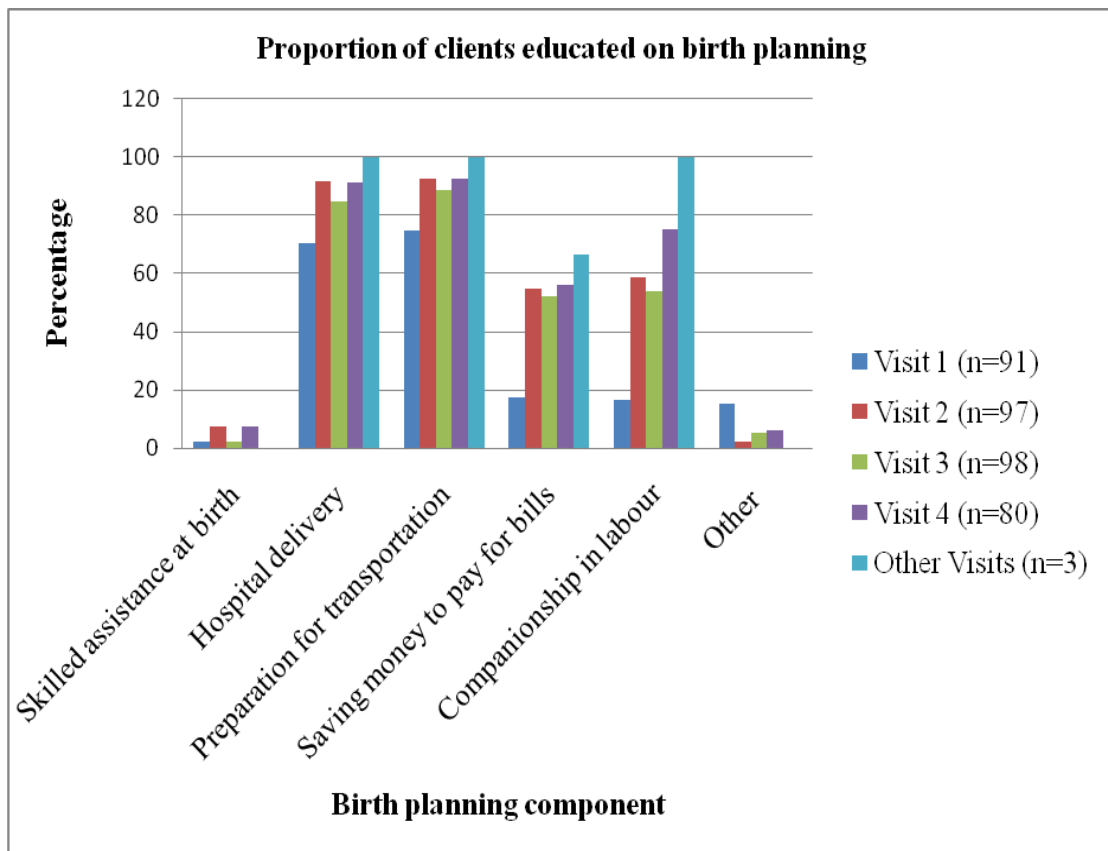


Figure 4 Proportion of clients who received birth-planning education

Another aspect of health education discussed was on signs of labour. The results indicated that the overall provision of this health education component was very low (below 50%). The common signs which participants recalled being discussed across all visits were low back pain (46.3%), rupture of membranes (47.7%) and show (46.3%). The likelihood of discussing signs of labour increased with each subsequent visit. Health care providers emphasised on labour signs education during the last trimester visit (Table 5).

Table 5

Proportion of Clients who were Educated on Signs of Labour on Each Visit

	Visit 1 n=91		Visit 2 n=97		Visit 3 n=98		Visit 4 n=80		Other n=3		Total n=369	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Uterine contractions	-	-	20	20.6	13	13.3	15	18.8	1	33.3	49	13.3
Low back pain	7	7.7	44	45.4	58	59.2	60	75	2	66.6	171	46.3
Show	7	7.7	39	40.2	62	63.3	61	76.3	2	66.6	171	46.3
Membrane rupture	7	7.7	41	42.3	62	63.3	64	80	2	66.6	176	47.7
Other	1	1.1	3	3.1	3	3.1	4	5.0	-	-	11	3.0

Key: - = no education on signs of labour given, % = percentage, Freq= frequency

Another important aspect of antenatal education is necessary items needed for a clean and safe birth. Common items, which were discussed specifically on the last visit to the clinic were cord ties (73.8%), new unused razor blade for cutting the umbilical cord (76.3%), warm baby clothes (62.5%) and the need for waterproof plastic cover to act as a mackintosh (80%), scoring above WHO standard (Figure 5).

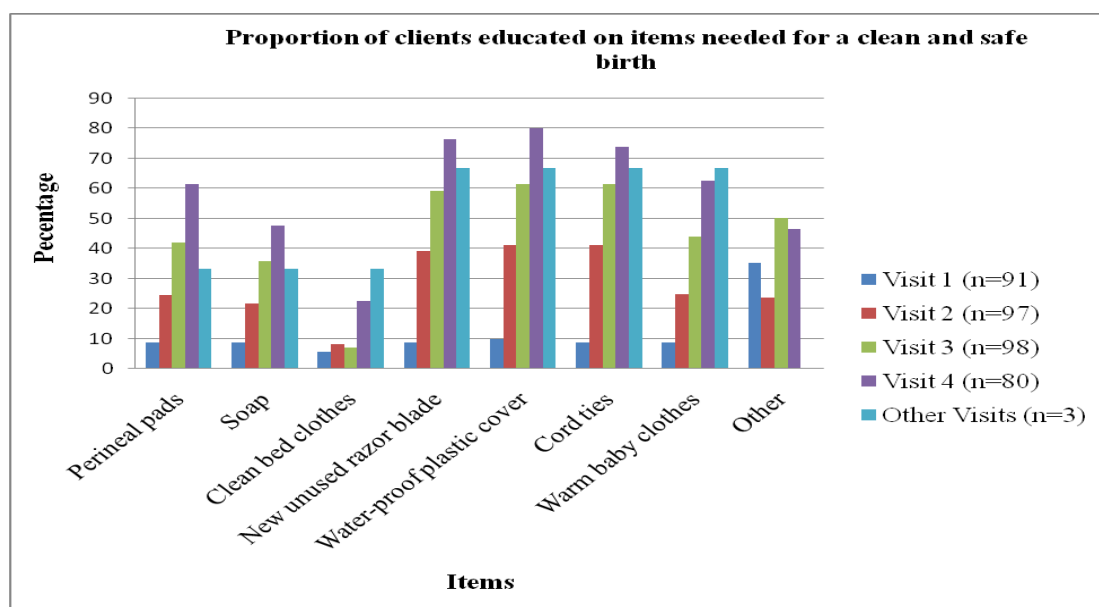


Figure 5 Proportion of clients who were educated on items needed for a clean and safe birth

Awareness of danger signs of obstetric complications is the essential component for accessing appropriate and timely referral to obstetric and newborn care. The study findings demonstrated that clients across all visits had low awareness of danger signs of pregnancy (Table 6). The common elements that were discussed though inadequately covered were vaginal bleeding (36.3%), convulsions (33.1%) and early rupture of membranes (32.8%). Overall, the quality of this health education component was below WHO standards (below 50%).

Table 6

Proportion of Clients who were Counselling on Danger Signs of Pregnancy on Each Visit

	Visit 1 n=91		Visit 2 n=97		Visit 3 n=98		Visit 4 n=80		Other n=3		Total n=369	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Vaginal bleeding	8	8.8	24	24.7	53	54.1	47	58.8	2	66.6	134	36.3
Severe headache	2	2.2	5	21	21.6	49	50	45	56.3	2	25	6.8
Convulsions	5	5.5	21	21.6	49	50	45	56.3	2	66.6	122	33.1
Labour pains before 37 weeks	3	3.3	19	19.6	27	27.6	32	40	2	66.6	83	22.5
Fever	1	1.1	3	3.1	3	3.1	8	10	1	33.3	16	4.3
Early rupture of membranes	5	5.5	19	19.6	50	51	45	56.3	2	66.6	121	3.0
Other	25	27.5	16	16.5	20	20.4	19	23.8	-	-	80	21.7

Key: - = no education on danger signs of pregnancy given.

HIV testing and counselling was the common topic discussed on a daily basis at the antenatal clinic. Comprehensive counselling regarding HIV was primarily done to first visit clients where the HIV test was mandatory. Subsequent clients who reported no education on HIV on the day of the interview were likely to have reported late for the visit while a health talk was already given.

HIV education that scored above standard on first visit included; using condoms (98%), being faithful to partner (96.7%), taking prescribed ART (96%) and exclusive breast-feeding (94.5%). About 68% of the clients on initial visit reported having discussed no breast-feeding as a way of preventing mother to child transmission of HIV (Figure 6).

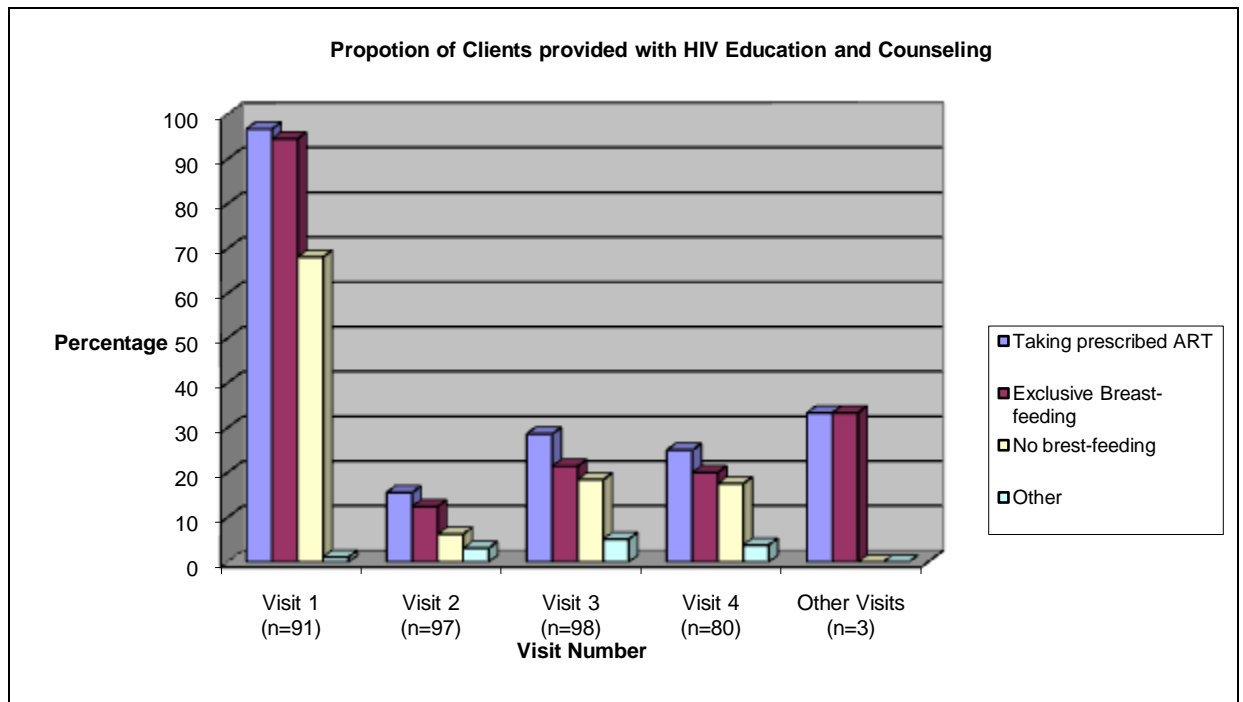


Figure 6 *Proportion of clients provided with HIV education and counselling*

Interpersonal Relationship

The interpersonal quality of care was assessed by determining whether the provider gave a warm welcome to the clients, closed antenatal care consultation room for privacy, spoke in a gentle tone of voice, obtained permission before examination, gave an opportunity to ask questions, gave an update about how the baby was growing, and a return date.

Components that scored above standard were; warm welcome to clients (99%), provision of

audio and visual privacy (99%), provider speaking quietly and gently (99%) and giving return visit date (96%).

Despite clients receiving consultation in a confidential environment, some components scored below WHO standards. Permission before examination was sought in very few clients (1%). Slightly above half (52%) of the clients were given an opportunity to ask questions during consultations and 78% were given an update of how the baby was growing (Table 7).

Table 7

Providers' Behaviour and Communication During ANC Consultation

Provider's Behaviour	Frequency (n=369)	Percentage (%)
Gave a warm welcome	364	99
Spoke quietly and gently	366	99
Closed ANC room door	367	99
Obtained permission before examination	5	0.01
Gave opportunity to ask questions	192	52
Gave an update about how baby is growing	288	78
Gave a return visit date	353	96
Other	192	52

Outcome Quality Attributes

Participants were asked to verbally score the overall quality of antenatal care received. The results demonstrated that 94.3% perceived good care while 5.7% rated the quality of care as satisfactory. Ninety-nine percent of the participants said they would return

to the facility for maternal health services if they got pregnant again. The estimated minimum and maximum waiting time before meeting the health care provider at the clinic was 20 minutes and 240 minutes respectively with a mean of 109 minutes. The minimum and maximum estimated consultation time with the health care provider was one minute and 45 minutes respectively with a mean of four minutes. About 80% thought they spent the right length of time with the provider while 20% and 0.5% thought the time was too short and too long respectively.

In order to determine if provision of FANC services at Bwaila met the required Malawi RH standards on ANC, quality indicators of availability and functioning of basic infrastructure, materials and resources for providing FANC and FANC services provided during antenatal care consultation were measured (Appendix D). A total of 14 standards out of twenty-three were achieved giving a total score of 60%. These results indicated that Bwaila Antenatal Clinic scored below standard in terms of performance since a score of 80% and above is considered as providing quality FANC.

Suggestions for Improving FANC Services at Bwaila Antenatal Clinic

Figure 7 presents suggestions from clients which they thought could improve FANC services they were receiving. Over half (53%) of the clients suggested provision of mosquito nets for malaria prevention. An increase in the number of midwives working at the clinic was suggested by 23.3% while 15.4% suggested that the providers should explain to the clients after conducting examination so that clients know how the baby is growing. Very few, 3.8% and 1.1% suggested improvement in communication and starting clinic early respectively.

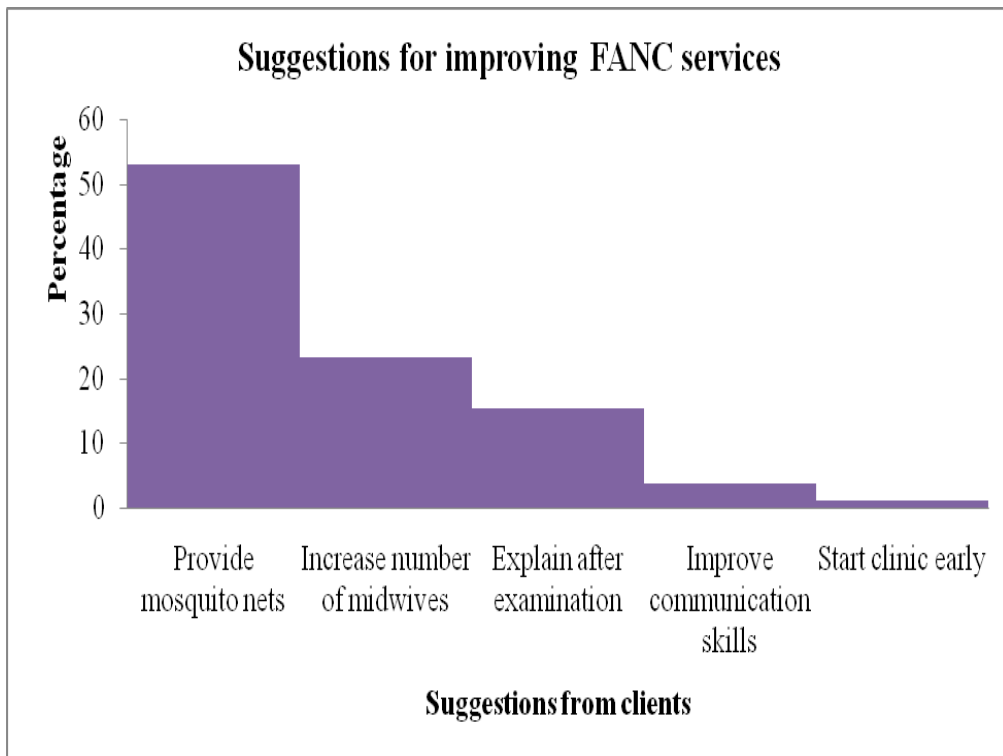


Figure 7 Frequency distribution of suggestions from clients.

CHAPTER FIVE

Discussion

Analysis of the study results was based on the conceptual framework developed by Donabedian (Donabedian, 1980). The framework uses three elements of structure, process, and outcome to assess quality of health care. Structure examines the characteristics of the setting in which the care is provided. Process examines what is done in giving and receiving care, and outcome examines the effects of care on the health status and welfare of individuals and populations.

The study sought to identify the availability and functioning of the basic infrastructure and materials necessary for providing quality FANC services. Additionally, the study explored the process of the delivery of services provided during antenatal care consultation and evaluated outcomes of FANC service provision at Bwaila in line with the required RH standards for Malawi.

Socio demographic characteristics

Study results revealed that the age of respondents ranged from 15-40 with an average of 25 years. Findings further demonstrated that 26.6% of the respondents were primigravid women that were pregnant for the first time. This is an important finding because it recognises that a pregnant woman in Malawi is most likely to be aged in her 20s. These results concur with findings reported by National Statistics Office (2004) which revealed that child bearing among Malawian women starts at an early age. These findings have implications for quality of ANC because mothers in this age group initiate ANC later than the first trimester of pregnancy and are at greater risk for pregnancy, labour and post partum complications (Low, Paterson, Wouldes, Carter, Williams, & Percival 2005).

The clinical implication for late initiation of ANC is the missed opportunity for early interventions. It is therefore important that health workers provide appropriate child birth education to this age group because they lack knowledge and experience with pregnancy and child birth. Appropriate child birth education will ensure that they recognise pregnancy complications early and seek emergency care thereby reducing risk of morbidity and mortality.

Results of the study also demonstrated that 54.5% of the respondents attained primary education while 38.8% were educated up to secondary school level and 5.1% had no formal education. Similar results were reported in Malawi Demographic and Health Survey where low educational level of pregnant women influenced health seeking behaviour (NSO, 2004). Educational level of women is very crucial because it enhances the ability of women to understand important aspects of ANC. Therefore, health workers should assess the educational level of pregnant women when giving health education to ensure that women understand all important aspects of child birth which include recognition of danger signs, seeking emergency obstetric care and skilled attendance at birth.

Ninety-three percent of pregnant women in the study were married and 69.6% were un-employed and therefore depended on their spouses for financial support. A few women were employed or involved in small scale businesses. These results concur with National Statistics Office (2004) report which demonstrated that majority of Malawian women were housewives and other women were involved in small scale business and domestic work. This suggests that women are mostly affected by un-employment due to their low educational level. The clinical implication is that un-employment and lack of financial resources in pregnant women can limit their ability to attend ANC. This can result in late identification

and treatment of complications and critical child birth education thereby increasing the risk of morbidity and mortality.

Structural Service Quality Assessment

An investigation on availability and functioning of infrastructure and resources for providing quality FANC at Bwaila Antenatal Clinic revealed presence of an appropriate infrastructure for providing focused antenatal care services. The structure was new with electricity supply, working telephone, and four ANC consultation rooms which provided both audio and visual privacy. This meant that clients received their consultation in a confidential environment. An assessment of infrastructure was also estimated quite high in Kosovo and South Africa (Hoxha, Bajraktari & Kotori 2009; Chege & Askew 2005)). Contrary to the above findings, infrastructure assessment for quality ANC at Lungwena Health Centre in Malawi revealed inappropriate infrastructure for ANC consultation (Mgawadere, 2009).

Basic health system infrastructure is a critical determinant of whether health workers are able to provide quality antenatal care services which can ultimately reduce the risk of maternal and neonatal morbidity and mortality. The appropriate infrastructure at Bwaila entails clinic preparedness to provide quality FANC services which supports WHO recommendation (WHO, 2002).

The facility had most of the material resources for providing FANC services. Vital equipment like blood pressure machine, adult and fetal stethoscope, weighing scale, gestational age calculator and tape measure were available. Findings from a similar study in Ghana also revealed availability of essential equipment for providing FANC services (Nyarko et al., 2006). These resources provided an enabling environment for providing quality ANC services because providers would be able to monitor both fetal and maternal

condition during pregnancy and act appropriately if any problems were identified. Early detection and treatment of complications are proven to be effective in reducing maternal and new born morbidity and mortality (MoH, 2006).

All ANC clinics are expected to have guidelines and protocols to support maternal and RH service provision. Bwaila Antenatal Clinic had Reproductive Health Standards available in only two of the antenatal care consultation rooms. This meant that providers in the other two rooms lacked reference material during service delivery. Similar results were reported in Ghana by Nyarko et al., (2006) where relevant ANC guidelines and protocols were not readily available at all in all clinics providing FANC services.

Standards of care outline the relevant knowledge, attitude and skills needed to provide evidence based interventions that are appropriate to the gestational age of pregnancy. Lack of RH standards in ANC settings can easily lead to providers missing out important elements of FANC thereby compromising quality of care.

Process Service Quality Assessment

Brawley (2000) demonstrated that assessing the content of ANC as a measure of process service quality of maternal health is very important as each component is useful in reducing maternal morbidity and mortality. Providers are expected to take comprehensive history during first antenatal care consultation. This includes personal, family, social, past and present obstetric history (WHO, 2002).

The results of the study at Bwaila revealed that the majority of participants were asked the different history components during first visit. All first visit clients (100%) were asked past medical history, while a large proportion (97.8%) was asked past and present

obstetric history. Surgical and family history was also enquired in 84.6% and 68.1% of the clients respectively.

Contrary to the WHO recommendation, an assessment of the FANC package in Kenya revealed that providers did not take a comprehensive personal, family and social history of the 72 first visit consultations observed (Birungi & Ouma, 2006). In all cases, providers recorded some elements while ignoring others, so that all clients had partial histories taken. A full history during first visit is very crucial in identifying potential risks which could lead to pregnancy complications. For FANC, history taking during the subsequent visits is not expected to be comprehensive as that taken during the first visit. During the subsequent visits, history taking concentrates on asking clients complaints in current pregnancy and general health problems (WHO, 2002).

Study findings at Bwaila indicated that observations of BP were done in 95% of clients, while all clients (100%) were checked weight and 75% had their height measured. In Uganda, a similar study reported high coverage of BP monitoring throughout all antenatal care visits (Tann, Kizza, Morrison, Mabey, Muwanga, & Elliot, 2007). Observations of BP and weight are very crucial in identifying potential risks for pregnancy induced hypertension which is one of the direct obstetric causes of maternal mortality in Malawi.

Providers at Bwaila also concentrated on examination of fundal height and fetal heart rate during antenatal care consultation in order to monitor fetal growth and development. However, other important examinations like pallor and pedal oedema were least performed. This meant that clients with potential risks for anaemia were missed. Anaemia in pregnancy results in abortion, stillbirth or low birth weight babies which contributes to the high neonatal mortality ratio (MoH, 2006).

Results of a similar study by Eijk et al., (2006) in rural western Kenya indicated that although antenatal mothers were examined during the antenatal care consultation, other important components of care were not done. This demonstrates that ANC is not done systematically in respect to the set Reproductive Health standards by WHO, that is why poor health state of the mother and baby remains unchanged and hence contributing to maternal and neonatal morbidity and mortality (WHO, 2005).

FANC advocates for early detection and treatment of problems and complications which includes screening for syphilis and HIV. The only essential laboratory investigation that was done at Bwaila Antenatal Clinic was HIV test on over 90% of first visit clients. These findings were also reported in Nigeria where testing and counselling for HIV appeared to be the predominant health issue at the ANC clinics (Fawole, Okunlola, & Adekunle, 2008). These findings are contrary to study results in Uganda and Kenya where provision of HIV testing and counselling during antenatal care consultation was either non-existent or less than satisfactory (Tann et al., 2007; Nyarko et al., 2006).

As demonstrated by Mclyer (1999) research has shown that most complications of both early and late pregnancy occur more often in women who are HIV positive. Provision of HIV testing and counselling services at Bwaila Antenatal Clinic implied that known HIV status increased access to care and services on prevention of HIV transmission from mother to child. If positive, the woman could get early counselling and treatment and make informed decisions about continuation of pregnancy and future fertility. If negative, the woman could be guided in appropriate HIV prevention. These services could reduce incidences of spontaneous abortion, preterm labour and post partum infections as complications of HIV which directly and indirectly contribute to maternal and neonatal morbidity and mortality (Mclyer, 1999).

Indicators for essential laboratory supplies at Bwaila also revealed lack of reagents for syphilis screening. Even though detection of syphilis during pregnancy and treatment of those infected can prevent adverse pregnancy outcomes, syphilis screening was not performed at all at Bwaila Antenatal Clinic. This implied that lack of syphilis investigation compromised quality of antenatal care which could ultimately affect the outcome of pregnancy. Incidence of adverse effects of syphilis on the fetus were reported in some studies and included spontaneous abortion (20%), perinatal death (30%) and congenital syphilis (25%) (Birungi & Ouma, 2001; Nyarko, et al., 2001). Bwaila antenatal clinic should improve access to syphilis screening to reduce incidences of stillborn and low birth weight babies thereby improving health of infants and facilitating reduction of child morbidity and mortality.

Estimation of haemoglobin (Hb) level as a procedure to detect anaemia was not adequately performed in clients during the antenatal consultation because only 43% of the antenatal clients were checked for pallor and only those that tested HIV positive (13%) had their Hb checked. This compromised quality of care because detection of anaemia as a pregnancy complication was missed in a large proportion of clients who were denied this essential investigation.

The importance of screening for anaemia in a developing country cannot be over-emphasised where 2/3 of pregnant women have been reported to suffer from anaemia which is an underlying cause of maternal mortality (WHO, 2002). In Malawi, the prevalence of anaemia in pregnancy is approximately 55-68% and this increases chances of prematurity, intrauterine growth retardation and low birth weight infants (MoH, 2006).

Although Bwaila Antenatal Clinic conducted inadequate investigations to detect anaemia, the study findings demonstrated that 98.4% received iron supplementation during

the ANC visit. Similar findings were reported in Kenya and Ghana where majority of clients received iron supplementation during ANC visits (Birungi & Ouma, 2006; Nyarko et al., 2006). The aim of giving iron supplements routinely during ANC visits is to maintain adequate stores and prevent severe anaemia which could be caused by nutritional deficiency of iron, malaria, intestinal worms, infections and blood loss (MoH, 2006). Anaemia is one of the underlying causes of maternal deaths in Malawi.

Providers at Bwaila antenatal clinic prescribed SP to 57.2% of the clients during ANC consultation to prevent malaria which is a common pregnancy complication. The proportion of clients who received one dose of SP was 24.7% while 64.0% received two doses. Similar results were reported by Fawole, Okunlola, and Adekunle (2008) in Nigeria where majority of antenatal clients received antimalarial prophylaxis. Infection of pregnant women with plasmodium falciparum contributes to low birth weight in new born babies which is a major contributing factor for neonatal and infant mortality (Holtzth et al., 2004). FANC recommends two doses of SP as prophylaxis for malaria during pregnancy. Provision of malaria prophylaxis at Bwaila was significant to mitigate the complications of malaria in pregnancy, thus improving maternal health and fetal outcomes.

Neonatal tetanus is a frequent cause of infant deaths if sterile procedures are not observed when cutting the umbilical cord following delivery (MoH, 2006). Seventy-two percent of the antenatal clients at Bwaila received TTV injection. The proportion that received one dose was 28.7% while 71.3% received two doses of TTV. A big challenge is that pregnant women are given the first dose of tetanus toxoid vaccine at first visit in the first trimester and the second dose is scheduled after four weeks while second visit for FANC is after two months.

This implies that clients have to come for the second dose before the next ANC consultation thereby adding another visit to the clinic. If the client fails to come on the recommended date, she starts all over again getting the initial injection and this has implications on the efficacy of the vaccine. This means clients are not adequately covered because five doses are considered to provide lifelong immunity (MoH, 2006).

The results of the study at Bwaila also indicated that there was poor information exchange between providers and clients. Health education was provided as part of group counselling preceding consultations. This did not address the individual knowledge needs of clients. The most common topic of discussion on daily basis was HIV testing and counselling. This meant that most clients were educated on the same topic on each antenatal care consultation. Other important topics like birth planning, signs of labour, items needed for a clean and safe birth and danger signs of pregnancy were not adequately covered and only emphasized on the last visit to the clinic. This could hinder the women's right to be knowledgeable of the potential obstetric complications that could contribute to maternal and infant morbidity and mortality.

These findings concur with a study by Nikiema, Beninguisse, and Haggerty (2009) which assessed information and advice on pregnancy complications given during the antenatal period in 19 countries of Sub-Saharan Africa. Malawi had the highest percentage of unmet need for pregnancy information. This indicated that providers did not routinely provide women with information and advice on pregnancy complications as part of ANC.

Inadequate information on pregnancy complications can hinder pregnant women and their families from recognising danger signs of pregnancy, what to do and where to get help. This can subsequently delay seeking of skilled attendants to manage the obstetric complications leading to maternal and neonatal morbidity and mortality. The emphasis on

ensuring that all pregnant women understand the need to have a skilled attendant at birth and their ability to access emergency obstetric care is one of the essential elements of FANC model.

The study findings also demonstrated that provider behaviour and communication during the antenatal care consultation was good. Ninety-nine percent of the clients were warmly welcomed and the providers spoke gently in a confidential environment which had audio and visual privacy. Seventy-eight percent got an update of how the baby was growing and were given a return date for next appointment. However clients reported that they did not feel comfortable to ask questions and were not given an opportunity to ask questions. This implied that the clients went back home with un answered questions and concerns which affected their psycho-emotional well being.

These results are similar with study findings in Afghanistan where clients were not given an opportunity to ask questions and were rarely involved in discussion about their social and psychological well being during antenatal care consultation (Hansen, et al., 2008). Antenatal care visits must qualitatively address both physical and psychological concerns of pregnant women to promote good health.

Consent before examination at Bwaila was obtained in very few (0.01%) clients. This indicates that clients were not given full information about the procedures to be done during the visit. This was a violation of a basic human right to respect (Mappes & Degrazia, 2001). Clients are more likely to utilize health services where they are treated with respect and dignity.

The study findings also suggest that the staff providing FANC had limited knowledge in the new approach to antenatal care. This was evidenced by inconsistency in history taking, incomplete physical examination and poor health education. Similar results were found in

studies conducted in Kenya and Ghana where provider knowledge on FANC was limited (Birungi & Ouma, 2006; Nyarko et al., 2006).

Focused antenatal care emphasizes that each visit should be conducted by a skilled health care provider who has the knowledge, skills and attitudes required to work effectively towards accomplishing the goals of antenatal care thereby reducing risks of pregnancy complications leading to maternal morbidity and mortality (WHO, 2002). The skilled attendant examines the woman, detect problems that might affect the woman's pregnancy and delivery and give early treatment of these conditions in order to reduce obstetric complications which affect the outcome of pregnancy (WHO, 2002).

Additionally, results of the study at Bwaila Antenatal Clinic demonstrated that community awareness about components of FANC was very limited as evidenced by lack of knowledge on the content of FANC and the services specific to the stage of pregnancy. About 60% of the clients interviewed in the study initiated antenatal care late in the second trimester of pregnancy and only 8% started at the recommended gestation in the first trimester. These results were also reported by NSO (2004) where only 8 % of antenatal clients in Malawi were reported to initiate antenatal care in the first trimester of pregnancy.

FANC is a scheduled service which aims at maintaining maternal and fetal well being throughout normal pregnancy and child birth. When clients do not adhere to the recommended timing, the very purpose of the service is challenged. This could create missed opportunities for services specific to the gestational age of pregnancy.

Antenatal care could be more effective in preventing negative outcomes of pregnancy when it is sought early enough in pregnancy. WHO recommends that women initiate ANC in the first trimester of pregnancy to maximize the benefits of screening for complications like

pre-eclampsia and eclampsia, anaemia, sexually transmitted infections, malaria and HIV (WHO, 2002).

In contrast to the recommended time for initiating ANC, a big challenge arises for pregnant women in Malawi who report to the clinic early because they still risk not being diagnosed and treated early due to lack of reagents (Mgawadere, 2009). For instance, Bwaila antenatal clinic lacked reagents for Hb test and syphilis test. Currently, RH policy in Malawi recommends that women initiate ANC in the first trimester and attend four visits during pregnancy. It is therefore vital that these visits include a comprehensive range of services to promote good health of the mother and baby.

The study results also demonstrated that in general consultation time with the health care provider was estimated at a minimum of one minute and a maximum of 45 minutes. Similar findings were revealed in Tanzania where health workers were observed providing specific components of FANC. The contact time with an initial client was 15 minutes while subsequent clients spent 9 minutes with the provider (Both et al., 2006). WHO (2002) estimates a consultation time of 30 to 40 minutes for initial clients and 20 minutes for subsequent client.

As the basic component of the WHO model includes only four visits, sufficient time must be made during each visit for discussion of the pregnancy and related issues. Spending less time with the clients during consultation meant compromising quality of care given since individual interaction between the client and the provider is an essential element of the new ANC model.

Outcomes Quality Assessment

The study also evaluated the standards of care to monitor proper performance of interventions appropriate to impact morbidity and mortality. The Malawi RH standards on ANC have a total of twenty-three standards which a facility has to meet to achieve quality ANC (Appendix D). A checklist containing the 23 performance standards was used to score the facility on the standards that were achieved in provision of quality FANC. A facility has to score at least 80% of the standards to be considered as providing quality ANC. The quality indicators which were measured against the standards in this study were availability and functioning of basic infrastructure, materials and resources for providing FANC, quality and content of FANC services. The total performance standards that were achieved were 14 out of 23 giving a score of 60%. These results demonstrate that performance in process quality was below standard.

Despite the gaps in service provision, 94% of the clients perceived quality of FANC services provided as good. They reported that they would recommend the health facility to friends and 99% stated that they would come back to the same facility for care during subsequent pregnancies. This could be partly because the client's knowledge on the content of FANC services was limited and therefore accepted whatever care they received as appropriate. The clients lacked knowledge on what care to expect and therefore had no basis for comparison.

Although the clients were satisfied with the services provided at the ANC clinic, they proposed suggestions to improve quality of services. Clients suggested that the clinic should provide mosquito nets, increase the number of midwives, improve communication skills and provide feedback after examination. These suggestions clearly demonstrate that services provided are not fully satisfactory in service provision. This concurs with the standard score

for process service quality which indicated that performance was below standard (60%). Since a significant proportion of women make contact with the health system during pregnancy (NSO, 2004) community mobilization is crucial in health promotion and provision of services.

Conclusion

FANC is a comprehensive approach to ANC which is critical in improving maternal health and reducing child mortality. Refocusing antenatal care was expected to result in significant better quality of care. Based on the national reproductive health standards, the study findings revealed that Bwaila Antenatal Clinic scored highly in terms of structural quality (87%) and on the contrary, scored below standard in terms of performance (60%). The antenatal clinic had shortfalls especially in the process attributes of the Donabedian quality elements.

Bwaila Antenatal Clinic faced some challenges due to both client and health system factors which substantially reduced the capacity to provide FANC services. Health workers were not implementing current recommended ANC approach known as FANC because they were not oriented in the new approach. This was evidenced by the inconsistency in taking history, incomplete physical examination and poor health education provided to clients. Additionally, there was shortage of equipment and supplies and most women reported late for ANC and lacked knowledge on the new approach. These disparities in the quality of care provided had an important effect in the standard of care received.

However the findings cannot be generalized because the study concentrated on one central hospital but the results will provide strong baseline data for planners and

implementers of the reproductive health services in coming up with strategies for improving the quality of focused antenatal care services.

Recommendations

Based on the results of the study, the following recommendations are made to improve quality of focused antenatal care at Bwaila Antenatal Clinic.

1. It was clear that the midwives were not providing ANC services according to the FANC package. Focused antenatal care emphasizes that each visit should be conducted by a skilled health care provider who has the knowledge, skills and attitudes required to work effectively towards accomplishing the goals of antenatal care. Therefore the Ministry of Health through the Reproductive Health Unit should organise a more systematic approach to training providers on the components of the FANC package in order to provide evidence based practice.
2. Guidelines and standards for the implementation of FANC were only available in two of the four antenatal care consultation rooms. Matron in-charge of the clinic should ensure that guidelines and standards for the implementation of FANC are widely distributed for reference to staff at the clinic and they should be readily available in all the consultation rooms. Staff working at the clinic should also ensure that they make use of the guidelines during care provision.
3. Deficiencies in essential resources were identified. Midwives working in the antenatal clinic should advocate for more resources from the Ministry of Health which should also effectively plan to consistently provide adequate material supplies for providing quality FANC services. The facility should be equipped with the capacity to detect syphilis and anaemia in order to improve the quality of maternal and neonatal health.

4. Important health education components were not adequately covered during consultation. Therefore midwives and the matron in-charge at Bwaila Antenatal Clinic should consider appropriate organization and scheduling of antenatal health education and counselling to ensure that critical areas of child birth are effectively covered.
5. The Ministry of Health should increase in-take of midwifery students and update the curricula for pre-service training in order to prepare for their role as skilled attendants to provide quality FANC services.
6. The midwives and management at Bwaila Antenatal Clinic through The Ministry of Health should organise community level education to create awareness about the new services being offered under the FANC package so that ANC attendance is initiated early and according to the four targeted visits. A better educated community may be able to appreciate and understand the content of FANC services.
7. The MoH should consider reviewing effectiveness of FANC approach. Therefore there is need to replicate this study in order to further explore providers knowledge and practices on FANC interventions and outcome of services in terms of mortality at Bwaila Antenatal Clinic and the entire Malawi nation.

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APENDICES

APPENDIX A: ASSESSMENT TOOL FOR STRUCTURAL QUALITY

PERFORMANCE STANDARD	CRITERIA	YES	NO
1. The facility has conducive waiting/reception area	Waiting area for clients		
	Good ventilation		
	Good lighting		
	Protected from sun and rain		
	Sufficient places for sitting		
2. The facility has adequate counselling area and examination /procedure area for ANC	Counselling area provides privacy for clients		
	Examination area has curtains or screens		
	Door that can be closed		
	Desk		
	Chairs for Provider Client Companion		
	Hand washing facilities inside or near		
	Table		
	Examination couch		

	Light source		
	Container with 0.5% chlorine solution for decontamination		
	Container with leak proof plastic bag for contaminated waste		
3. The facility has working toilets for clients and providers	Doors can be locked		
	Sinks with running water or bucket with tap		
	Individual clean towel or paper towels		
	Toilets with running water		
	Waste disposal bucket		
	Toilets are available for Clients Providers		
4. The facility has equipment, supplies and materials to provide ANC			
Essential equipment	Examination couch		
	Examination lights		
	Adult weighing scale		
	BP machine		
	Adult stethoscope		

	Fetal stethoscope		
	Gestational age calculator		
	Vaginal Speculum		
	Thermometer		
	Tape measure		
	Cotton/gauze swabs		
	Examination gloves		
	Needles and syringes		
	Disinfectant		
	Soap		
	Fridge for immunizations		
	Cooler boxes		
	Sharps container		
Essential Drugs	Folic acid		
	Ferous sulphate		
	SP		

	TTV		
	Erythromycin		
	Doxycycline		
	Flagyl		
	Bactrim		
	Benzanthine penicillin		
	Amoxicilin		
	Mebendazole		
Essential laboratory supplies	Reagents for urine test for Glucose Protein		
	VDRL/RPR for syphilis		
	HIV rapid test		
	Reagents for anaemia tests		
	Pregnancy test		
	Urine specimen bottles		
	Blood specimen bottles		
ANC Guidelines	RH standards for Malawi		

APPENDIX B: FOCUSED ANTENATAL CARE CLIENT EXIT INTERVIEW

Facility Name _____

Questionnaire number _____

Date of interview _____

Interviewer name _____

My name is.....

We are conducting a study on Assessing Quality of Antenatal care provided to pregnant women at Bwaila Antenatal clinic in Lilongwe. You are kindly requested to be included in the study, which will contribute to improvement in provision of antenatal care services.

No information concerning you, as an individual will be passed to another individual or institution without your agreement. Your participation is voluntary and you have the right to withdraw at any point if you so wish. If you agree to be included in the study, I will start asking you some questions. Only honest answers would contribute the improvement of health planning. May I continue? If yes continue interviewing. If no, thank and stop interviewing.

SECTION A: DEMOGRAPHIC DATA

A1. How old are you?
_____ Years.

Tick the right answer and circle the appropriate code

A2. What is your marital status?

Tick

Code

- | | | |
|--------------|-----|--------|
| a. Married | [] |1 |
| b. Single | [] |2 |
| c. Widow | [] |3 |
| d. Separated | [] |4 |
| e. Divorced | [] |5 |

A3. How many children do you have?
_____.

A4. What is the highest level of education you have attained?

- | | | |
|--------------------|-----|---------|
| a. Std 1 – 4 | [] |1 |
| b. Std 5 – 8 | [] |2 |
| c. Form 1 – 2 | [] |3 |
| d. Form 3 – 4 | [] |4 |
| e. Other (specify) | [] |5 |
| f. No education | [] |99 |

A5. What is your religion?

- | | | |
|--------------------|-----|--------|
| a. Roman Catholic | [] |1 |
| b. Presbyterian | [] |2 |
| c. Anglican | [] |3 |
| d. Islam | [] |4 |
| e. Other (specify) | [] |5 |

A6. What is your occupation?

- | | | |
|--------------------|-----|--------|
| a. Teacher | [] |1 |
| b. Nurse | [] |2 |
| c. Accountant | [] |3 |
| d. Police | [] |4 |
| e. Business | [] |5 |
| f. Housewife | [] |6 |
| g. Domestic worker | [] |7 |
| h. Farmer | [] |8 |
| i. Other (specify) | [] |9 |

A7. When was your last normal menstrual period? (Calculate gestation in weeks)
_____ Weeks

A8. How many times have you come for ANC for this pregnancy?

- a. Once [].....1
- b. Two times [].....2
- c. Three times [].....3
- d. Four times [].....4
- e. Other (Specify) [].....5

A9. How many times do you think a woman needs to go for ANC at a health facility during pregnancy?

- a. Once during pregnancy [].....1
- b. 4 times [].....2
- c. More than 4 times (specify) [].....3
- d. Do not know [].....99

SECTION B: QUALITY AND CONTENT OF FANC SERVICES AVAILABLE AT THE ANTENATAL CARE CLINIC

B1. Did the provider ask you the following information during your ANC consultation

- a. past medical history [].....1
- b. Family history [].....2
- c. surgical history [].....3
- d. past and present obstetric history [].....4
- e. Other (Specify) [].....5

B2. What type of observations were carried out during your visit

- a. Blood pressure [].....1
- b. Weight [].....2
- c. Height [].....3
- d. Other (Specify) [].....4

B3. What examination was done during your ANC visit

- a. Head to toe [].....1
- b. Pallor [].....2
- c. Pedal oedema [].....3
- d. Breast examination [].....4
- e. Fundal height [].....5
- f. Featal heart rate [].....6
- g. Vaginal examination [].....7
- h. Pelvic assessment [].....8
- i. Other (Specify) [].....9

B4. What blood tests were done during the ANC consultation		
a. Heamoglobin	[ ]	.....1
b. Grouping and X-match	[ ]	.....2
c. HIV	[ ]	.....3
d. Syphyllis test	[ ]	.....4
e. CD4 count	[ ]	.....5
f. Other (Specify)	[ ]	.....6
B5. What urine tests were done during your ANC consultation		
a. Protein	[ ]	.....1
b. Sugar	[ ]	.....2
c. Other (Specify)	[ ]	.....3
B6. What drugs and immunization were given to you during your visit		
a. Iron	[ ]	.....1
b. SP	[ ]	.....2
c. TTV	[ ]	.....3
d. Other (Specify)	[ ]	.....4
B7. What did you discuss on the importance of FANC?		
a. Early detection and treatment of problems and complications	[ ]	.....1
b. Prevention of complications and diseases	[ ]	.....2
c. Birth preparedness and complication readiness	[ ]	.....3
d. Health promotion	[ ]	.....4
e. Other (Specify)	[ ]	.....5
B8. What danger signs of the mother during pregnancy did you discuss		
a. Vaginal bleeding	[ ]	.....1
b. Severe headache	[ ]	.....2
c. Convulsions	[ ]	.....3
d. Labour pains before 37 weeks	[ ]	.....4
e. Fever	[ ]	.....5
f. Early rupture of membranes	[ ]	.....6
g. Other (Specify)	[ ]	.....7
B9. Did you discuss with the provider about where to go for medical help if you experience any of the danger signs		
a. Yes	[ ]	.....1
b. No	[ ]	.....2
c. Do not know/remember	[ ]	.....99
B10 What did you learn about birth planning?		
a. Seeking skilled assistance at birth	[ ]	.....1
b. Arranging to delivery at a health facility	[ ]	.....2
c. Preparation for transportation to the facility	[ ]	.....3
d. Saving money to pay for hospital bills	[ ]	.....4
e. A companion to stay with the woman during labour	[ ]	.....5
f. Other (Specify)	[ ]	.....6

- B11. What did you discuss about items needed for a clean and safe birth
- a. Perineal pads [].....1
 - b. Soap [].....2
 - c. Clean bed clothes [].....3
 - d. New unused razor blade [].....4
 - e. Water proof plastic cover [].....5
 - f. Cord ties [].....6
 - g. Warm clothes for the baby [].....7
 - h. Other (Specify) [].....8
- B12. What did you learn about signs of labour which indicate need to contact the skilled provider
- a. Regular progressive uterine contractions [].....1
 - b. Low back pain radiating from fundus [].....2
 - c. Show [].....3
 - d. Rupture of membranes or draining liquor [].....4
- B13. Did the provider give you information or advice about diet and nutrition during pregnancy?
- a. Yes [].....1
 - b. No [].....2
 - c. Do not know/remember [].....99
- B14. Did the provider advise you to give birth in a health facility?
- a. Yes [].....1
 - b. No [].....2
 - c. Do not know/remember [].....99
- B15. Did you discuss how you would get to the health facility if there was an emergency?
- a. Yes [].....1
 - b. No [].....2
 - c. Do not know/remember [].....99
- B16. Did you talk about the dangers of malaria during pregnancy?
- a. Yes [].....1
 - b. No [].....2
 - c. Do not know/remember [].....99
- B17. Please explain what you discussed about HIV prevention
- a. Using condoms [].....1
 - b. Being faithful to partner [].....2
 - c. Other (Specify) [].....3

- B18. What did you discuss about prevention of mother-to-child transmission of HIV?
- a. Taking the prescribed antiretroviral therapy [].....1
 - b. Exclusive Breast feeding [].....2
 - c. No Breast feeding [].....3
 - d. Other (Specify) [].....4

SECTION C: CLIENTS PERCEIVED QUALITY OF ANTENATAL CARE SERVICES

C1. How much time did you spend waiting to meet with the health provider today (in minutes)?

- a. Minutes: _____
- b. Do not know [].....99

C2. Not counting waiting time, how long (in minutes) was your consultation with the health provider today?

- a. Minutes: _____
- b. Do not know [].....99

C3. Did you think your consultation with the health provider was too short, too long, or the right length of time?

- a. Too short [].....1
- b. Too long [].....2
- c. Right length of time [].....3

C4. How did the health provider ensure privacy during the ANC consultation

- a. Use of closed antenatal care room [].....1
- b. Use of drapes during examination [].....2
- c. Limiting number of people entering the room [].....3
- d. Drawing curtains in the room during the consultation [].....4
- e. Other (Specify) [].....5

C5. How did the health provider treat you with respect during the consultation?

- a. Gave me a warm welcome [].....1
- b. Spoke in a quite gentle tone of voice [].....2
- c. Addressed me by my name [].....3
- d. Obtained my permission before examination [].....4
- e. Other (Specify) [].....5

C6. How did the provider care about your well being during the consultation

- a. Made me comfortable [].....1
- b. Listened actively to what I had to say [].....2
- c. Asked if I had any questions or concerns [].....3
- d. Spoke clearly in a language I could understand [].....4
- e. Avoided distractions while providing FANC [].....5
- f. Other (specify) [].....6

- C7. Did you ask the provider any questions during the ANC consultation
- a. Did not have any questions [].....1
 - b. Did not feel comfortable to ask questions [].....2
 - c. Provider too busy/No time for questions [].....3
 - d. Other (Specify) [].....4

- C8. If yes were you satisfied with the answers given
- a. Yes [].....1
 - b. No [].....2

- C9. Did the provider tell you the expected due date?
- a. Yes [].....1
 - b. No [].....2
 - c. Do not know/remember [].....99

- C10. Did the provider give you an update on how the baby is growing?
- a. Yes [].....1
 - b. No [].....2
 - c. Do not know/remember [].....99

- C11. Would you return to this facility for maternal health services?
- a Yes [].....1
 - b No [].....2

- C12. Did the provider ask you to come back for another visit?
- a. Yes [].....1
 - b No [].....2

- C13. How do you feel about the overall quality of ANC you received?
- a. Good [].....1
 - b. Satisfactory [].....2
 - c. Poor [].....3

- C14. Do you have confidence on the services provided at this ANC clinic?
- a. Yes [].....1
 - b. No [].....2
 - c. Don't know [].....99

C15. D16. Do you have any suggestions for improving focused antenatal care services at this facility?

APPENDIX C: CHICHEWA QUESTIONNAIRE

MAFUNSO A NDONDOMEKO YATSOPANO YA SIKELO YA PAKATI

Dzina la chipatala _____

Nambala _____

Tsiku _____

Wofunsa mafunso _____

Dzina langa ndine.....

Ndikufuna kupempha chilolezo chanu kuti mutenge mbali mu kafukufuku wofuna kumva maganizo anu mmene azimayi oyembekezera pa Bwaila akulandilira chithandizo cha ndondomeko yatsopano ya sikelo yapakati.

Mukavomeleza kutenga mbali, ndidzakufunsani mafunso okhudzana ndi maganizo anu pa chithandizo ndanenachi ndipo mayankho ake ndidzachonga papepala lofunasila mafunso pomwepa. Kutenga mbali kapena kusatenga mbali ndi ganizo loti mupanga mwa ufulu wanu ndipo muli omasuka kusintha maganizo kusiya nthawi iliyonse kutenga mbali mu kafukufukuyu. Izi sizikhudzana mu njira ina iliyonse ndi chithandizo chomwe mukuyenela kulandila pamalo ano. Zotsatila za kafukufukuyu zidzathandiza kusintha moyenela ndondomeko ya sikelo yapakati. Ngati mwavomeleza ndikufunsani mafunso. Kodi ndipitilize? Ngati ayi, zikomo.

GAWO A: ZA MBIRI YANU

A1. Muli ndi zaka zingati

A2. Kodi ndinu

- a. Okwatiwa
- b. Mbeta
- c. Mfedwa
- d. Wopatukana pabanja

Chongani

Code

- [].....1
- [].....2
- [].....3
- [].....4

A3. Muli ndi ana angati?

A4. Sukulu mudalekeza kalasi yanji

- a. Standade 1-4
- b. Standade 5-8
- c. Folomu 1-2
- d. Folomu 3-4
- e. Zindinaphunzileko

- [].....1
- [].....2
- [].....3
- [].....4
- [].....99

A5. Mumapemphera mpingo wanji?

- a. Katolika
- b. CCAP
- c. Anglikani
- d. Chisilamu
- e. Zina

- [].....1
- [].....2
- [].....3
- [].....4
- [].....5

A6. Mumagwira ntchito yanji

- a. Yauphunzitsi
- b. Yaunamwino
- c. Yazachuma
- d. Yapolisi
- e. Yabizinesi
- f. Mzimayi wapakhomo
- g. Yothandiza ntchito zapakhomo
- h. Yaulimi
- i. Zina (Tchulani)

- [].....1
- [].....2
- [].....3
- [].....4
- [].....5
- [].....6
- [].....7
- [].....8
- [].....9

A7. Mwakhala oyembekezela miyezi ingati?

A8. Kodi mwabwela kangati ku sikelo ndi mimba imeneyi?

- a. Kamodzi
- b. Kawiri
- c. Katatu
- d. Kanayi

- [].....1
- [].....2
- [].....3
- [].....4

- A9. Mukuganiza kuti mzimayi ayenela kubwela kangati ku sikelo ya pakati?
- | | | |
|---------------------|----------|----|
| a. Kamodzi | []..... | 1 |
| b. Kanayi | []..... | 2 |
| c. Kopambana kanayi | []..... | 3 |
| d. Sindikudziwa | []..... | 99 |

SECTION B: ZOKHUDZANA NDI NDONDOMEKO YA CHITHANDIZO CHA

SIKELO YAPAKATI

- B1. Kodi azachipatala akufunsani mafunso anji okhudzana ndi za mbiri yanu
- | | | |
|-------------------------------|----------|---|
| a. Mbiri ya matenda anga | []..... | 1 |
| b. Mbiri ya matenda aku banja | []..... | 2 |
| c. Mbiri ya maopeleshoni | []..... | 3 |
| d. Mbiri ya uchembele | []..... | 4 |
| e. Zina (Tchulani) | []..... | 5 |
- B2. Kodi azachipatala tsiku la sikelo
- | | | |
|--------------------------------------|----------|---|
| a. Anakuyezani kuthamanga kwa magari | []..... | 1 |
| b. Anakukwezani sikelo | []..... | 2 |
| c. Anakuyezani utali wa msinkhu | []..... | 3 |
| d. Zina (Tchulani) | []..... | 4 |
- B3. Kodi nthawi ya sikeloyi azachipatala anakuyezaninso
- | | | |
|--|----------|---|
| a. Kuchokela kumutu kufika kumiyendo | []..... | 1 |
| b. Mmaso kuti awone kuchuluka kwa magari | []..... | 2 |
| c. Kutupa kwa mapazi | []..... | 3 |
| d. Mabele | []..... | 4 |
| e. Kukula kwa mimba | []..... | 5 |
| f. Kugunda kwa mwana | []..... | 6 |
| g. Njira ya mwana | []..... | 7 |
| h. Zina (Tchulani) | []..... | 8 |
- B4. Kodi anakutengani magari tsiku la sikelo kuti akayeze
- | | | |
|-------------------------|----------|---|
| a. Kuchuluka kwa magari | []..... | 1 |
| b. Gulu lanu la magari | []..... | 2 |
| c. HIV | []..... | 3 |
| d. Chindoko | []..... | 4 |
| e. Zina (Tchulani) | []..... | 5 |
- B5. Kodi anakutengani mikodzo kuti akayeze
- | | | |
|--------------------|----------|---|
| a. Mapulotini | []..... | 1 |
| b. Sugar | []..... | 2 |
| c. Zina (Tchulani) | []..... | 3 |

- B6. Munakambilana chani za kufunikila kwa ndondomeko yatsopano ya sikelo ya mimba
- Kuthandiza kufufuza ndi kuchiza msanga zovuta zimene mzimayi angadwale chifukwa cha pakati [].....1
 - Kupewa matenda ndi zovuta za pakati [].....2
 - Kukonzekela bwino kubeleka ndi zovuta zimene zingabwele [].....3
 - Kulandila uphungu woyenela [].....4
 - Zina (Tchulani) [].....5
- B7. Munakambilana chani za zizindikilo zoopsya za mayi wapakati
- Kutaya magazi [].....1
 - Mutu waching'alang'ala [].....2
 - Kukomoka [].....3
 - Kuyamba matenda masiku asanakwane [].....4
 - Kutentha thupi [].....5
 - Kusweka nsupa matenda asanayambe [].....6
- B8. Kodi munapatsidwa mankwala anji ndi katemela tsiku la sikelo
- Owonjezela magazi [].....1
 - Amalungo [].....2
 - Katemela wa kafumbata [].....3
 - Zina (Tchulani) [].....4
- B9. Munaphunzila chani za kukonzekela kubeleka kwabwino
- Kukachilitsidwa ndi amene anaphunzila bwino ntchito yobelekets [].....1
 - Kukachilila ku chipatala [].....2
 - Mayendedwe popita kuchipatala kukalandila chithandizo [].....3
 - Kusunga ndalama zolipilila kuchipatala [].....4
 - Kusankha munthu odzakhala naye mu chipinda chochilira kuchipatala matenda atayamba [].....5
 - Zina (Tchulani) [].....6
- B10. Munakambilana chani za zipangizo zofunika zoyenelela pobeleka
- Nsalu zovala kumusi [].....1
 - Sopo osambila [].....2
 - Zofunda zoyela zoyala pabedi [].....3
 - Rezala latsopano [].....4
 - Chipepala cha plastiki choyela bwino [].....5
 - Dzingwe dzomangila mchombo wa mwana [].....6
 - Dzovala dzamwana dzotentha bwino ndinso zochapa [].....7
 - Zina (Tchulani) [].....8

- B11. Munaphunzira zotani pa zizindikilo zosonyeza kuti matenda ayamba kuti mupite kuchipatala
- | | | |
|--|-----|--------|
| a. Kupweteka mimba pafupi pafupi | [] |1 |
| b. Kuwawa kwa nsana kuyambila kumimba | [] |2 |
| c. Kutuluka zonanda zosakaniza ndi magazi kumusi | [] |3 |
| d. Kusweka nsupa | [] |4 |
| e. Zina (Tchulani) | [] |5 |
- B12. Kodi azaumoyo anakulangizani za zakudya zoyenelela nthawi imene muli ndi pakati?
- | | | |
|---------------------------|-----|---------|
| a. Eya | [] |1 |
| b. Ayi | [] |2 |
| c. Sindikudziwa/ Ndaiwala | [] |99 |
- B13. Kodi munakambilana kumene mungakachilile matenda atayamba
- | | | |
|---------------------------|-----|---------|
| a. Eya | [] |1 |
| b. Ayi | [] |2 |
| c. Sindikudziwa/ Ndaiwala | [] |99 |
- B14. Anakulangizani kuti mukabelekele ku chipatala?
- | | | |
|---------------------------|-----|---------|
| a. Eya | [] |1 |
| b. Ayi | [] |2 |
| c. Sindikudziwa/ Ndaiwala | [] |99 |
- B15. Munakambilana za chipatala chapafupi chimene mungakabeleke nthawi ili yonse kaya masana kapena usiku?
- | | | |
|---------------------------|-----|---------|
| a. Eya | [] |1 |
| b. Ayi | [] |2 |
| c. Sindikudziwa/ Ndaiwala | [] |99 |
- B16. Anakulangizani kumene mungathe kupita mutakhala ndi vuto lililonse monga ngati kutaya magazi, kutupa kapena kukomoka?
- | | | |
|---------------------------|-----|---------|
| a. Eya | [] |1 |
| b. Ayi | [] |2 |
| c. Sindikudziwa/ Ndaiwala | [] |99 |
- B17. Munakambilana mmene mungayendele kupita ku chipatala zitachitika zadzidzidzi?
- | | | |
|---------------------------|-----|---------|
| a. Eya | [] |1 |
| b. Ayi | [] |2 |
| c. Sindikudziwa/ Ndaiwala | [] |99 |
- B18. Munakambilana za kuopsya kwa malungo kwa mzimayi wa pakati?
- | | | |
|---------------------------|-----|---------|
| a. Eya | [] |1 |
| b. Ayi | [] |2 |
| c. Sindikudziwa/ Ndaiwala | [] |99 |

- B19. Mwakambilana chani za kupewa ndi kuyezetsa kachilombo ka HIV
- a. Kugwilitsa ntchito ma kondomu [].....1
 - b. Kukhulupilika pa chibwenzi kapena banja [].....2
 - c. Ndaiwala [].....99

- B20. Munakambilana chani za kapewedwe ka mayi kupatsila mwana kachilombo ka HIV ndi matenda a EDZI
- a. Kumwa mankwala achitetezo [].....1
 - b. Kuyamwitsa mwakathithi [].....2
 - c. Osayamwitsa nmwana akabadwa [].....3
 - d. Zina (Tchulani) [].....4

- B21. Munakambilana chani za matenda ena aliwonse opatsilana
- a. Kufunika komaliza kumwa mankwala [].....1
 - b. Kufunika kolandila mankwala anzathu ogonana nawo [].....2
 - c. Zina (Tchulani) [].....3

SECTION C: MAGANIZO A AMAYI PA CHITHANDIZO CHA NDONDOMEKO YA SIKELO

C1. Munadikila nthawi yaitali bwanji musanaonane ndi azachipatala okuthandizani?

- a. Mphindi _____
- b. Sindikudziwa [].....99

C2. Posawelengela nthawi imene munadikila musanaonane ndi azachipatala okuthandizani, munakhala nthawi yaitali bwanji mukuthandizidwa ndi azachipatala?

- a. Mphindi _____
- b. Sindikudziwa [].....99

C3. Mukuganiza kuti kuthandizidwa kwanu ndi azachipatala kunatenga nthawi yaitali bwanji?

- a. Kunatenga kanthawi pang'ono [].....1
- b. Kunatenga nthawi yambiri [].....2
- c. Kunatenga nthawi yoyenela [].....3

C4. Kodi azachipatala anawonetsetsa bwanji kuti akuthandizani mwachinsinsi panokha

- a. Chipinda chopangila sikelo chinali chotseka bwino [].....1
- b. Amandifunditsa nthawi imene amandiyeza [].....2
- c. Anachepetsa anthu olowa mchipinda chopangilamo sikelo [].....3
- d. Makatani anali otseka bwino [].....4
- e. Zina (Tchulani) [].....5

- C5. Kodi azachipatala anakulemekezani bwanji pa zonse zochitika ku sikelo
- a. Anandilandila bwino [].....1
 - b. Amayankhula modekha [].....2
 - c. Amanditchula dzina langa [].....3
 - d. Anandipempha ngati ndingalole kuti andiyeze [].....4
 - e. Zina (Tchulani) []5
- C6. Kodi azachipatala anakusamalani bwanji pa zolinga zanu nthawi ya sikelo
- a. Amamvetsela mwachidwi zimene ndimayankhula [].....1
 - b. Anandifunsa ngati ndinali ndi mafunso kapena zodandaula [].....2
 - c. Amayankhula chiyankhulo chomveka chomwe ine ndimamva [].....3
 - d. Panalibe zosokoneza nthawi imene amapeleka chithandizo [].....4
- C7. Kodi munafunsa mafunso aliwonse lero kwa azachipatala nthawi ya sikelo?
- a. Ndinalibe mafunso []1
 - b. Sindinali womasuka kufunsa mafunso [].....2
 - c. Panalibe nthawi yamafunso []3
- C8. Ngati munafunsa kodi munakhutitsidwa ndi mayankho amene munalandila
- a. Eya [].....1
 - b. Ayi [].....2
- C9. Kodi mungadzabwelenso kuchipatala kuno kudzalandila chithandizo cha uchembele?
- a. Eya [].....1
 - b. Ayi [].....2
- C10. Kodi azachipatala anakufunsani ndikukupatsani tsiku lina lodzabwela ku sikelo
- a. Eya [].....1
 - b. Ayi [].....2
 - c.umbukila/sindikudziwa []99
- C11. Kodi azaumoyo anakuuzani tsiku loyembekezela kubadwa mwana
- a. Eya [].....1
 - b. Ayi [].....2
 - c. Sindikukumbukila/sindikudziwa []99
- C12. Kodi atakuyezani anakuwuzani mmene mwana akukulila
- a. Eya [].....1
 - b. Ayi [].....2
 - c. Sindikukumbukila/sindikudziwa []99
- C14. Mukuganiza bwanji za chithandizo chonse chomwe munalandila ku sikelo
- a.Chinali choyenela [].....1
 - b.Ndinakhutitsidwa ndi chithandizo chonse [].....2
 - c.Chinali chosayenela []3

C15. Kodi muli ndi chikhulupiliro cha mphamvu pa chithandizo cha sikelo pa malo ano

- | | |
|-----------------|------------|
| a. Eya | [].....1 |
| b. Ayi | [].....2 |
| c. Sindikudziwa | [].....99 |

C16. Muli ndi maganizo aliwonse othandiza kukonza chithandizo cha uchembele pa chipatala pano?

APPENDIX D: PERFORMANCE STANDARDS SCORING FOR FANC

OBSERVED CRITERIA	ACHIEVED		SYNTHESIS OF THE PROBLEMS
	YES	NO	
FOCUSED ANTENATAL CARE			
1. The facility has a waiting area/reception area			
2. The facility has working toilets for clients and providers			
3. The facility has an adequate counselling area and examination/procedure for ANC room			
4. The facility has equipment supplies and materials to provide ANC.			
5. The ANC clinic uses specific clinical charts in conjunction with an appropriate statistic system.			
6. Personnel conduct a rapid initial evaluation of the pregnant woman at the first contact.			
7. The provider receives and treats the pregnant woman cordially and respectfully.			

8. The provider asks for personal and social information.			
9. The provider obtains the obstetrical history.			
10. The provider takes the medical history.			
11. The provider provides HIV Testing Counselling according to the protocol.			
12. The provider requests laboratory tests according to the national focused ANC package.			
13. The provider properly conducts an individualized care based on findings and protocols.			
14. The provider evaluates the care and plans the returns visit with the pregnant woman.			
15. The provider manages Syphilis according to the national guidelines.			
16. The provider manages uncomplicated malaria according to the national guidelines.			

17. The provider manages severe malaria according to the national guidelines.			
18. The provider manages moderate anemia according to the national guidelines			
19. The provider manages severe anemia according to the national guidelines			
20. The provider properly makes a diagnosis of pre-eclampsia.			
21. The provider properly classifies pre-eclampsia according to protocol			
22. The provider properly manages pre-eclampsia according to classification.			
Total Criteria (23)			

APPENDIX E: ENGLISH CONSENT FORM

Dear Participant,

I am a second year student at Kamuzu College of Nursing pursuing a Master of Science Degree in Midwifery. I would like to request for your consent to participate in a research study. This is for my dissertation in partial fulfilment of the Master of Science Degree in Midwifery.

The purpose of this study is to assess Quality of Focused Antenatal Care provided to pregnant women at Bwaila Antenatal Clinic. In participating in this study, you will be interviewed using a questionnaire. There are no known risks associated with this study and there is no payment attached to your participation. You are free to withdraw your consent and stop participating at any time and this will not influence the health care given to you. You are also free not to answer some questions. Your name will not be put on the questionnaire; instead, numbers will be used to ensure anonymity and confidentiality. The responses will be kept in a locked drawer and destroyed after the study.

I would appreciate your responses to the questions. If you have any questions concerning the study, you can call Dr Malata on phone number 01 752 622 or 0888546883.

Statement of Participation

I, the undersigned have read and understood the above information. I have been given a chance to ask questions and to withdraw my consent at any time. I fully understand that my participation is purely voluntary.

I fully wish to participate in this study.

Date:

Signature:

Date:

Signature of researcher

APPENDIX F: CHICHEWA CONSENT FORM

KALATA YOVOMELEZA KUCHITA NAWO KAFUKUFUKU

Dzina langa ndine mayi Florence Lungu. Ndine wophunzira pa sukulu ya unamwino ndi uzamba ya Kamuzu College of Nursing. Ndikufuna kupempha chilolezo chanu kuti mutenge mbali mu kafukufuku amene ndikupanga ngati mbali ya maphunziro anga.

Cholinga cha kafukufukuyu ndi kufuna kumva maganizo anu pa chithandizo chimene mukulandila cha ndondomeko yatsopano ya sikelo yapakati. Mukavomeleza kutenga mbali, ndidzakufunsani mafunso okhudzana ndi maganizo anu pa chithandizo ndanenachi ndipo mayankho ake ndidzachonga papepala lofunzila mafunso pomwepa. Palibe zovuta zilizonse zodziwika zimene mungakumane nazo potenga mbali mu kafukufukuyu komanso dziwani kuti palibe malipilo aliwonse mukavomela kuyankha mafunsowa.

Kutenga mbali kapena kusatenga mbali ndi ganizo loti mupanga mwa ufulu wanu ndipo muli omasuka kusintha maganizo kusiya nthawi iliyonse kutenga mbali mu kafukufukuyu. Izi sizikhudzana mu njira ina iliyonse ndi chithandizo chomwe mukuyenela kulandila pamalo ano.

Dzina lanu sililembedwa pa pepala loyankha mafunso ndipo zimene muyankhe zidzakhala za chinsinsi. Ndithokoza kwambiri kuyankha kwanu kwa mafunso. Ngati muli ndi mafunso imbani kwa Dr Malata pa nambala izi 01 752 622 kapena 0888546883.

CHIVOMELEZO

Ndawerenga/ndawuzidwa zomwe zalembedwa pamwambapa ndipo ndazimvetsa kotero ndavomeleza kutenga mbali mosakakamizidwa.

Wotenga mbali

Tsiku

Signature/chala

Wofunsa mafunso

Tsiku

Signature

APPENDIX G: PERMISSION LETTERS

University of Malawi
KCN
Blantyre Campus
Box 415
Blantyre.
30th November, 2009.

The Chairman
Research and Publication Committee
University of Malawi
Kamuzu College of Nursing
P/Bag 1
Lilongwe.

Dear Sir/Madam,

REQUEST FOR APPROVAL TO CONDUCT A RESEARCH PROJECT

I am a second year Master of Science Degree in Midwifery student at the above mentioned college. In partial fulfilment of the Masters Degree, I am expected to carry out a research project. My research topic is “Assessing Quality of Focused Antenatal Care provided to pregnant women at Bwaila Antenatal Clinic “in Lilongwe district.

The purpose of writing you is to request for approval to conduct the study. Enclosed is my research proposal.

Yours Faithfully,

Mrs Florence Lungu.

Kamuzu College of Nursing
Blantyre Campus
Box 415
Blantyre.
30th November, 2009.

The District Health Officer
Lilongwe District Health Office
Lilongwe.

Through: The Research Supervisor
Dr A. Malata
Kamuzu College of Nursing
Private Bag 1
Lilongwe.

Dear Sir/Madam

**APPLICATION FOR PERMISSION TO USE BWAILA HOSPITAL
ANTENATAL CLINIC AS A RESEARCH SITE**

I am a second year Master of Science Degree in Midwifery student at the above mentioned college. In partial fulfilment of the Masters Degree, I am expected to carry out a research project. My research topic is “Assessing Quality of Focused Antenatal Care provided to pregnant women” at Bwaila Antenatal Clinic in Lilongwe district.

The purpose of writing you is to request for permission to use your hospital as a research site for data collection. The study will involve exit interviews with antenatal mothers in Antenatal Clinic. A checklist will also be used to collect data. Enclosed is my research proposal. There are no known risks involved in the study.

Looking forward to your favourable consideration.

Yours Faithfully,

Mrs Florence Lungu

Kamuzu College of Nursing
Blantyre Campus
Box 415
Blantyre.
30th November, 2009.

The Hospital Director
Queen Elizabeth Central Hospital
Box 95
Blantyre.

Through: The Research Supervisor
Dr A. Malata
Kamuzu College of Nursing
Private Bag 1
Lilongwe.

Dear Sir/Madam

**APPLICATION FOR PERMISSION TO CONDUCT A PILOT STUDY AT QECH
ANTENATAL CLINIC**

I am a second year Master of Science Degree in Midwifery student at the above mentioned college. In partial fulfilment of the Masters Degree, I am expected to carry out a research project. My research topic is “Assessing Quality of Focused Antenatal Care provided to pregnant women at Bwaila Antenatal Clinic “in Lilongwe district.

The purpose of writing you is to request for permission to use your hospital to conduct a pilot study at Queen Elizabeth Central Hospital. The study will involve exit interviews with five antenatal mothers in Antenatal Clinic. A checklist will also be used to collect data. This will help me to test my instruments. There are no known risks involved in the study.

Looking forward to your favourable consideration.

Yours Faithfully,

Mrs Florence Lungu



UNIVERSITY OF MALAWI

Principal
Prof. R.L. Broadhead, MBBS, FRCP, FRCPC, DCH

Our Ref.:
Your Ref.: P.01/10/858

College of Medicine
Private Bag 360
Chichiri
Blantyre 3
Malawi
Telephone: 01 877 245
01 877 291
Fax: 01 874 700
Telex: 43744

8th February 2010

Mrs. F. Lungu
Kamuzu College of Nursing
P/Bag 415
Blantyre 3

Dear Mrs. F.T Lungu,

RE: P.01/10/858 – Assessing Quality of focused antenatal care provided to pregnant women at Bwaila Antenatal Clinic

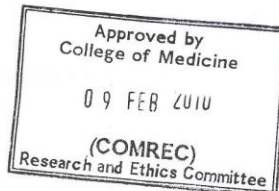
I write to inform you that COMREC reviewed the above mentioned proposal which you submitted at its meeting of 27th January 2010 and I am pleased to inform you that COMREC **approved** your proposal but you need to take into consideration the following factor:

1. the methodology section should say something about evaluation.

As you proceed with the implementation of your study I would like you to take note that all requirements by the college are followed as indicated on the attached page.

Yours Sincerely,

Prof J.M. Mfutso-Bengo
CHAIRMAN - COMREC





UNIVERSITY OF MALAWI
KAMUZU COLLEGE OF NURSING

PRINCIPAL
A. MALATA, DIPNURS. MRM
B.Sc., MN, PhD

P.O. BOX 415, BLANTYRE, MALAWI
TELEPHONE: 01 871 644
FAX : 01 875 341
TELEGRAM : NURSING
E-MAIL : viceprincipal@kcn.unima.mw

12th February 2010

TO WHOM IT MAY CONCERN



LETTER OF INTRODUCTION: MRS FLORENCE LUNGU

Please assist Mrs Florence Lungu who is a graduate student at Kamuzu College of Nursing. She has come to your organization to collect data for her dissertation.

Her proposal was **approved** by COMREC and the protocol number is P.11/09/858. Please allow her to collect data and assist her accordingly.

Thank you.

Dr A F Chimwaza
DEAN OF POSTGRADUATE RESEARCH AND STUDIES

Telephone: (265) 01 874 333 / 677 333
Facsimile: (265) 01 876928
Email: queenshosp@globemw.net

All communications should be addressed to:
The Hospital Director



In reply please quote **No.**

QUEEN ELIZABETH CENTRAL HOSPITAL
P.O. BOX 95
BLANTYRE
MALAWI

16th November 2009

Florence Lungu
Kamuzu College of Nursing
P.O. Box 415
BLANTYRE

Dear Sir,

PERMISSION TO USE QECH AS A PILOT SITE FOR STUDY

With reference to your letter dated 11th February 2010 in which you requested for permission to conduct a pilot study on “ **Assessing quality of focused antenatal care provided to pregnant women at the Antenatal Clinic**” I would like to inform you that we have no objection for you to conduct the mentioned activity.

All the best in your studies.

Yours faithfully,

A handwritten signature in black ink, appearing to be 'A. Gonani'.

Dr A. Gonani
HOSPITAL DIRECTOR