

**DESCRIPTION OF THE UTILISATION OF MATERNAL AND CHILD  
HEALTH CARE SERVICES IN BALAKA DISTRICT OF MALAWI**

by

**CHIFUNDO MADZIAMODZI MAKUTA**

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**Dedication**

To my beloved wife Gladys and our dear children Zonse and Zaithwa I dedicate this dissertation.

**Student number: 35117524**

**DECLARATION**

I declare that ***DESCRIPTION OF THE UTILISATION OF MATERNAL AND CHILD HEALTH CARE SERVICES IN BALAKA DISTRICT OF MALAWI*** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.

**Chifundo Madziamodzi Makuta**

**November 2009**

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## **ABSTRACT**

The purpose of this study was to describe the utilisation of maternal and child health (MCH) care services by mothers from four selected health facilities in the Balaka District of Malawi. A non- experimental quantitative descriptive research was conducted to determine the knowledge of mothers with regard to MCH services and to identify factors that impact on the utilisation of the MCH care, based on the Andersen's behavioral model of health services utilization. A combination of proportionate stratified sampling and convenience sampling was used and data was collected by means of self-administered questionnaires. It was found that mothers know the available services and that a number of factors have an impact on the utilisation of health care services. These relate amongst others to educational level, finances and cultural beliefs.

## **KEY CONCEPTS**

Mother; Maternal health services; Child; Child health services; Predisposing characteristics; Enabling characteristics; Need characteristics; Utilisation of health services.

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## **LIST OF ABBREVIATIONS**

- CHAM Christian Health Association of Malawi  
DHO District Health Office  
MK Malawian Kwacha  
MCH Maternal and Child Health  
MoHP Ministry of Health and Population  
SPSS Statistical Package for the Social Sciences  
TBA Traditional Birth Attendant  
UNFPA United Nations Population Fund  
UNICEF United Nations Children's Fund  
VSO Voluntary Services Overseas  
WHO World Health Organisation  
ZAR South African Rand

## **CHAPTER 1: ORIENTATION TO THE RESEARCH**

### **1.1 INTRODUCTION**

This chapter covers the background of the problem; statement of the problem; purpose, objectives and significance of the study; definition of key concepts; introduction to research methodology and a layout of the research. This study focused on the description of the utilisation of maternal and child health (MCH) care services in the Balaka district of Malawi. Chakraborty, Islam, Chowdhury, Bari & Akhter (2003:328) state that the utilisation of health services is a complex behavioural phenomenon because the use of health services is related to the availability, quality, cost of services, social structure, health beliefs and personal characteristics of the users. In this study, utilisation of health services refers to the use of available MCH care services offered in the Balaka district of Malawi. The users of such health services are mothers with children under five years of age. Maternal health care services include pre-conception, perinatal and postnatal care. Child health services are those which focus on newborn babies, the growth and monitoring of children under five, childhood vaccinations and childhood illnesses and their treatment (Somanje & Ndawala 2000:1).

According to international literature, the utilisation of health services is globally influenced by a number of factors such as personal characteristics of the users, socio-cultural factors, and health beliefs of the users, as well as the availability, accessibility, acceptability, quality and cost of the health services (Katzenellenbogen, Joubert & Karim 1997:150; Mekonnen & Mekonnen 2003:375; Chakraborty et al 2003:327).

### **1.2 BACKGROUND TO THE PROBLEM**

According to a demographic and health service report (Malawi National Statistical Office 2004:133) the health care delivery system in Malawi consists of government facilities, and private (for-profit and non-profit) health providers. In the Balaka district there is one district hospital that functions as a referral hospital, eight health centres, and three dispensaries which belong to the government. Six (6) health facilities belong

to the Christian Health Association of Malawi (CHAM) and in addition there are four private (for-profit) health facilities (Malawi, Balaka District Maternal and Child Health Information Department 2008:1; Jared's Mitzvah Project 2008:1; Patterson, Zakariya & Kambalane 2003:1). Available MCH services in the district include Family Planning, Antenatal Care, Labour and Delivery, Postnatal Care, Post Abortal Care, Prevention of Mother to Child Transmission of HIV, Immunisations, Growth monitoring of under-five Children and Nutrition (Malawi, Balaka District Maternal and Child Health Information Department 2008:1).

However, despite the availability of health facilities, lack of the capacity to deliver health services affects the utilisation of the health services by people in most of the districts in Malawi including Balaka District. The human resource crisis in the health care system of Malawi has been exacerbated by factors such as high staff mortality by HIV/AIDS and migration problems (Grant & Loggie 2005:5). Such factors have led to an acute shortage of health staff to deliver the health services in the districts of Malawi. In most of the districts of Malawi, the medical and nursing staff – people ratio is one medical officer and 26 nurses per 100, 000 people (Grant & Loggie 2005:8; World Health Organisation 2006:1). The Balaka district experiences staffing problems similar to those in most of the districts in Malawi. The staff – patient ratio in the Balaka district is as follows: doctor – patient ratio is 1: 167,725; nurse - patient ratio is 1: 4,042 and midwife – client ratio is 1: 4,933 (Malawi, Balaka District Maternal and Child Health Information Department 2007:1). According to the World Health Organisation the global average number of physicians per 100,000 population is 146 and the global average number of nurses per 100,000 population is 334 (The World Bank & John Fogarty International Centre Population Bureau 2003:1).

The general picture of the health system in Malawi depicts that only 31% of communities have access to a health clinic (Malawi National Health Accounts 2001:9). This is mostly related to an inadequate means of communication and transport problems. Most of the women and children experience difficulties in accessing health care in Malawi. Inadequate access to care for the majority of women contributes to the high maternal mortality which is currently estimated as 1,120 maternal deaths per 100,000 live births (Geubbels 2006:209). The infant mortality rate for Malawi is

currently estimated at 89.4 deaths per 1000 live births and the under-five mortality rate for Malawi is 131.8 deaths per 1000 live births (United Nations world populations prospects report 2005 - 2010:1). In the Balaka district the mortality rates are as follows: maternal mortality rate is 140/100,000; infant mortality rate is 106/1000 and child mortality rate is 176/1000 (Malawi, Balaka District Maternal and Child Health Information Department 2008:1). However, in Sub-Saharan Africa the maternal deaths per 100,000 live births is 900 and the current world infant mortality rate is 49.4/1000 live births (UNFPA, WHO, UNICEF 2007:1; United Nations world populations prospects report 2005 -2010:1).

In view of this, Friends of Malawi (2005:1) observed that it is difficult to get the necessary health care in Malawi because of situations such as transport problems to clinics and health centres and inadequate medicine and medical supplies in some of the health care centres and district hospitals. More than half of the health facilities in Malawi are short of drugs. .There is no social security system in place for health care for the people of Malawi (World Health Organisation 2006:1).

### **1.3 STATEMENT OF THE PROBLEM**

The problem to be investigated was identified through the researcher's interest in the maternal and child health care, work experience and related literature and studies on maternal and child health nationally and internationally. The researcher has been working in nursing and midwifery profession both as male clinical practitioner and educator for fourteen years. During this period it was noted that problems related to maternal and child health are very important because they affect the lives of mothers and children, both groups that are categorized in the vulnerable group and that need specific attention in the delivery of health services. Apart from infections, mothers in Malawi experience maternal health problems such as anaemia, retained placenta, obstructed labour, malpresentation, antepartum and postpartum haemorrhage due to lack of adequate health care during pregnancy, labour and delivery (MaiMwana Project 2006:61). The health status of the vulnerable people impacts on the health status of the total population.

According to Balaka District Maternal and Child Health information Department (2008:1), it was found that in the quarter between May and August 2008, the Maternal and Child Health Department in the Balaka district experienced 7 maternal deaths, 26 preterm labour cases, 29 neonatal sepsis cases, 13 fresh still births, 12 macerated still births, 12 neonatal deaths, 12 antepartum haemorrhages, 11 post partum haemorrhages, and 11 cases of anaemia in pregnancy. The reasons for these conditions may be many-fold, of which poor or under-utilisation of health services may be one in the Balaka district.

#### **1.4 PURPOSE OF THE STUDY**

The purpose of this study was to describe the utilisation of maternal and child health care services by mothers in the Balaka district of Malawi.

#### **1.5 RESEARCH OBJECTIVES**

The objectives of this study were to:

- determine the knowledge of mothers regarding maternal and child health care services in the Balaka district of Malawi, and
- identify factors that impact on the utilisation of maternal and child health care in the Balaka district of Malawi.

#### **1.6 SIGNIFICANCE OF THE STUDY**

The study described the utilisation of health care services by mothers in the Balaka district which enabled the researcher to identify factors that impact on the utilisation of maternal and child health care services in the Balaka district of Malawi. Knowledge gained through this study might enable health planners in the Balaka district to address the identified factors and thus improve the health status of mothers and children in the district. The Balaka District Health Office (DHO) might acquire insights with regard to the utilisation of health care services by mothers and children in the district and together with the Ministry of Health and Population in Malawi (MoHP) might

initiate research on a broader scale to address the challenges of mothers and child health care.

## **1.7 DEFINITION OF KEY CONCEPTS**

The key concepts of the study are defined with regard to the theoretical and operational meaning of each concept as described in academic publications and within the context of this study respectively.

### **Mother:**

Mother is a female parent of a child (Hornby 2005:995). In terms of this study it means a woman between the child bearing ages of 15 and 45 years.

### **Maternal health services:**

Maternal health services encompass preconception, prenatal and postnatal care (Somanje & Ndawala 2000:1). In terms of this study it refers to the health services which focus on the state of wellbeing of the mother during pregnancy and labour and after pregnancy. These health services are defined below.

### **Preconception care:**

Preconception care includes providing health promotion, screening and intervention for women of reproductive age to reduce risk factors that might affect future pregnancies (Mosby's pocket dictionary of Medicine, Nursing & Health Professions 2006:1099). In terms of this study, with reference to Balaka District Maternal and Child Health information, it is care given to the mothers and females in their child-bearing age before they become pregnant in preparation for the pregnancy period (Malawi, Balaka Health Management Information Department 2008:2).

### **Prenatal care:**

This is the monitoring and management of mothers during pregnancy to prevent complications of pregnancy and promote a healthy outcome for both mother and infant (Mosby's pocket dictionary of Medicine, Nursing and Health Professions 2006:1102). In terms of this study with reference to Balaka District Maternal and Child Health

information Department, prenatal care is the comprehensive care that the women receive throughout pregnancy up to the time of delivery of the baby. This includes physical examination, immunisations and health care education on child care, breastfeeding, and family planning (Malawi, Balaka Health Management Information Department 2008:2).

**Postnatal care:**

Postnatal care refers to issues of recovery following childbirth and includes newborn care, nutrition, breastfeeding and family planning (Somanje & Ndawala 2000:1). In terms of this study, with reference to Balaka District Maternal & Child Health Information Department, postnatal care refers to care given to a mother who either has given birth to a live baby or not for a period of six weeks from the time of delivery (Malawi, Balaka Health Management Information Department 2008:2).

**Child:**

Child refers to a young human who is not an adult (Hornby 2005:256). In terms of this study it refers to a young person who is under five years of age.

**Child health services:**

Child health services focus on provision of care to infants and preschool children such as screening tests, health education, nutrition, and immunisation against infectious diseases (Martin 2003:115). In terms of this study child health refers to the promotion of wellbeing through screening tests, nutrition and immunisation against diseases to the young person less than five years of age.

**Utilisation of health services:**

Utilisation of health services is a complex behavioural phenomenon and is related to the availability, quality and cost of services as well as the social structure, health beliefs and personal characteristics of the users (Chakraborty et al 2003:327). In terms of this study, it refers to the use of available maternal and child health services offered in the Balaka district of Malawi as experienced by the mothers who attend the identified health services.

## **1.8 FRAME OF REFERENCE**

Cormack (2002:23) describes a frame of reference as the logical structure used to link the findings of a study with the existing body of knowledge. It further provides a context for interpretation of the findings. A theoretical framework is a frame of reference, derived from an existing theory, providing an explanation of the interrelationship of the concepts to be investigated. the Andersen's Behavioral model of health services utilization (Gochmann 1997:153; Andersen 1995:1) was used as frame of reference for this study. The model was developed by Andersen to investigate the use of biomedical health services (Hausmann-Muela, Ribera & Nyamongo 2003:12; Chakraborty et al 2003:328). The model suits this study because it describes characteristics that determine the use of health services by the individuals, families and communities. This relates to the purpose of this study, which is to describe the utilisation of maternal and child health care services by mothers in the Balaka district of Malawi. The variables in the model served as a basis for the development of the questionnaire. The model also guided the data analysis and the summary and recommendations of the study. The model as used by various researchers is described in Chapter 2.

## **1.9 RESEARCH METHODOLOGY**

This section gives a brief description of the methodology that was followed. Details regarding the design, population, sampling, data collection and data analysis are found in Chapter 3.

### **1.9.1 Research design**

A quantitative, cross-sectional descriptive research design was used in this study. According to Burns and Grove (2003:480,493) quantitative research describes variables in a numerical manner and a descriptive design identifies a phenomenon of interest and variables within the phenomenon to develop conceptual and operational definitions of variables. Cross- sectional research looks at an issue at one point in time

(Griffiths 2009:191) Data were collected at the four health facilities during the same period of time.

### **1.9.2 Population**

Study population is defined as the group selected for investigation in which the researcher is interested, to which results of a study are applicable (Polit & Beck 2004:298,734; Last 2001:36). The target population is the number of cases from which a sample is drawn (Last 2001:178).

In this study the target population comprised of mothers who had at least one child younger than five years of age who visited maternal and child health clinics in the Balaka district of Malawi between January 2009 and March 2009. The accessible population is the portion of the target population to which the researcher has reasonable access (Burns & Grove 2003:473). In this study it was the mothers who attend the maternal and child health care services at the selected health facilities in the Balaka district.

### **1.9.3 Sampling**

Sampling is a process of selecting a group of people, events or elements that are representative of the population being studied (Burns & Grove 2003:496). In this study a combination of proportionate stratified sampling and convenience sampling was used as sampling technique. Proportionate stratified sampling is a probability sampling method used to select participants in proportion to the size of the stratum in the population (Polit & Beck 2004:297); the strata being the four health facilities. Convenience sampling involves including participants in the study because they happen to be in the right place at the right time (Burns & Grove 2003:478). These were the mothers who attended the clinics at the time of the data collection.

#### **1.9.4 Data collection**

Burns and Grove (2003:479) define data collection as systematic gathering of information relevant to the research purpose and objectives. In this study self-administered questionnaires were used to collect data. In the case of respondents who had difficulty to complete it, the questionnaire was used as interview guide and was completed by the researcher or the research assistants. The questionnaire was composed mainly of closed ended questions with limited open ended questions.

#### **1.9.5 Data analysis**

Data analysis is the systematic organisation and synthesis of research data (Polit & Beck 2004:716). In this study, a statistician did the analysis of data using the Statistical Package for the Social Sciences (SPSS), version 16.0 for Windows (Release 16.0.1). The findings were reported on as part of the study. Details of the data analysis technique for this study are described in Chapter 3.

#### **1.9.6 Reliability and validity**

Reliability is the degree of consistency or dependability with which the instrument measures the attribute it is designed to measure (Polit & Beck 2004:730). In this study the internal consistency of the questionnaire was ensured by a carefully developed questionnaire in consultation with the research supervisor and statistician. Statistical reliability was promoted in this study by the use of the data analysis technique (SPSS) in consultation with the statistician. Validity is the degree to which an instrument measures what it is intended to measure (Burns & Grove 2003:500; Polit & Beck 2004:730). The measures to ensure reliability and validity in this study are described in Chapter 3.

#### **1.9.7 Ethical considerations**

Ethics deals with distinctions between right and wrong and with the moral consequences of human actions. Ethical principles govern the conduct of research

(Last 2001:63). In this study, ethical consideration focused on the principle of autonomy, the principle of beneficence, the principle of anonymity, and the principle of confidentiality. The ethical considerations ensured that the respondents are protected from harm and are treated with respect. Details of ethical considerations are discussed in Chapter 3.

## **1.10 LAYOUT OF THE DISSERTATION**

Chapter 1: Orientation to the research

Chapter 2: Literature study

Chapter 3: Research design and methodology

Chapter 4: Data analysis, research findings and interpretation

Chapter 5: Summary, conclusion and recommendations

## **1.11 SUMMARY**

Chapter one has covered the background of the problem, statement of the problem, purpose of study, research objectives, significance of the study, definition of key concepts, an overview of the research design and methodology, as well as the layout of the dissertation.

## **CHAPTER 2: LITERATURE STUDY**

### **2.1 INTRODUCTION**

Literature is reviewed for different reasons, which, according to Polit and Beck (2004:88) include identifying a research problem and developing or refining research questions. Literature review orientates the researcher to what is known and not known about an area of inquiry and to ascertain what research can best make a contribution to the existing base of evidence. The review of literature enables the researcher to determine any gaps and inconsistencies in a body of research. It also helps to determine the need to replicate a prior study in a different setting or study population.

The literature review for this research was undertaken to understand the background and current knowledge on the topic of health care utilisation. This literature search included official government reports textbooks, journal articles and internet information. The following internet search engines were used: Google Scholar; Google Book Search; Intute; Yahoo search; Metasearch (MetaLib) through the University of Aberdeen Library catalogues. The subject librarian of the University of South Africa assisted in identifying relevant literature using the key concepts as described in chapter one. Other data basis and websites used were WHO bulletin; PubMed, Scopus, and Medline, through the University of Aberdeen Library. Documents reviewed include journals on Bio-social sciences, Medicine, Health promotion, Reproductive Health and Public Health. Books and dictionaries were reviewed which focus on the following subjects: Research, Epidemiology, Maternal and Child Health, Nursing and Medicine. Research studies were also reviewed which were conducted for both academic and professional study purposes. During the literature review the researcher identified an appropriate model to guide the research process.

### **2.2 MATERNAL AND CHILD HEALTH CARE IN MALAWI**

It is noted worldwide that inadequacy or under-utilisation of the health care system contributes to the immediate causes of maternal and child deaths (World Health Organisation 2004b:5). There is a great concern in Malawi pertaining to the high infant

and maternal mortality rates. Studies conducted in Malawi show that the country has the third highest maternal mortality in the world. Only Afghanistan and Sierra Leone have higher figures (World Health Organisation 2004:5). Currently in Malawi maternal mortality is estimated at 1,120 maternal deaths per 100,000 live births. On the other hand, infant and child mortality is estimated at 4,200 infant and child deaths per 100,000 live births (Geubbels 2006:209; The Health Foundation Consortium 2007:1). These figures have almost doubled as compared to the previous estimates in the eighties and nineties where maternal mortality varied from 398 to 620 maternal deaths per 100,000 live births and infant mortality rate was 135 per 1000 births (Geubbels 2006:208; Grant & Loggie 2005:3; World Health Organisation 2004:5). In the Balaka district, the latest available maternal mortality rate is 140 per 100,000 live births, the infant mortality rate is 106 per 1000 live births and the child mortality rate is 176 per 1000 live births (Malawi, Balaka Health Management Information System Office 2008:1).

In the Balaka district, the following maternal and child health services are offered: family planning services, antenatal care services, labour and delivery services, postnatal and post- abortal care services, under - five health care services which include, immunisation clinics, nutrition clinics; prevention of mother to child transmission of HIV/AIDS and outpatient care services. These are offered by both private health sectors and public health sectors (Malawi, Balaka Health Management Information System Office 2008:1; Malawi National Health Accounts 2001:11). More details on health care services in Malawi are provided in section 2.5.4.

### **2.3 ANDERSEN'S BEHAVIORAL MODEL OF HEALTH SERVICES UTILIZATION**

The Behavioral Model of Health Services Utilization which was developed by Dr. Ronald Andersen in the late 1960s was used as basis for this study. He is the professor of Health services and sociology at Purdue University (Andersen 2008:1; Andersen 1995:1; Gochman 1997: 153; Mkanta & Uphold 2006:295). The purpose for the development of the model was to discover conditions that either facilitate or impede utilisation of health services and to analyse the factors that are associated with

patient utilisation of health care services. The major goal of the model was to provide measures of access to medical care. The model helped to identify reasons for differences in health service utilisation, consumer satisfaction and outcomes and to formulate policies and programmes that encourage appropriate utilisation, discourage inappropriate utilisation and promote cost effective care (Phillips, Morrison, Andersen, Aday 1998:571). The original focus of the model was on the family as the unit of analysis and it was believed that the medical care that an individual received was a function of the demographic, social and economic characteristics of the family as a unit. Subsequent work on the model has indicated the shift from the family to an individual as a unit of analysis because of the difficulty of developing measures at the family level (Andersen 1995:1). The model has been extensively used in studies of general population as well as in studies of minorities, low income, children, women, the elderly, oral health and the homeless. The model suits this study because it describes, explains and predicts characteristics that determine the use of health services by individuals, family and community with the focus in this case on mothers.

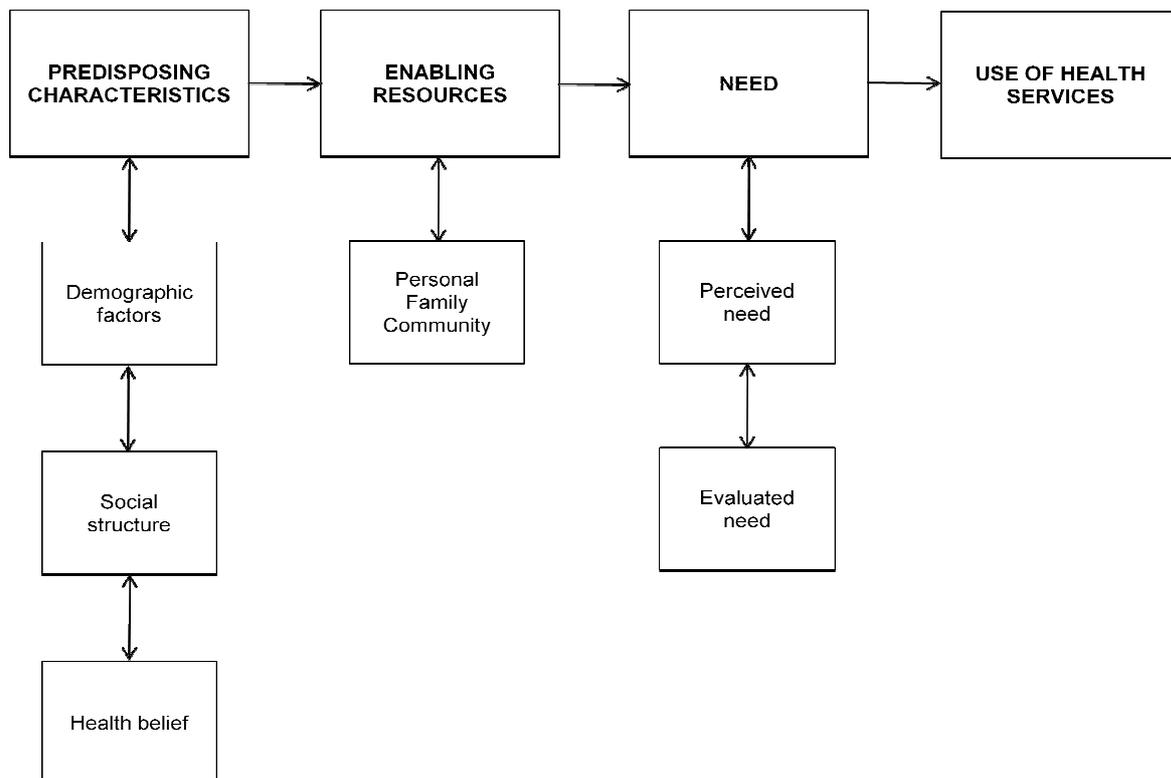
### **2.3.1 The initial Behavioral Model**

The initial Andersen's Behavioral Model developed in the 1960s proposed that the use of health care services is a function of three sets of individual characteristics which include predisposing characteristics, enabling characteristics and need characteristics (Chakraborty et al 2003:329; Mkanta & Uphold 2006:295; Phillips et al 1998:571). The predisposing characteristics include demographic factors, social structure and health belief. Enabling characteristics include personal/family/community resources and factors. Need characteristics include perceived need and evaluated need (Refer to figure 2.1).

The **predisposing characteristics** reflect that individuals or families with different characteristics have different propensities to use health care services (Chakraborty et al 2003:329). *Demographic factors* such as age and gender represent biological drive suggesting the likelihood that individuals will need health services. *Social structure* includes factors that determine the status of individuals in the community and the ability to cope with the presented problems. The social structure is assessed by

education, occupation and ethnicity of the individuals in the community. *Health beliefs* are attitudes, values and knowledge that individuals have about health and health services that might influence their subsequent perceptions of the need and use of health services (Andersen 1995:2).

**Enabling characteristics** include both *personal* and *community* enabling resources that must be present for utilisation of services to take place. Health personnel and health facilities must be available where people live and work. People must have the means and know how to get to these services and make use of them. The enabling resources include resources such as income, health insurance, means of transport and regular source of care (Andersen 1995:3; Chakraborty et al 2003:3307).



**Figure 2.1:** The initial Behavioral Model of Health Services Utilization of the 1960's from Andersen (1995:2)

**Need characteristics** reflect the perceived health status as indicated by the severity of the morbidity conditions. Need for health care represents the most immediate cause of health services. Perceived need helps to understand care seeking behaviour and

adherence to a health care regime by individuals while evaluated need represents professional judgement about people's health status and their need for health care (Andersen 1995:3).

### **2.3.2 The adopted Health Services Utilization Model**

Andersen's model has been used and adopted by many researchers. For this study the adopted Health Services Utilization Model, as described by Andersen (1995:2), Chakraborty et al (2003:329); Gochman (1997:154); Hausmann-Muela et al (2003:12), Nankwanga (2004:11), Phillips et al (1998:575) was used and further adopted to fit the context of this study. Figure 2.2 depicts the organised categories of the adopted Health Services Utilization Model as used in this study. With the description of the main characteristics, it will be evident that the identified factors within and between the three sets of characteristics are not isolated. The relations between different concepts are important.

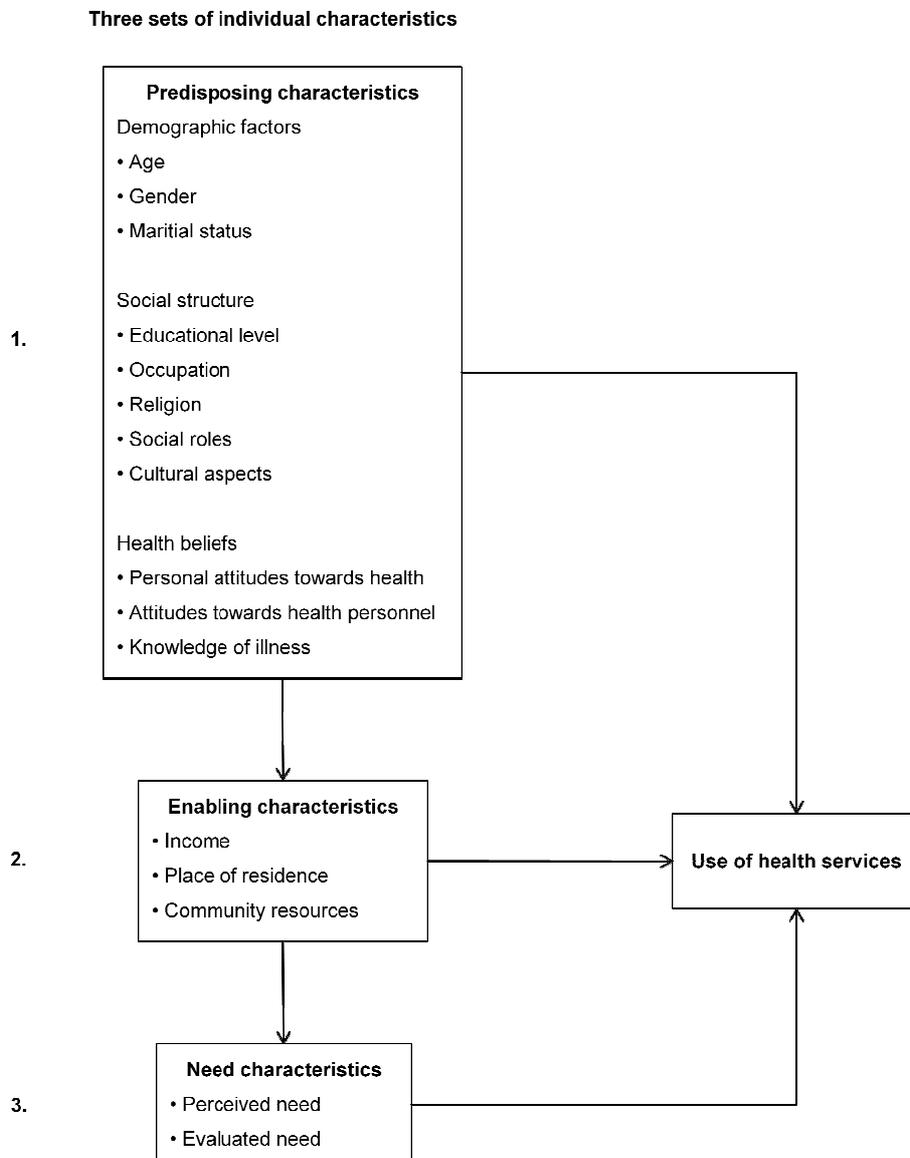
## **2.4 PREDISPOSING CHARACTERISTICS**

The predisposing characteristics include three dimensions: demographic characteristics, social structure and health belief. Examples of the *demographic characteristics* are age, gender, marital status and family or household size. *Social structure* includes level of education, religion, occupation, social roles and cultural aspects. Health belief includes personal attitudes towards health, personal attitudes regarding health professions and knowledge of the disease and number of previous pregnancies, illness and prior experience with illness (Chakraborty et al 2003:329; Gochman 1997:155; Hausmann-Muela; Ribera & Nyamongo 2003:12; Nankwanga 2004:11; Mkanta & Uphold 2006:295).

### **2.4.1 Demographic factors**

Age and gender are two demographic factors that are specifically important for this study as reflected by the inclusion criteria (refer to 3.4). Some demographic factors

such as educational level, occupation and religion are also indicative of a person's socio-cultural status. These are discussed later as part of the social structure.



**Figure 2.2: Health Services Utilization Model. As adapted from Chakraborty et al 2003 and Hausmann-Muela et al 2003.**

### **2.4.1.1 Age and gender**

Age and gender represent biological imperatives that suggest the likelihood that people will need health services (Andersen: 1995:2). Gochman (1997:155) indicates that age is highly correlated with the need for care, for example young pregnant

women may not feel the need to attend antenatal clinics during the first trimester of the first pregnancy as compared to experienced women who have more than one child. On the other hand, when combined with health beliefs, a young woman who is pregnant may feel the need to start early antenatal clinics because of fear of complications and lack of knowledge about pregnancy, labour and delivery as compared to a woman with a number of children who has experienced pregnancy and labour. Maternal age and parity have been examined by Stephenson and Tsui (2002:309) as determinants of health care use and they found that younger women may have more modern attitudes towards health care than old women. For example, the younger women may feel the need to attend family planning clinics having considered the advantages of preventing unwanted pregnancies while the older women may not see that as a need.

The older and high parity women with greater responsibilities with regard to household and child care demonstrate greater confidence and experience and they have a tendency to use maternal and child health care services less frequently (Celik & Hotchikiss 2000:1797; Mekonnen & Mekonnen 2003:376). Another study conducted in rural Bangladesh suggests that older women are more likely to seek maternal health care services than younger women. The study findings revealed that about 42% of respondents older than 35 years sought health care services as compared to 28.5% of women younger than 20 years (Chakraborty et al 2003:333).

#### *Age factors in Malawi*

In Malawi almost half of the population of 11.8 million is younger than 14 years and the other half is between the ages of 15 and 64 years (Grant & Loggie 2005:5). However, the literature searched did not reveal information on the age of consumers of MCH care services or how age influences the utilisation of maternal and child health care specific to the Balaka district of Malawi. This factor will be included in the study.

#### **2.4.2 Social structure**

A broad array of factors measure social structure and these factors determine the status of a person in the community, his or her ability to cope with presenting health problems and his or her ability to command resources to deal with these health

problems. Education, occupation and ethnicity are regarded as traditional measures which are used to assess social structure (Andersen 1995:2). Gochman (1997:155) also notes that ethnicity, education and occupation suggest the importance of lifestyle and environmental influences on an individual's decision to seek health care. The following factors relevant to social structure are discussed: educational level, occupation, social roles and culture. The interrelation between the different factors should be observed continuously.

#### ***2.4.2.1 Educational level***

A study conducted by Pataya, Wendy and Debra (2003:358-367) reveals that Thai women, particularly young women with lower education levels, promote traditional practices recommended by their elders. These include food restrictions for themselves and their children and other traditional postpartum practices which might be harmful to their health and also to the growth and development of the baby. Literature shows that maternal education is positively associated with the utilisation of maternal and child health care services (Addai 2000:1; Celik & Hotchkiss 2000:1806). Women with higher education qualification such as college or university education levels feel the need to utilise the available health care services more than illiterate women and those who have gone to school up to secondary education level (Chakraborty 2003:333). Increased education attainment influences the use of health care services in many ways such as women's power in decision making, awareness of health services, changing marriage patterns and creating shifts in household dynamics (Govindasamy & Ramesh 1997:1; Stephenson & Tsui 2002: 212).

#### *Educational level as factor in Malawi*

Official information reveals that the educational level is very low among Malawian women, as only 3% of women have completed secondary school and 48% of women have never attended school at all (Malawi National Health Accounts 2001:10). Statistics further indicate that the quality of education is poor as a result of high teacher to pupil ratios and a lack of basic teaching material exacerbated by introduction of free primary education in 1994. Research has shown that women individually have little knowledge of maternal health problems (IDZI Health Highlights

2007:1). However, it is not clearly indicated whether such little knowledge on maternal and child health care is related to the low educational level, particularly in the Balaka district.

#### **2.4.2.2 Occupation**

Occupation is one of the factors that determine the social status of individuals in the society. The concept of a job is the smallest unit of an occupation classification and is defined as a set of tasks to be performed by individuals (Marshall 1998:1). Jobs and occupations can also be described in terms of associated characteristics such as skill, responsibility, earnings, entry qualifications, prestige, life-style and cultural mannerism. Therefore, the aggregate distribution of occupations in society, classified according to skill level, economic function and social status is referred to as occupation structure (Marshall 1998:1). A study conducted by John and MacArthur (2003:1) revealed that occupation status is one component of socioeconomic status that summarises the power, income and educational requirements associated with various positions in the social structure. Occupation status was found to be related to health because it positions individuals within the social structure and defines their access to resources and constraints that can have implications for health and mortality. For example physically hazardous or psychologically stressful working conditions of particular jobs can influence health.

##### *Occupation as factor in Malawi*

Around 80% of the labour force in Malawi is engaged in the non-formal sector which includes self employment in small scale agriculture, labour estates and larger farmers; these act as major sources of income for the rural population. Unemployment in Malawi is estimated to be around 93% (Zere, Moeti, Kirigia, Mwase & Kataika 2007:1190). A small percentage of married women are employed while other women who are single are either employed in an industry or self-employed. Studies on poverty alleviation (Poverty Monitoring System 2000:2) reveal that the occupation status of a woman in Malawi influences how a woman utilises health care services. The poor tend to be more self-employed than the non-poor. Agriculture, particularly subsistence farming appears to be what one does in Malawi if one cannot work in an industry. In

urban areas of Malawi the business sector is the most important industry of employment. Members from non-poor rural households are more likely to be employed in an industry other than agriculture, more than members of poor households. If a woman has a source of income she is able to pay for transport if the health care services are located far from where the woman lives.

### **2.4.2.3 Social roles**

Literature reveals that women are more vulnerable to ill health due to their social roles, expectations, norms and values of behaviour. It is often found that women have few resources and opportunities to protect their health through use of maternal and child health care services (Grant & Loggie 2005:3; Mubyazi, Block, Kamugisha, Kitua & Ijumba 2005:1483). Women's ability to seek for health care or to use health care services depends on social factors such as marital status, number of children and occupation. Research found that women play a principle role in the rearing of children and the management of family affairs; hence if a woman dies due to maternal causes related to failure to use maternal and child health care services, such a loss becomes a significant social tragedy (Duong 2005:1; Mekonnen & Mekonnen 2003:374).

#### *Social role as factor in Malawi*

In Malawi, most of the women assume the role of house wife whose main responsibility is to look after the children and take care of the husband. The husband is mostly regarded as the bread winner and assumes the overall responsibility of finding ways and means of sourcing funds in order to promote day to day living of the family (Malawi, Poverty Monitoring System 2000:1).

### **2.4.2.4 Culture**

Gopal (2009:1) describes culture as the pattern of learned behaviour and the product of the behaviour shared by the members of society and transmitted among them. A socially inclusive community expresses cultural diversity, ethnicities, faiths and traditions. These are freely practiced and respected by all members (Branson 2009:3). In a study conducted by Parisi, McLaughlin, Diane, Grice, Taquino and Gill (2003:1) it

was found that mothers' participation rate in temporary assistance for needy families in rural Mississippi was influenced by community level characteristics such as educational attainment, racial composition, employment structure and civil engagement. A similar study on the role of culture in Islam religion and tradition conducted in Afghanistan by Maynard (2007:6) found that linking women's participation with Islam culture improved women's contribution to community planning discussions in rural development. The findings of these studies show the importance of promoting culture in developmental issues and also encouraging social inclusion particularly women's participation in community and developmental activities in order to improve their social roles and status in their families and communities.

#### *Culture as factor in Malawi*

Malawi is made up of many diverse tribes and those tribes vary considerably in their belief and customs (Friends of Malawi 2009:1). For instance some cultures believe in traditional birth attendants and assisted home deliveries of pregnant women while other cultures, due to civilisation orientation, believe in hospital deliveries for pregnant woman. Religion as part of Malawi culture influences the health seeking behaviour of most of the Malawians. Christianity is a majority religion in Malawi and sixty percent of Christians are Protestants and fifteen percent are Catholics (Friends of Malawi 2004:3). Some religious beliefs promote health seeking behaviours while others do not. For example Jehova's witness believers do not allow women to be given blood at the hospital if this is necessary during labour and delivery of the baby. The reason is that they believe that blood is life which should not be taken from one person and given to another. On the other hand, some of the spiritual religious sectors believe in prayer and not in western medicine (O'Connor 1995:28).

Other studies have revealed that Malawi has different tribal, linguistic and cultural groups. Varying customs, beliefs and traditions in nine indigenous ethnic groups such as traditional teaching around initiation ceremonies have a strong influence on the use of modern health care or traditional healers (Grant & Loggie 2005:3; Malawi National Health Accounts 2001:6).

### **2.4.3 Health beliefs**

The health beliefs of individuals may be influenced by their attitudes and values, which in turn are determined by socio-cultural factors. Ram and Singh (2005:1) state that if health beliefs of women enable them to use antenatal care services, this may lead to the utilisation of other maternal health related services such as institutional delivery and delivery assisted by trained professionals. Women will furthermore seek professional advice related to pregnancy complications and post delivery complications. A study conducted by Lin, Brimmer, Boneva, Jones & Reeves (2009:2) revealed that attitudes of patients towards health personnel and lack of knowledge of patients on their illness were barriers to health care utilisation. Attitude of patients towards health personnel was related to fear of stigmatisation and confronting their health problems by health personnel. It was found that patients' trust and confidence in health care professionals impacted on their decision to seek health care consultation. Individuals made excuses not to seek for health care due to lack of knowledge of their illness.

## **2.5 ENABLING CHARACTERISTICS**

Enabling characteristics refer to personal, family and community resources that facilitate the individual's use of health services (Mkanta & Uphold 2006:295). The characteristics also describe the means that are available to individuals for use of health care services (Gochman 1997:155). These include income, community resources, places of residence and quality of health services. The enabling factors reflect the fact that some families, even if predisposed to use health services must have the means to obtain the health services. For the use of health services to take place, both personal and community resources must be present (Gochman 1997:155). It is once again evident that the enabling factors are closely related to the predisposing factors as described in 2.4.1 - 2.4.3.

### **2.5.1 Income**

Financial resources to enable individuals and families to purchase health service include income, savings and health insurance. The availability of financial resources to purchase health care services influences women towards the choice of health care services to select. A lack of adequate financial resources hinders some women from accessing private health services which might be effective and beneficial to their health (Stephenson & Tsui 2002:319). Literature indicates that where user fees for women's utilisation of health were implemented, the fees reduced the utilisation of services and kept many women from having hospital-based deliveries or from seeking care even when complications arose (Mekonnen & Mekonnen 2003:376; Nanda 2002:127).

#### *Income as factor in Malawi*

The economic status of Malawians is an important influencing factor on the utilisation of health care services. According to the 2004/2005 Integrated Household Survey (Zere et al 2007:1190) more than 65.3% of the Malawian population live in poverty and 27% live in extreme poverty. Fifty two percent of the population is classified as poor below a national poverty line of MK 16,165.00 per person per year which is equivalent of US \$147 at that time. There is a close relation between the high unemployment rate described earlier (2.4.2.2) and the poverty rate in Malawi.

### **2.5.2 Place of residence**

Place of residence is an enabling factor as it indicates where one lives in relation to the location of the health care service. A person may live in a rural or urban area in the geographical proximity of a source of care which may promote access to health services. In a study conducted by Habicht, Kiiver, Habicht and Kunst (2008:1) it was found that utilisation and access to health care varies according to key socioeconomic indicators which include place of residence of individuals. Creating a well functioning primary health care system was found to improve both access to, and quality of health services in rural and urban areas.

### *Place of residence as factor in Malawi*

In Malawi 90% of the population live in rural areas where there are few health care facilities to be used by a large population as compared to those provided in urban areas (Grant & Loggie 2005:9). In some areas there are both public health facilities sponsored by the government and private health facilities owned by individuals, companies or church organisations. In other areas only public health services are available. The types of services are described in the following section (2.5.3 and 2.5.4).

### **2.5.3 Community resources**

Resources enable community members to access health care services such as social network supports, community social welfare care, availability of health workers such as physicians and nurses and health infrastructure such as community hospitals or health centres. Health facilities and health personnel should be available where people live. However, individuals, family or community must have means and know how to get to the services and be able to make use of them (Andersen 1995:3).

### *Community resources as factor in Malawi*

The public health service funded by the government of Malawi obtains its sources of funding mainly from taxes on personal income and company profits, trade taxes and grants from donors. The private sector complements the public health services in Malawi by giving people the opportunity to choose where to go for health care service depending on whether they can afford to pay for the care. Hence the private sector is regarded as the major source of health care finance in Malawi. However, not many Malawians can afford to pay for care at a private hospital or private health centre (Grant & Loggie 2005:3; Malawi National Health Accounts 2001:7).

### **2.5.4 Quality of health care services**

Literature indicates the need to restore consumer confidence through the improvement in the quality of services provided and to ensure access to essential health services (Uzochukwu, Onwujekwe & Akpala 2004:1). Gage (2007:1666) conducted a study in

the rural areas to examine barriers to the utilisation of maternal health services. The following barriers were identified: poor transportation, long distances to the health care centre, lack of trained health personnel and household poverty. A similar study was conducted in Nigeria and it was found that the major factors militating against the use of maternal and child health care services include financial reasons, distance and non-availability of medical doctors (Uzochukwu et al 2004:1). These factors are directly related to the quality of health care delivery. Quality of health care encompasses enabling variables which are significant to the utilisation of health services. These include availability, accessibility, affordability and comprehensiveness of health services. These factors are now described within the context of the health system of Malawi.

#### **2.5.4.1 Availability**

Availability describes the degree to which the supply of health services and resources meets the health needs of the service users (Katzenellenbogen et al 1997:150; Zere et al 2007:1186). Malawi has a good network of health facilities belonging to different ministries and agencies. The Malawian health sector comprises of modern and traditional health sectors. The modern health sector comprises of three main categories: the public health sector, the non-profit private sector and the private for-profit sector. The Ministry of Health and Population (MoHP) is the largest provider of **public health** services and provides free of charge health services apart from maternity care in private wards at central and district hospitals. MoHP has 27 District Health Offices (DHOs) that are responsible for the dissemination of national policies regarding overall coordination of health services at district level. The Ministry of Local Government through district and urban council provides different types of health services both static and mobile and user fees are levelled for some services. The **non-profit private sector** comprises of the mission hospitals grouped under the Christian Health Association of Malawi (CHAM). There are 152 health units affiliated with CHAM representing 18 different churches and church organisations. These include 20 hospitals, 32 primary health centres, 83 health centres, 13 dispensaries, 1 mental health service, 1 mobile unit and 2 health posts. Twelve associate members to CHAM which are non church-related units are responsible for a significant coverage of the

rural areas and together with CHAM they comprise 35% of the health services in the country. Firms such as agricultural organisations, large companies and parastatal organisations are part of the non-profit private sector which provide health services to their employees and people in their catchment area. The **private for-profit sector** is mostly fed by doctors and paramedics who have retired or left the public health sector (Malawi National Health Accounts 2001:11-12).

In the Balaka district of Malawi there are eight (8) public health facilities run by the government of Malawi six (6) health facilities belong to the Christian Health Association of Malawi (CHAM) and four (4) health facilities belong to the private sector (Malawi, Balaka Health Management Information System Office 2008:1). The total number of health facilities in the Balaka district gives an impression that the available health facilities meet the health demands of the population of the district. However no literature could be found that specify whether the available health facilities in the district meet the health demands of the people in the rural and town areas adequately. Hussen, Goodburn, Damison, Lema & Graham (2001:63) indicate that the availability of comprehensive emergency obstetric care was adequate in Malawi in 1998, but the availability of basic emergency obstetric care was very poor.

By the end of 2000 improvements in availability, utilisation and quality of obstetric care were observed in the country through the Malawi Safe Motherhood project which covered a population of over 5 million. This is a general national picture of the availability of health services more than eight years ago. It is necessary to determine the recent availability of the maternal and child health services at district level, hence the need to describe the availability of such health services in the Balaka district.

#### **2.5.4.2 Accessibility**

Accessibility refers to geographical and physical as well as financial access to health care services.

- ***Geographical and physical accessibility***

Mekonnen and Mekonnen (2003:375) state that in most rural areas of Africa one in three women live more than five kilometres from the nearest health facility. The poor have the greatest burden of ill health and are the least likely to access health services (Grant & Loggie 2005:4). The Balaka District Hospital is centrally located to the surrounding health facilities and the district hospital acts as a referral centre (Malawi, Balaka Health Management Information System Office 2008:1). The distance of some of the health facilities from the Balaka District Hospital is as follows:

Chiyendausiku Government Health Centre is 16 km east of the district hospital and the population that access this health centre totals more than 30,000. Utale Private Mission Health Centre, is 23km south-east of the Balaka District Hospital and more than 11,243 people access this health centre. Kwitanda Government Health Centre is 23km south of Balaka District Hospital with 40,000 people that access this health facility (Malawi, Balaka Health Management Information System Office 2008:1). Each health facility serves a large population in the catchment area. Despite the fact that Malawi has a good network of health facilities, the reviewed literature indicates that accessibility to the health facility is a major problem. For instance, only 54% of the rural population has access to a health facility within 5 km (Malawi, Department of International Development 2004:10). The literature searched did not specify clearly how the population of the Balaka district of Malawi, particularly in the rural areas access health facilities. Public communication and transport problem hinder the physical accessibility to a health facility in most parts of Malawi. Only 35% of the roads are in good condition in most areas of Malawi and less in the rainy season. Motorised transportation is often unavailable in rural areas. The scarcity of vehicles especially in remote areas together with poor road conditions make it extremely difficult for women to reach even relatively nearby health facilities. Walking is the primary mode of transportation even for women in labour (Mekonnen & Mekonnen 2003:375). Therefore there is a need to describe how communication and transport problems in the Balaka District affect women with children under five year old who need to access health facilities for care.

- ***Financial accessibility***

Financial accessibility is described by Grant and Loggie (2005:5) who noted that public health services are free of charge in Malawi at the point of delivery, but out of pocket expenditure accounts for 26% of total health spending, with the poorest household spending up to 10% of their annual income on health care. Even when formal fees are low or nonexistent, there may be informal fees or other costs that pose significant barriers to women's use of services. These may include costs of transportation, drugs, food or lodging for the woman or for family members who help care for her in the hospital (Mekonnen & Mekonnen 2003:376). The financial accessibility of health care services to women in the Balaka district of Malawi and how it is affected by the formal fees or informal fees needs to be investigated.

#### ***2.5.4.3 Affordability***

Affordability is an economic concept describing the extent to which the cost of health services matches the client's income and willingness to pay. In some areas of Africa, including Malawi, some of the women are not able to use the private health care services because of a lack of financial resources to pay for the health care services (Lule, Tugumisirize & Ndekha 2000:250; Nankwanga 2004:18). Literature does not clearly indicate how affordable maternal and child health care services are in the Balaka district of Malawi. However, there is a need to describe the affordability of the health services in the Balaka district in terms of its use by women with children under five years old as well as the factors that impede or facilitate their use of health services.

#### ***2.5.4.4 Comprehensiveness***

Comprehensiveness refers to the ability of services to meet the wide range of needs of individuals and communities (Katzenellenbogen et al 1997:150). Literature reviewed has shown that comprehensiveness of the health care service in Malawi is impaired by staffing problems and a lack of essential health care package. For instance, the

research undertaken by Voluntary Services Overseas (VSO) in Malawi revealed that in 2003 only an estimated 70% of approximately 500 nurses graduating from Malawi government funded training institution remain in the public health service. In addition, it was found that 84% of professional nurses left Malawi in 2003 for the United Kingdom in search of better work conditions and remuneration package. Ten of Malawi's 29 districts have no government doctors and four districts have no doctors at all. Vacancy rates are significantly higher in rural areas (Grant & Loggie 2005:5; Voluntary Services Overseas 2005:1). It is also observed in Malawi that only 10% of the health facilities have the capacity to offer the essential health packages. Front line health services suffer from lack of drugs, poor staff-client relations and poor quality diagnosis and treatment of diseases (Malawi, Department of International Department 2004:10). Rao, Harrison & Bergsrom (2001:22) state that the maternal and child health care services in low income countries experience a number of problems in terms of developing a well organised health system which could be utilised effectively. Such problems are related to a number of characteristics such as total population coverage, training of personnel, accessible facilities, transport and provision of family planning services.

## **2.6 NEED CHARACTERISTICS**

Need characteristics are referred to as the status of health or illness and are the most immediate and important reason for the utilisation of health services (Gochman 1997:155). Mkanta & Uphold (2006:295) states that need characteristics represent either a subjective acknowledgement of needs by the patient's symptoms or an objective professional recognition of a need for services, for example disease severity. The Behavioral Model of Health Services Utilization (Andersen 1995:3) categorised need characteristics into perceived need and evaluated need.

### **2.6.1 Perceived need**

Perceived need is defined as a social phenomenon and it is explained by social structures and health beliefs, which were discussed in 2.4.2 -2.4.3. Perceived needs help a person to understand health care seeking behaviour and how to adhere to the medical regime. Addai (2000:10) states that the need to use maternal and child health services is not only determined by the presence of the physical illness, but also by

cultural perspective on the use of maternal and child health care services. Studies conducted in Malawi have revealed that Malawi has different tribal, linguistic and cultural groups which influence how the population perceive their health needs. This study will contribute to the knowledge about cultural factors and health beliefs that influence the use of maternal health care services in the Balaka district of Malawi.

### **2.6.2 Evaluated need**

Evaluated need is considered to represent professional judgement about people's health status and their need for medical care. Examples of the evaluated need include characteristics of illness, severity of illness, total number of sick days for reported illness, total number of days in bed, days missed from work or school, expected benefits from treatments and help from outside for caring (Chakraborty et al 2003: 329; Hausmann-Muela et al 2003:12; Nankwanga 2004:11). Evaluated need factors encompass the individual's illness or impairment that necessitates use of health services (Smith 2003:1). The limited scope of this study does not allow description of evaluated need related to the utilisation of health services by women with under-five year old children in the Balaka district.

## **2.7 USE OF HEALTH SERVICES**

Personal health choices play a great role in determining the use of health services. Such individual choices in the use of health services are influenced by predisposing characteristics, enabling characteristics and need characteristics (Phillips et al 1998: 571). Mkanta & Uphold (2006: 294) considers realised access as a classification of care. This refers to the situation in which available health care services have actually been used. Need for care and associated family life cycle factors are the principle determinants of health services utilisation; whereas predisposing factors and enabling factors are less influential determinants of who did and did not get care (Gochman 1997:156). More enabling resources provide the means for use and increase the likelihood that health services will be utilised (Andersen 1995:4). Through the literature review the researcher has noted that individuals, family and the community must first appreciate the significance of the available health services in their environment in

order for them to be able to utilise the health services fully. If the individuals and the family or the community do not see and feel the need to use the available health services, such health resources will be wasted. Therefore, the social and cultural aspects of the individuals, family and community should be considered when developing strategies, policies and plans on the utilisation of health services by people in their environment.

## **2.8 SIGNIFICANCE OF ANDERSEN'S BEHAVIORAL MODEL OF HEALTH SERVICES UTILIZATION TO THIS STUDY**

This study refers to the aspects of Andersen's Behavioral Model of Health Services Utilization (Gochmann 1997:153; Andersen 1995:1). It is observed that each characteristic in the model makes an independent and related contribution in predicting utilisation of health services by clients. The model suits this study because it describes, explains and predicts characteristics that determine the use of health services by the individual, family and community. The model served as a basis for the questionnaire that forms part of this study and guides the data analysis and research report.

## **2.9 SUMMARY**

This chapter highlighted the literature and previous research based on the Behavioral Model of Health Services Utilization developed by Andersen in the late 1960's. Three sets of individual characteristic, namely, predisposing characteristics, enabling characteristics and need characteristics were described, with reference to the health context in Malawi. The next chapter describes the research design and methodology.

## CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

### 3.1 INTRODUCTION

This chapter describes the research design and methodology, population, sample, data collection, data analysis, reliability and validity as well as the ethical consideration of the study. The objectives of this study were to:

- determine the knowledge of mothers regarding maternal and child health care services in the Balaka district of Malawi and
- identify factors that impact on the utilisation of maternal and child health care in the Balaka district of Malawi.

### 3.2 RESEARCH DESIGN AND METHODOLOGY

The research design is an overall plan for research, including specification for enhancing the study's integrity (Polit & Beck: 2004:730). In this cross-sectional study a quantitative descriptive design was used for this study. **Quantitative research** is a systematic process used to describe interactions among variables. The process employs numeric information to explore individual or group characteristics, after which findings are produced and presented by statistical procedures (Burns & Grove 2003:493; Last 2001:147). Quantitative description focuses on the prevalence, incidence, size and measurable attributes of phenomena (Polit & Beck 2004:20). **Descriptive design** is used to identify and describe the distribution of variables within a phenomenon (Burns & Grove 2003: 480; Last 2001:50). When data is collected at one point in time it is known as **cross-sectional** data (Griffiths 2009:76). The data for this study was collected during two weeks (9-23 March 2009) at all four health facilities.

This study used a quantitative design to describe the variables found in the utilisation of maternal and child health services. Data was collected from participants in settings such as health centres, maternity clinics and hospital in the Balaka district, which represented the topic, problem and purpose of the study and the stated main

characteristics of the descriptive research design. The measurable data could be analysed and presented statistically.

### 3.3 POPULATION

Population is the total number of cases relevant to a study (Last 2001:137; Polit & Beck 2004: 298,734). Target population is the number of cases from which a sample is drawn (Last 2001:178). The accessible population is the portion of the target population to which the researcher has reasonable access (Burns & Grove 2003:473). In this study, the **population** included all mothers who have at least one child of younger than five years in the Balaka district.

The total number of mothers in the Balaka district with children under five years of age as of 30th July 2008 was 77,496 (Malawi, Balaka Health Management Information Department March 2008). The **target population** comprised mothers who had at least one child younger than five years of age who visited maternal and child health clinics in the Balaka district of Malawi between January 2009 and February 2009 (Table 3.1). The **accessible population** included mothers who had at least one child of younger than five years of age who had visited the specifically selected maternal and child health clinics in the Balaka district of Malawi in the two weeks of data collection namely 9<sup>th</sup> to 23<sup>rd</sup> March 2009.

### 3.4 SAMPLE AND SAMPLING PROCEDURE

Last (2001:162) defines a sample as a selected subset of the population. Eligibility criteria are used to designate the specific attributes by which respondents are selected for participation in a study (Polit & Beck 2004:717). In this study the eligibility criteria include:

- mothers aged from 15 to 45 years who have at least one child younger than five years and are within the child bearing age;
- mothers who have attended at least one under-five clinic with their child/children during the period of January 2009 to March 2009.

The inclusion criteria ensured that data was collected from respondents who would be able to give information about their experiences of the utilisation of maternal and child health services in the Balaka District.

### **3.4.1 Study setting**

The study was conducted in the Balaka district of Malawi. Data was collected from four health facilities namely Balaka District Hospital, Chifundo Maternity Clinic, Utale 2 Mission Health Centre and Chiyendausiku Health Centre. Antenatal clinics, and labour and delivery services and under-five clinics were conducted weekly and on specified days in a month at these institutions. According to the official reports (Malawi, Balaka Health Management Information Department 2009) for the period from January 2009 to March 2009, attendance by women with children younger than five years was as follows:

- Balaka District Hospital, 2261
- Chifundo Private Maternity Clinic, 212
- Utale 2 Mission Health Centre, 407
- Chiyendausiku Health Centre (MCH care clinic), 604

These constitute the target population for the study.

### **3.4.2 Sampling technique**

A combination of proportionate stratified sampling and convenience sampling was done. Following, each of these methods are defined and the uses thereof are described within the context of the study.

#### ***3.4.2.1 Proportionate stratified sampling***

Proportionate stratified sampling was used to determine the number of respondents from each of the four health facilities. A proportionate sample results when the researcher samples from different strata of the population in proportion to their representation in the

population (Polit & Beck 2004:730). Stratified sampling helps to focus on important subpopulations and ignores irrelevant ones. This requires a smaller sample hence it is cost-effective (Statistics Tutorial: stratified sampling 2008:1). This sampling method was used because inclusion of the four health facilities ensured a representative sample from the Balaka district.

The proportionate stratified sampling method was used as follows: The population of sampling units is divided into non-overlapping groups called strata and a proportionate sample is drawn independently from each stratum. The sampling units represent mothers in the Balaka district who have at least one child of younger than five years of age and have visited an MCH clinic at least once during the time period January 2009 to March 2009. The identified four health facilities in the Balaka district constitute the strata. The sampling fraction (**f**) in each stratum is  $f = n/N$  whereas *n* is the target population on each stratum and **N** is the total target population for the four health facilities (refer to Table 3.1).

**Table 3.1: Proportionate stratified sampling in the Balaka district**

<b>THE PROPORTIONATE STRATIFIED SAMPLING: BALAKA DISTRICT</b>			
<b>Health Facility</b>	<b>Target Population (n)</b>	<b>Proportion</b>	<b>Sample Size</b>
Balaka District Hospital	2261	0.648	65
Chifundo Maternity Clinic	212	0.0608	6
Utale 2 Mission Health Centre	407	0.1171	12
Chiyendausiku Health Centre	604	0.1734	17
<b>Total</b>	<b>(N) 3484</b>	1	100

### **3.4.2.2 Convenience sampling**

Having determined the proportionate sample, convenience sampling was used to select the identified numbers of respondent at each health facility. Convenience sampling involves using the most conveniently available people as study participants (Polit & Beck 2004:292). In the Balaka district most of the population do not have access to telephone communication. To contact possible respondents by post or personally would have posed many logistical problems; therefore convenience sampling was a less complex and faster way to select the final 100 respondents. The convenience sampling in this study was done

as follows: The researcher and research assistants, in consultation with the management of each of the four health facilities, decided on two weeks that were convenient to do the data collection. Women visiting the under-five clinic at the four health services during these two weeks, who met the eligibility criteria and were willing to take part in the study, were selected. The process continued until the total sample size for each health facility was met (refer to table 3.1).

### **3.4.3 Sample size**

Sample is defined as a selected subset of the target population (Last 2001:162). A sample of 100 was used as determined through proportionate stratified sampling. The sample size was chosen to maximise representativeness and promoted description of the population. However, it did not ensure legitimacy of using the 'central limit theorem' since convenience sampling was used during data collection.

## **3.5 DATA COLLECTION**

Data collection is the gathering of information to address a research problem (Polit & Beck 2004:716). Questionnaires were used to collect data.

### **3.5.1 Questionnaire and data collection procedure**

A questionnaire is a predetermined set of questions used to collect data (Burns & Grove 2003:289; Last 2001:149). Questionnaires are designed to elicit information through written or verbal responses of the participants. In the case of self-administered questionnaires, respondents read the questions in a written form and give answers in writing. The questionnaire can also be completed on behalf of the respondents, by documenting the verbal response of the respondent on the questionnaire. In such a case the questionnaire is used as guideline for a structured interview. Questions in a structured questionnaire are presented in a consistent manner to each respondent.

The questionnaire is often used in descriptive studies to gather a broad spectrum of information from participants such as facts, events, situations, beliefs and knowledge

(Burns & Grove 2003:289 – 291). A structured questionnaire was used in this study to ensure consistency and minimise the possibility of bias. It was also used to collect a broad spectrum of information in a short period of time. The structured questionnaire was designed with reference to Andersen's Behavioral Model of Health Services Utilization and the tool developed by Nankwanga (2004:96) in the study on "Factors influencing utilisation of postnatal services in Mulago and Mengo Hospitals, Kampala, Uganda". The questions were adapted to suit the context in the Balaka District in Malawi. The statistician and study supervisor were consulted to check the questionnaire and commented with regard to content, relevance and data analysis in order to promote validity of the questionnaire. The questionnaire for this study contains an introduction of the study and instructions to enable the respondents to complete the tool. The following sections are included in the questionnaire:

- Section 1: Demographic data
- Section 2: Knowledge on the availability of MCH services
- Section 3: Economic factors (affordability of MCH care services)
- Section 4: Accessibility and utilisation of MCH care services
- Section 5: Need for MCH services
- Section 6: Quality of MCH care services

Refer to Annexure E for a copy of the questionnaire.

Data were collected in a room designated by the person in charge of each facility. This room ensured privacy and comfort. Questionnaires were completed in an average of 20 minutes. The lowest level of education of the respondents was standard eight. In Malawi, at this level people are able to speak and understand basic English. However, some respondents had difficulty in understanding and writing responses. In these cases the research assistants facilitated the process and they completed the questionnaire on behalf of these respondents.

The researcher consulted with the person in charge of each facility in order to ensure that respondents do not miss their health service. It was decided that respondents first received their health care service and thereafter participate in the research.

### **3.5.2 Pre-testing of instrument**

Pre-testing is the collection of data prior to the research, sometimes called baseline data. It enables the researcher to assess the data collection instrument, to identify flaws and to assess time requirements (Polit & Beck 2004:728). In this study, pre-testing of the questionnaire was done by selecting 10 respondents who met the inclusion criteria but who were not part of the sample to complete the instrument. No changes were made on the items of the questionnaire.

## **3.6 DATA ANALYSIS**

Data analysis is the systematic organisation and synthesis of research data. This is done to reduce, organise and give meaning to data (Burns & Grove 2003:479; Polit & Beck 2004:716). A statistician cleaned and coded the data and analysed it, using **SPSS 16.0** (Release 16.0.1) for Windows which is a computer program for data analysis and data management.

### **3.6.1 Statistical procedures**

The findings were represented as descriptive statistics and the researcher reported on it. The statistical procedures used were: descriptive statistics, frequency analysis, and cross-tabulations. In the descriptive statistics, measures of central tendency such as mean as well as measures of dispersion or variability such as range, variance and standard deviation and correlation were used.(Burns & Grove 2003:326,227; Polit & Beck 2004:457,462,735). Frequency distribution is a systematic arrangement of values from lowest to highest; together with a count of the numbers of times each value was obtained (Polit & Beck 2001: 451-453). Cross-tabulations were performed by comparing different categories of a variable in terms of another numerical variable.

## **3.7 RELIABILITY AND VALIDITY**

### **3.7.1 Reliability**

Reliability is the degree of consistency or dependability with which the instrument measures the attribute it is designed to measure (Polit & Beck 2004:730; Burns & Grove 2003:35). The instrument could be described as internally consistent or homogeneously consistent. Internal consistency is a measure of the instrument's reliability and the degree to which the subparts of the instrument are all measuring the same attribute or dimension (Polit Beck 2004:721). In this study internal consistency was ensured by a carefully developed questionnaire. Sections in the questionnaire and individual questions are directly related to the topic and context of the study. The questionnaire was clearly worded and simple language was used to ensure that respondents understood the questions. Concerning the analysis, an **SPSS** program was used to promote statistical reliability, to prevent the problem of misinterpreting the data and to reduce threats to reliability.

### **3.7.2 Validity**

Validity is the degree to which an instrument measures what it is intended to measure. Content and face validity are considered when evaluating the validity of a quantitative instrument (Burns & Grove 2003:500, Polit & Beck 2004:735). Content validity is the degree to which the items of an instrument adequately represent the universe of the concept being measured. It is also the extent to which the method of measurement includes the entire major elements relevant to the concept being measured (Polit & Beck 2004: 423:714; Burns & Grove 2003:275). The literature review was done to ensure validity of the instrument. The Andersen's Behavioral Model of Health Services Utilization (Chakraborty et al 2003:329) was used as a basis to include the major elements as applicable to the context of the study in the questionnaire. In this study a pre-test of the questionnaire was conducted in order to maximise validity of the instrument.

### **3.8 ETHICAL CONSIDERATIONS**

The following ethical principles were considered in the study:

#### **Principle of autonomy**

Autonomy refers to the ability to act and make decisions without being controlled by anyone else (Hornby 2005: 89). Respondents' rights to make independent decisions on whether to participate in the study or not were respected. Specific information about the nature of the research and conditions of participation was given in the introduction of the questionnaire to enable the participants to make an informed decision about their participation. The participants signed an informed consent form which is an agreement by a prospective subject to participate voluntarily in a study after he or she has assimilated essential information about the study (Burns & Grove 2003:485).

#### **Principle of beneficence**

Beneficence is a fundamental ethical principle that seeks to prevent harm and exploitation of, and maximize benefits for study participants (Polit & Beck 2004: 712). The data collection did not involve any invasive procedures hence no participants were subjected to physical harm. Furthermore it was explained to participants that the community may benefit from the research findings, since the recommendations of the study may improve utilisation of health services by mothers and under-five children in the Balaka district.

#### **Principle of anonymity**

Anonymity is the state of remaining unknown to most other people (Hornby 2005: 54). Participants were assured that their identity would not be disclosed in the questionnaire. Questionnaires were numbered to facilitate the data analysis and interpretation of findings, but no names were written on the questionnaire.

#### **Principle of confidentiality**

Confidentiality means that personal information about participants should not be revealed to persons not authorised to receive such information (Polit & Beck 2004: 150). Respondents were informed that no unauthorised persons would get hold of raw data and that the completed questionnaires will be in safe-keeping and not be available for any other purpose than this research.

### **3.9 SUMMARY**

Chapter three has covered the overall research plan and addressed the study population. Sampling procedure, method of data collection and analysis and relevant ethical considerations have been explained. A discussion of the data analysis follows in chapter four.

## CHAPTER 4: DATA ANALYSIS, RESEARCH FINDINGS AND INTERPRETATION

### 4.1 INTRODUCTION

In this chapter the data analysis on the utilisation of maternal and child health (MCH) care services in the Balaka district of Malawi is described. Research findings are presented and interpreted. The sections of the questionnaire, which was based on the Andersen's Behavioral Model of Health Services Utilization, served as framework for the presentation of research data namely:

- demographic data (4.2)
- knowledge on the availability of MCH care services (4.3)
- economic factors (4.4)
- accessibility and utilisation of MCH care services(4.5)
- need for MCH care services (4.6)
- quality of MCH care services (4.7)

Using a structured questionnaire, data was collected from respondents at the four health facilities, namely: Balaka District Hospital, Chifundo Maternity Clinic, Utale 2 Mission Health Centre and Chiyendausiku Health Centre (refer to Table 3.1: Proportionate stratified sampling in the Balaka district). The computer program SPSS 16.0 version for Windows (Release 16.0.1) was used to analyse data and compile descriptive statistics. The statistical procedures used were as follows: range, mean, standard deviation, variance, frequency analysis and correlation coefficient. A further analysis was done by comparing different categories of variables and those were illustrated by cross-tabulations.

Data is presented in graphical format with a written summary, highlighting the significant findings. Please note that (N= ) is used when referring to data pertaining the total of 100 respondents and (n= ) is used when referring to respondents of the individual health services. Findings were interpreted contextually and in terms of the literature review, where applicable.

## 4.2 DEMOGRAPHIC DATA

### 4.2.1 Age (Item 1.1)

Table 4.1 shows more respondents in the age groups of 30 years and older in Balaka District Hospital 38.3% (n=65) and Chiyendausiku Health Centre 47.1% (n=17). At the same time more respondents in the age groups younger than 30 years were found in Chifundo Maternity Clinic and Utale 2 Mission Health Centre. As the respondents who utilised the health services at Balaka District Hospital and Chiyendausiku Health Centre were slightly older, the target group for health education or different health programmes is older woman and planning should be done accordingly.

**Table 4.1: Age of respondents who utilised MCH care services per health care service (N=100)**

	Health Facility			
	Balaka District Hospital (n=65)	Chifundo Maternity Clinic (n=6)	Utale 2 Mission Health Centre (n=12)	Chiyendausiku Health Centre (n=17)
<b>Age of women</b>				
Below 20 years	18.5%	16.7%	16.7%	5.9%
20 – 24 years	18.5%	33.3%	25%	11.8%
25 – 29 years	21.5%	33.3%	25%	35.3%
30 – 34 years	23.1%	-	16.7%	23.5%
35 – 39 years	9.2%	-	8.3%	11.8%
Over 40 years	6%	16.7%	8.3%	11.8%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Of the total sample, 60% (N=100) are younger than 30 years old and the age group above 30 years represents 40% (N=100) of the sample (Table 4.2). MCH care services programmes should be specific to the needs of the large percentage of women in the early child bearing age. The health services should focus on family planning, pregnancy and immunisation of babies and toddlers. This is confirmed in a study done by Stephenson and Tsui (2002:309); Celik et al (2000:1797) and Mekonnen et al (2003:376) where it was found that young women may feel the need to attend family planning clinics having considered advantages of preventing unwanted

pregnancies while older women may not see that as a need. The older and higher parity women with experience and great responsibilities with regard to household and child care demonstrate a tendency to use MCH care services less frequently.

**Table 4.2: Age of respondents who utilised MCH care services (N = 100)**

		Frequency	Percentage	Valid percentage	Cumulative percentage
<b>Age</b>	Below 20 years	16	16.0	16.0	16.0
	20 – 24 years	19	19.0	19.0	35.0
	25 – 29 years	25	25.0	25.0	60.0
	30 – 34 years	21	21.0	21.0	81.0
	35 – 39 years	9	9.0	9.0	90.0
	Over 40 years	10	10.0	10.0	100
	<b>Total</b>	<b>100</b>	<b>100.0</b>	<b>100.0</b>	

Table 4.3 shows that 52.4% (N=100) of the respondents in the age range of 30 – 34 years use the MCH care services regularly. Sixty percent (60%) (N=100) of the respondents younger than 20 years did not use the MCH care services regularly. This is confirmed in the study conducted by Chakraborty et al (2003:333) where it was found that women older than 35 years sought health care services as compared to women younger than 20 years.

Gochman (1997:155) found that age was highly correlated with the need to attend for care; young women may not feel the need to attend antenatal clinics during the first trimester of the first pregnancy as compared to experienced women who have more than one child. In the Balaka district, maternal health promotion programmes regarding use of MCH care services should target young mothers in order to encourage them to use the services regularly.

**Table 4.3: Cross-tabulation: Age \* Regular use of MCH care services (N=100)**

		Do you use MCH services regularly?		
		Yes	No	Total
<b>Age</b>	Below 20 years	40.0%	60.0%	100%
	20 – 24 years	42.1%	57.9%	100%
	25 – 29 years	33.3%	66.7%	100%
	30 – 34 years	52.4%	47.6%	100%
	35 – 39 years	44.4%	55.6%	100%
	Over 40 years	20.0%	80.0%	100%
	<b>Total</b>	<b>39.8%</b>	<b>60.2%</b>	<b>100%</b>

#### 4.2.2 Level of education (Item 1.2)

Tables 4.4 and 4.5 show the levels of education at each health facility and the total population respectively. The majority of the respondents, 65% (N=100) went to school up to a primary level of education. Twenty six percent (26%) (N=100) of the respondents had a secondary school level of education and nine percent (N= 100) of the women had no education. This is confirmed in the official information of Malawi which revealed that educational level is very low among Malawian women where only 3% of women had completed secondary school and 48% of the women had never attended school at all (Malawi National Health Accounts 2001:10).

**Table 4.4: Level of education of respondents who utilised the MCH care services per health care service (N=100)**

	Health Facility			
	Balaka District Hospital (n=65)	Chifundo Maternity Clinic (n=6)	Utale 2 Mission Health Centre (n=12)	Chiyendausiku Health Centre (n=17)
<b>Level of education</b>				
No education	9.2%	-	8.3%	11.8%
Primary education	61.5%	83.3%	75%	64.7%
Secondary education	29.2%	16.7%	16.7%	23.5%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

**Table 4.5: Level of education of respondents who utilised MCH care services (N=100)**

		Frequency	Percentage	Valid percentage	Cumulative percentage
<b>Level of education</b>	No education	9	9.0	9.0	9.0
	Primary education	65	65.0	65.0	74.0
	Secondary education	26	26.0	26.0	100.0
	<b>Total</b>	<b>100</b>	<b>100.0</b>	<b>100.0</b>	

Table 4.6 shows that sixty percent 60% (N=100) of the respondents with secondary school level education regularly use the MCH care services. Women who had a secondary level of education use the MCH care services more regularly than the women with a primary level of education. This is confirmed in a study conducted by Chakraborty et al (2003:333) where it was found that women with a higher education qualification feel the need to utilise the available health care services more than illiterate women and those with a low level of education.

**Table 4.6: Cross-tabulation: Level of education \* Regular use of MCH services (N=100)**

		Do you use MCH services regularly?		
		Yes	No	Total
<b>Level of education</b>	No education	40.0%	60.0%	100%
	Primary education	42.1%	57.9%	100%
	Secondary education	33.3%	66.7%	100%
	<b>Total</b>	<b>39.8%</b>	<b>60.2%</b>	<b>100%</b>

#### 4.2.3 Religion (Item 1.3.1)

Seventy three percent (73%) (N=100) of women attending the four health care facilities belong to Christianity and the rest belong to Islam and other religions (Table 4.7). This is confirmed in a report by Friends of Malawi (2004:3) where it was stated that Christianity is a major religion in Malawi whereby sixty percent of Christians are Protestants and fifteen percent of the Christians are Catholics.

**Table 4.7: Religion of respondents who utilised MCH care services (N =100)**

Religion	Number of Respondents
Christianity	73
Islam	18
Traditional beliefs	5
* Other	2
No response	2
<b>Total</b>	<b>100</b>

\* Other: African Church  
Zion Church

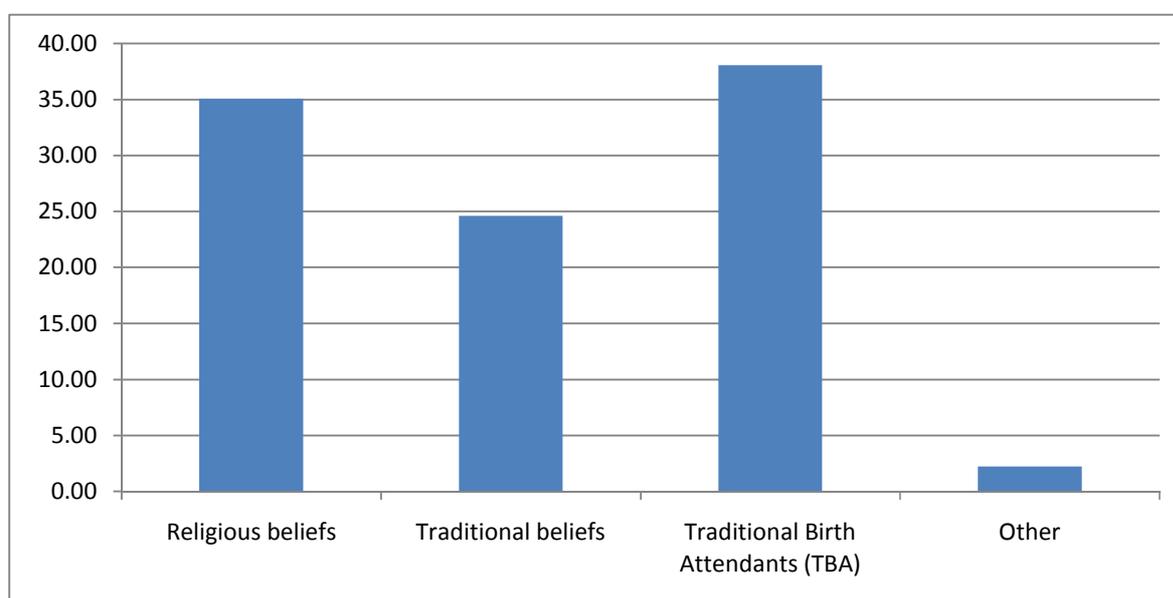
Table 4.8 shows that 63.9% (n=72) of the women who belonged to the Christian religion do not use the MCH care services regularly. Fifty eight percent (58.8) (n=17) of the women who belong to the Islam religion use the MCH care services regularly. Religion influenced health seeking behaviour of women in the Balaka district of Malawi. Christian beliefs of some of the churches have a negative influence regarding the use of MCH care services in the district. For example, the Catholic Church believes in natural family planning methods and respondents who were members of the church indicated that they were discouraged to use contraceptives as modern family planning methods. This is confirmed in a study done by Grant et al (2005:3) where it was found that varying beliefs had a strong influence on the use of modern health care services.

**Table 4.8: Cross-tabulation: Religion \* Regular use of the MCH services (N=100)**

Religion	Do you use the MCH services regularly?			Total
	Yes	No	No Response	
Christianity	26	46	1	<b>73</b>
Islam	10	7	1	<b>18</b>
Traditional Beliefs	2	3	0	<b>5</b>
Other	0	2	0	<b>2</b>
No Response	1	1	0	<b>2</b>
<b>Total</b>	<b>39</b>	<b>59</b>	<b>2</b>	<b>100</b>

#### 4.2.4 Beliefs and cultural factors (Item 1.3.2)

Ninety seven percent (97%) (N=100) of respondents who utilised the MCH care services in the selected four health facilities have meaningful religious beliefs while three percent (3%) of the women have other beliefs. Thirty eight percent (38.06%) of the respondents have meaningful beliefs such as Traditional Birth Attendants (TBAs) assisting women during child birth. Thirty five percent (35%) of the respondents have religious beliefs related to the care of mother and children. Slightly over twenty four percent (24.63%) of the respondents have traditional beliefs (Figure 4.1). Women in the Balaka district have different beliefs and cultural backgrounds. Such beliefs and cultural factors have either a positive or negative impact on their use of maternal and child health care services. Friends of Malawi (2009:1) states that Malawi is made up of many tribes and those tribes vary considerably in their beliefs and customs. This is confirmed in a study by Gopal (2009:1) where it was found that a socially inclusive community expresses cultural diversity, ethnicities, faiths and traditions.



**Figure 4.1: Meaningful beliefs and cultural factors of respondents who utilised MCH care services (N=100)**

#### 4.2.5 Tribe (Item 1.3.3)

Table 4.9 shows that 64% (N=100) of respondents belong to three main tribes and the remaining 36% (N=100) belong to other tribes such as Ngoni, Nyanja, Mang'anja, Sena and Tumbuka. Thus the Balaka district has no one tribe for its population but is composed of mixed communities regarding tribes. In each tribe, there are cultural factors and traditional beliefs which influence the use of MCH care services by women in the district which should be considered in the planning and delivery of health services. This is confirmed by Friends of Malawi (2009:1) stating that Malawi is made up of many diverse tribes and those tribes vary considerably in their beliefs and customs.

**Table 4.9: Tribes of respondents who utilised MCH care services (N=100)**

		Frequency	Percentage	Valid percentage	Cumulative percentage
<b>Tribes</b>	Chewa	16	16.0	16.0	16.0
	Yawo	27	27.0	27.0	43.0
	Lomwe	21	21.0	21.0	64.0
	Other	36	36.0	36.0	100.0
	<b>Total</b>	<b>100</b>	<b>100.0</b>	<b>100.0</b>	

#### 4.2.6 Marital status (Item 1.3.4)

Table 4.10 shows that 85% (N=100) of respondents who utilise MCH care services in the four health facilities of the Balaka district are married women. As part of culture, women in the Balaka district believe in getting married and living as a family with their children. Women find social security in marriage. This is confirmed by a study conducted by Duong (2005:1) where it was found that women's ability to seek health care or to use health care services depends on social factors such as marital status.

**Table 4.10: Marital status of respondents who utilised MCH care services (N=100)**

		Frequency	Percentage	Valid percentage	Cumulative percentage
<b>Marital Status</b>	Married	85	85.0	85.0	85.0
	Never married	5	5.0	5.0	90.0
	Separated/Divorced	6	6.0	6.0	96.0
	Cohabitation	4	4.0	4.0	100.0
	<b>Total</b>	<b>100</b>	<b>100.0</b>	<b>100.0</b>	

#### 4.2.7 Previous pregnancies, live births and problems experienced during pregnancy, labour, delivery and after pregnancy (Items 1.3.5 – 1.3.9)

Table 4.11 shows the relationship between the number of previous pregnancies and the number of live births the respondents had experienced. For example, 25 respondents had three previous pregnancies of whom 22 gave live birth to all three babies. Almost all of the respondents' previous pregnancies resulted in live births.

**Table 4.11: Cross-tabulation: Previous pregnancies \* Live births experienced by respondents (N=100)**

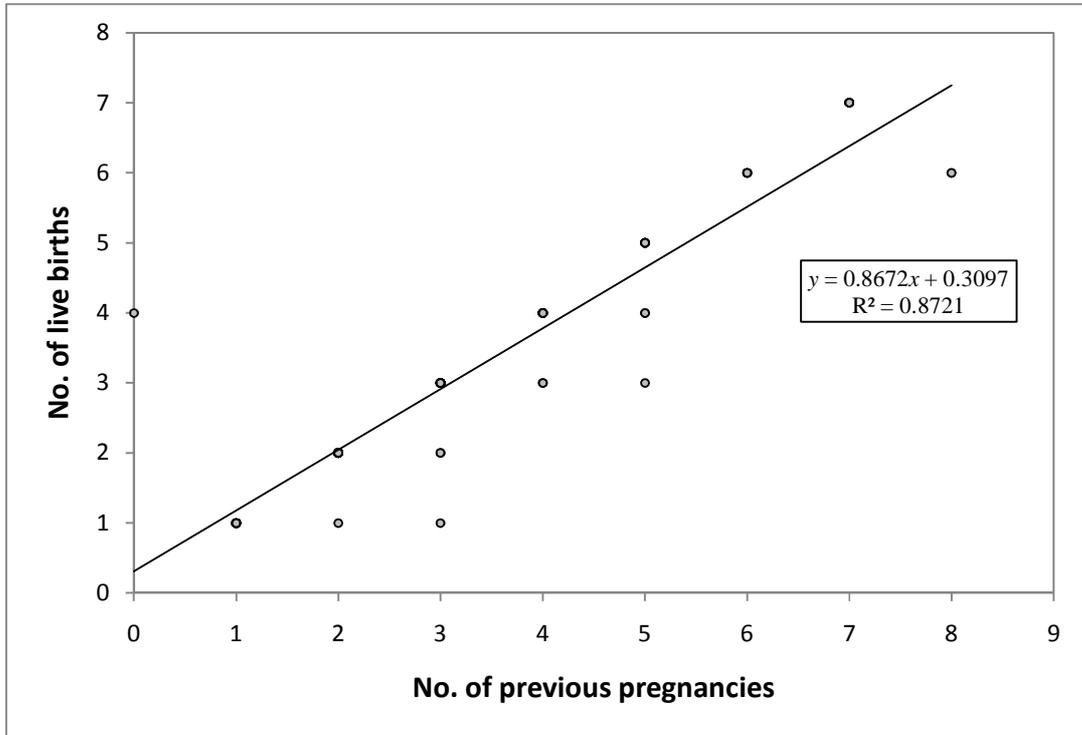
Number of previous pregnancies	No. of live births							Total
	1	2	3	4	5	6	7	
0	0	0	0	1	0	0	0	1
1	14	0	0	0	0	0	0	14
2	1	25	0	0	0	0	0	26
3	1	2	22	0	0	0	0	25
4	0	0	2	11	0	0	0	13
5	0	0	1	2	8	0	0	11
6	0	0	0	0	0	4	0	4
7	0	0	0	0	0	0	4	4
8	0	0	0	0	0	2	0	2
<b>Total</b>	16	27	25	14	8	6	4	100

Pearson correlation coefficient:  $r^2 = 0.9339$

Coefficient of determination:  $r = 0.8721$

There is a linear relationship between the number of previous pregnancies and the number of live births. The coefficient of determination ( $r = 0.8721$ ) of a straight line

fitted through the data points in the scatter plot shows a very strong linear relationship (Figure 4.2).



**Figure 4.2: The scatter-plot: Number of live births against number of previous pregnancies**

The Pearson correlation coefficient ( $r = 0.9339$ ) shows that there is a very strong positive relationship between the number of previous pregnancies and the number of live births (Figure 4.3). This means that an increase in the number of previous pregnancies is associated with an increase in live births and vice versa. A positive correlation occurs when high values on one variable are associated with high values on a second variable (Kirkwood & Sterne 2003:95; Polit & Beck 2004:467). In Figures 4.2 and 4.3 the relationship is positive as demonstrated by the slope of points which begins at the lower left corner and extends to the upper right corner.

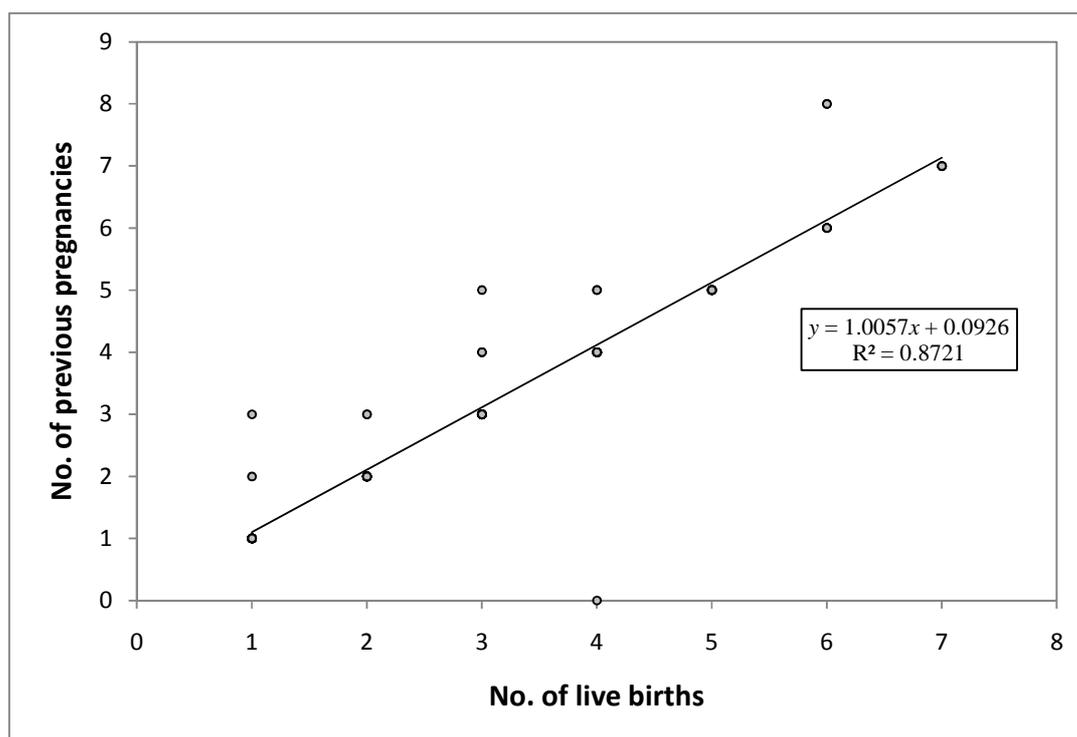


Figure 4.3: The scatter-plot: Number of previous pregnancies against number of live births

- **Problems during previous pregnancy, labour, delivery and after pregnancy**

The information concerning problems during pregnancy, labour and delivery was gathered by means of open - ended questions. Malaria accounted for 19% (N=100) of the problems the respondents experienced during previous pregnancy, labour, delivery and after pregnancy. Anaemia 13% (N=100) ranked second after malaria among the problems that the respondents experienced. Other significant problems were excessive blood loss during delivery and difficult labour (Table 4.12).

This shows that malaria and anaemia are the major problems that women face in the Balaka district. In agreement with the findings, the WHO (2003:38) states that malaria infection in pregnancy is a major public health problem in tropical and subtropical regions throughout the world. Severe malaria or malaria related severe anaemia may result in maternal deaths.

**Table 4.12: Problems experienced by respondents during pregnancy, labour, delivery or after pregnancy (N=100)**

		Frequency	Percentage	Cumulative percentage
<b>Problems women experienced</b>	Malaria	19	19	19
	Anaemia	13	13	32
	HIV/AIDS	2	2	34
	Death of baby during pregnancy	4	4	36
	Excessive blood loss during delivery	8	8	44
	Difficult labour	8	8	52
	Abortion	6	6	56
	No problems experienced	42	42	100

- **Causes of problems experienced during pregnancy, labour or after pregnancy**

Table 4.13 shows 19% (N=100) of the causes of problems experienced by respondents during pregnancy, labour and after pregnancy were related to lack of adequate treatment for malaria, assisted home deliveries, high blood pressure, lack of MCH care services and excessive bleeding during delivery. All of these factors could be addressed by quality health service delivery.

Twenty five percent (25%) (N=100) of the respondents stated that malaria infection by Anopheles mosquitoes was the major cause of problems among the women in the four health facilities. The issue of anaemia was related to malaria and nutritional deficiencies. This is confirmed in Malawi Demographic and Health Survey (2004:249), where it was found that in Malawi malaria is regarded as a leading cause of morbidity and mortality in pregnant women.

**Table 4.13: Causes of problems experienced by respondents during pregnancy, labour or after pregnancy**

<b>Cause</b>	<b>Percentage</b>	<b>Cumulative Percentage</b>
Age related causes	4	4
Malaria infection	25	29
Lack of adequate treatment for malaria	4	33
Assisted delivery at TBA and private maternity clinics	6	39
Home delivery (child birth)	4	43
HIV infection	3	46
Poor nutrition	10	56
High blood pressure	2	58
Lack of MCH care services	1	60
Excessive bleeding during delivery	2	61
No known causes to the problems	39	100

### **4.3 KNOWLEDGE AND AVAILABILITY OF MCH CARE SERVICES**

#### **4.3.1 Knowledge about the availability of health services (Items 2.1 and 2.2)**

Ninety nine percent (99%) (N=100) of the respondents indicated that they knew the MCH care services that were available in their area (Table 4.14). Ninety three percent (93%) (N=100) of the respondents stated that static MCH care services were available in their areas while six percent (6%) of the respondents stated that mobile MCH care services were available in their area. The respondents had knowledge of the MCH care services that were available in their area. Static MCH care services were mostly available in the Balaka district and a few mobile MCH care services were available in the Balaka district. Knowledge of the available MCH care services enables women to decide on how to make use of the services. Ladfors et al (2001:130) noted that women must be knowledgeable about the health services in order for them to use such services.

**Table 4.14: Knowledge of respondents about the availability of MCH care services (N=100)**

		Frequency	Percentage	Cumulative percentage
<b>Knowledge of women about the availability of MCH care services</b>	<b>Yes</b>	99	99.0	99.0
	<b>No</b>	1	1.0	100.0
	<b>Total</b>	<b>100</b>	<b>100.0</b>	<b>100.0</b>

#### 4.3.2 Knowledge about MCH care services (Item 2.3)

Table 4.15 shows that 47% (N=100) of the respondents stated that they had good knowledge about the MCH care services. Twenty five percent (25%) (N=100) of the respondents stated that their knowledge of MCH care services was poor. This shows that most of the mothers who utilise the health services in the Balaka district have good knowledge of the MCH care services. Nankwanga (2004:66) found that knowledge is an important factor in the utilisation of maternal and child health care services.

**Table 4.15: Knowledge of respondents on MCH care services (N=100)**

		Frequency	Percentage	Cumulative percentage
<b>Knowledge of women about the availability of MCH care services</b>	Very poor	1	1.0	1.0
	Poor	25	25.0	26.0
	Good	47	47.0	73.0
	Very good	25	25.0	98.0
	Excellent	2	2.0	100.0
	<b>Total</b>	<b>100</b>	<b>100.0</b>	<b>100.0</b>

#### 4.3.3 Rating of availability of MCH care services (Item 2.4)

Forty three point four percent (43.4%) (N=100) of the respondents rate the availability of the MCH care services in their area as very good. Eight percent (8%) of the respondents rate the availability of MCH care services in the area as poor (Table 4.16).

**Table 4.16: Cross-tabulation: Knowledge of respondents about the availability of the MCH care services \* Availability of MCH care services**

Availability of MCH care services							
Rating of the availability of MCH services		Very poor	Poor	Good	Very good	Excellent	Total
	Yes	.0%	8.1%	41.4%	43.4%	7.1%	100.0%
	No	100.0%	.0%	.0%	.0%	.0%	100.0%
	Total	1.0%	8.0%	41.0%	43.0%	7.0%	100.0%

Table 4.17 presents the descriptive statistics of the knowledge of respondents about the availability of MCH care services in their areas in the Balaka district. The variance (.635) (n=65) and population standard deviation (.797) (n=65) are small for the women regarding their knowledge of the availability of MCH care services in Balaka District Hospital. This means that the data is closely dispersed around the mean (3.68) (n=65) and the data points are close in value to the mean (Dissertation Consulting 2009:1). The table shows that for all four health facilities the average number of respondents had knowledge of the availability of the MCH care services in their area.

**Table 4.17: Descriptive statistics: Knowledge of respondents about the availability of MCH care services (N=100)**

Health facility		n	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Balaka District Hospital	Knowledge of MCH care services	65	3	2	5	2.92	.797	.635
	Availability of MCH care services	65	3	2	5	3.68	.709	.503
Chifundo Maternity Clinic	Knowledge of MCH care services	6	1	3	4	3.83	.408	.167
	Availability of MCH care services	6	1	3	4	3.83	.408	.167
Utale 2 Mission Health Centre	Knowledge of MCH care services	12	3	1	4	3.08	.793	.629
	Availability of MCH care services	12	2	1	3	2.33	.651	.424
Chiyendausiku Health Centre	Knowledge of MCH care services	17	2	2	4	3.06	.748	.559
	Availability of MCH care services	17	1	3	4	3.35	.493	.243

#### 4.4 ECONOMIC FACTORS (AFFORDABILITY OF MCH SERVICES)

##### 4.4.1 Source of income (Item 3.1)

Unemployment amongst respondents is high, 58% (N=100), in all the health facilities, (Table 4.18). Figures 4.4 and 4.5 show that the unemployment rate is especially high in Balaka and Chiyendausiku where the rates are 47.65% (n=65) and 47.83% (n=17) respectively. Respondents who indicated that they had 'other sources of income' reported it as selling vegetables or household goods at small scale and being given money by their husbands. Lack of a proper and sustainable source of income may lead to poverty which may influence the utilisation of health services. In an Integrated Household Survey done by Zere et al (2007:1190) it was found that more than 65.3% of the Malawi population lives in poverty and 27% live in extreme poverty; and there is a close relation between the high unemployment rate and poverty.

**Table 4.18: Sources of income among respondents (N=100)**

Source of income	Response frequency	Percentage of responses
Employed	21	15.00
Not employed	58	41.43
Farming	19	13.57
Business	32	22.86
Other	10	7.14
<b>Total</b>	<b>140</b>	<b>100</b>

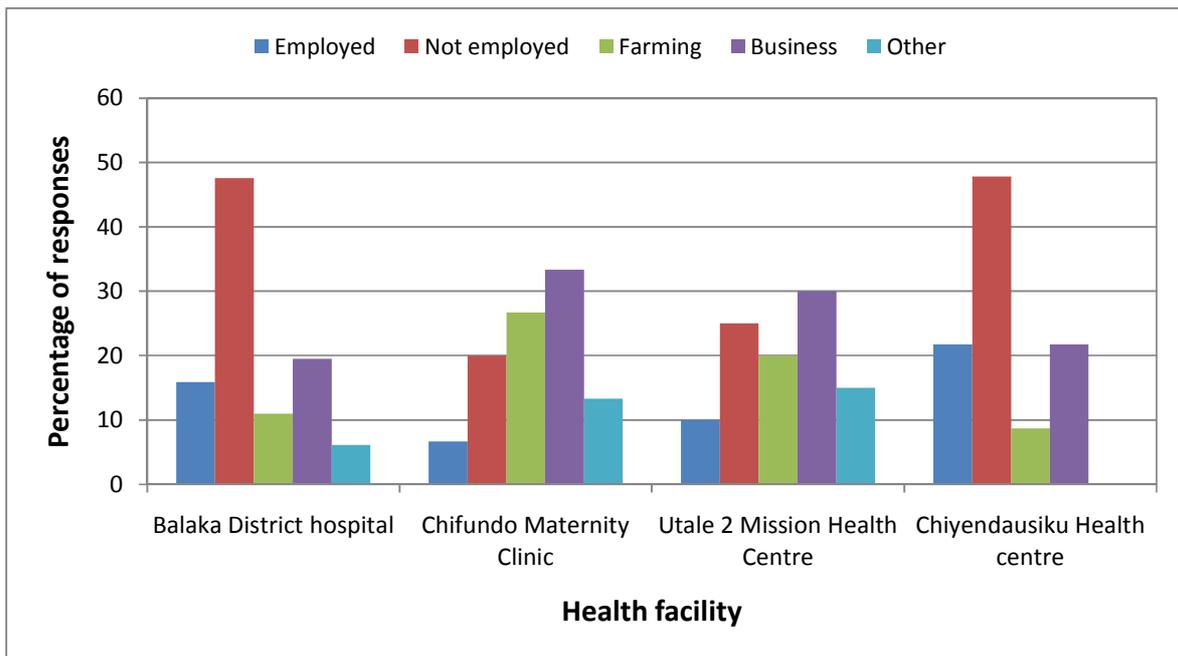


Figure 4.4: Sources of income of the respondents per health care service (N=100)

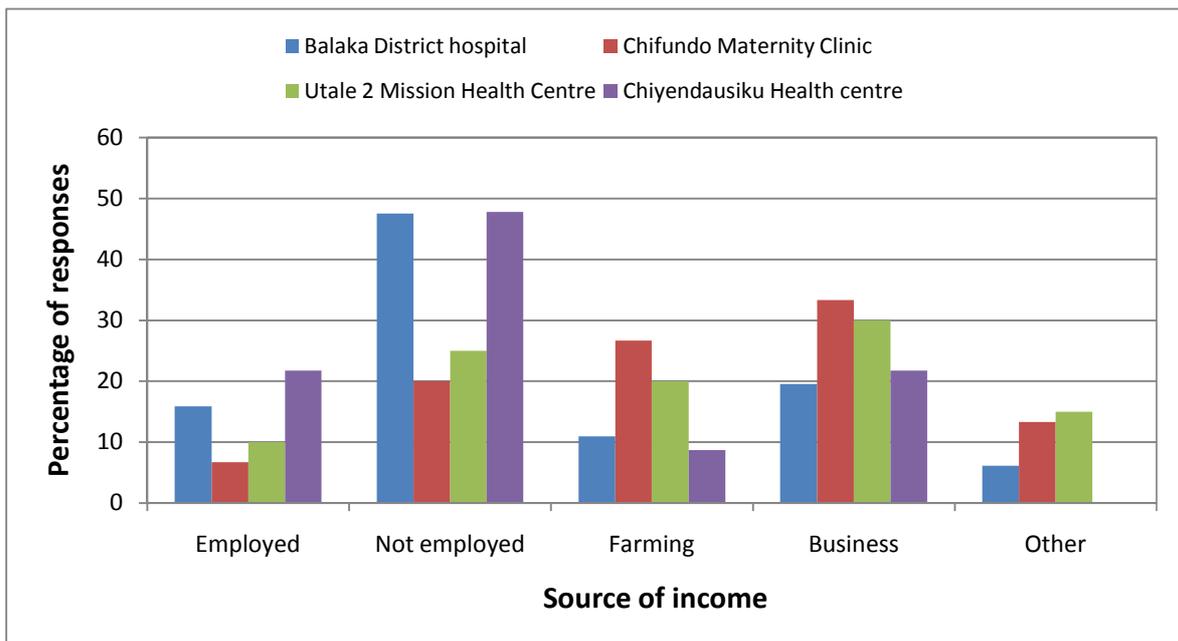


Figure 4.5: Sources of income of the respondents (N=100)

#### 4.4.2 Fees paid for the MCH care services (Item 3.2)

Ninety eight point five percent (98.5%) (n=65) of the respondents who utilised the MCH care services stated that they did not pay any fees for MCH care services offered

at the Balaka District Hospital. The one and half percent (1.5%) of the women, who indicated that they paid fees sometimes for MCH care services, referred to services at a private MCH care clinic in the district.

With regard to Chiyendausiku Health Centre 70.6% (n=17) of the women who utilised the MCH care services stated that the health services were offered free of charge while 29.4% of the women indicated that sometimes they paid for MCH care services at a private maternity clinic in the area.

All the women (100%) (n=6) who utilised the MCH care services at Chifundo Maternity Clinic stated that they paid a fee for the maternal services offered. However, the mobile child health care services at Chifundo Maternity Clinic were offered free of charge through Balaka District Hospital which resorts under the Ministry of Health.

At Utale 2 Mission Health Centre all the women (100%) (n=12) who utilised the MCH care services stated that they paid fees for the maternal health care services offered at the mission health centre.

#### 4.4.3 Amount paid for each visit or service (Item 3.3)

The amount of money paid for the MCH care services at Chifundo Maternity Clinic and Utale 2 Mission Health Centre ranged from MK100.00 to MK200.00. This was equivalent to ZAR10.00 to ZAR20.00. The fees for MCH care services are high for most of the women who have no sources of income (Table 4.19).

**Table 4.19: Amount paid for each visit or MCH service (N=100)**

Health facility	Amount paid in MK	Frequency	Percentage	Valid percentage	Cumulative percentage
Balaka District Hospital	-	65	100.00	-	-
Chifundo Maternity Clinic	100.00	1	16.7	16.7	16.7
	200.00	5	83.3	83.3	100.0
	Total	6	100.0	100.0	100.0
Utale 2 Mission Health Centre	150	12	100.0	100.0	-
Chiyendausiku Health Centre	-	17	100	-	-

#### 4.4.4 Affordability of MCH care services (Items 3.4 – 3.6)

At Balaka District Hospital and Chiyendausiku Health Centre, respondents (100%) (n=82) were able to attend MCH care services because there was no fee attached to the health services offered. At Chifundo Maternity Clinic and Utale 2 Mission Health Centre, 50% (n=18) of the respondents could afford to pay for the MCH care services (Table 4.20). The respondents who had good sources of income were able to pay for private MCH care services. The respondents, who did not have good sources of income, were obliged to use the free-of-charge government sponsored MCH care services. This is confirmed in a study conducted by Stephenson & Tsui (2002:319) where it was found that a lack of adequate financial resources limits some women to access private health services which might be effective and beneficial to their health.

**Table 4.20: Ability to pay fees for the MCH care services**

<b>Frequencies</b>					
<b>Health facility</b>	<b>Amount paid for each visit or service</b>				<b>Total</b>
	100 – 199 MK	200 – 299 MK	300 – 399 MK	400 – 499 MK	
Chifundo Maternity Clinic	1	5	0	0	<b>6</b>
Utale 2 Mission Health Centre	12	0	0	0	<b>12</b>
Chiyendausiku Health Centre	0	0	1	4	<b>5</b>
<b>Total</b>	<b>13</b>	<b>5</b>	<b>1</b>	<b>4</b>	<b>23</b>

<b>Percentages</b>					
<b>Health facility</b>	<b>Amount paid for each visit or service</b>				<b>Total</b>
	100 – 199 MK	200 – 299 MK	300 – 399 MK	400 – 499 MK	
Chifundo Maternity Clinic	4.35	21.74	0.00	0.00	<b>26.09</b>
Utale 2 Mission Health Centre	52.17	0.00	0.00	0.00	<b>52.17</b>
Chiyendausiku Health Centre	0.00	0.00	4.35	17.39	<b>21.74</b>
<b>Total</b>	<b>56.52</b>	<b>21.74</b>	<b>4.35</b>	<b>17.39</b>	<b>100</b>

Table 4.21 reflects that at Balaka District Hospital 46.2% (n=65) of the respondents who utilised the MCH care services stated that the health services were comfortably affordable. At Chifundo Maternity Clinic, 83.3% (n=6) of the respondents stated that MCH care services were barely affordable. At Utale 2 Mission Health Centre 41.7% (n=12) of the respondents stated that the MCH care services were not at all affordable. At Chiyendausiku Health Centre, 64.7% (n=17) of the respondents who utilised the MCH care services stated that these services were affordable.

The MCH services offered in the government health facilities such as Balaka District Hospital and Chiyendausiku Health Centre were affordable because they were offered free of charge. However, the MCH care services offered in private health facilities such as Chifundo Maternity Clinic and Utale 2 Mission Health Centre were either barely affordable or not at all.

The respondents who indicated that they could not afford to pay for the health care services stated that they had no proper sources of income to enable them to pay for the health care services.

A study conducted by Mekonnen and Mekonnen (2003:376) confirmed these findings. It was found that where user fees for women's utilisation of health was implemented; the fees reduced the utilisation of health services and kept many women from having hospital-based deliveries or from seeking care even when complications arose.

**Table 4.21: Affordability of MCH care services (N=100)**

Health facility		Frequency	Percentage	Valid percentage	Cumulative percentage
Balaka District Hospital	Barely affordable	2	3.1	3.1	3.1
	Affordable	26	40.0	40.0	43.1
	Comfortably affordable	30	46.2	46.2	89.2
	Very affordable	7	10.8	10.8	100.0
	Total	65	100.0	100.0	
Chifundo Maternity Clinic	Not at all affordable	1	16.7	16.7	16.7
	Barely affordable	5	83.3	83.3	100.0
	Total	6	100.0	100.0	
Utale 2 Mission Health Centre	Not at all affordable	5	41.7	45.5	45.5
	Barely affordable	4	33.3	36.4	81.8
	Affordable	3	25.0	18.2	100.0
	Total	12	100.0	100.0	
Chiyendausiku Health Centre	Not at all affordable	3	11.8	11.8	11.8
	Affordable	11	64.7	64.7	76.5
	Barely affordable	3	17.6	17.6	94.1
	Comfortably affordable	1	5.9	5.9	100.0
	Total	18	100.0	100.0	

Sixty one point three percent (61.3%) (N=100) of the women who stated that the MCH care services were comfortably affordable did not use the health services regularly. In the health facilities where the MCH services were affordable, 58.1% (N=100) of the women did not use the services regularly (Table 4.22). Despite the fact that the MCH services were affordable to most of the women in the four health facilities; such services were not regularly used.

**Table 4.22: Cross-tabulation: Affordability of MCH care services \* Regular use of MCH services (N=100)**

		Do you use the MCH services regularly?		
		Yes	No	Total
<b>Affordability of MCH care services</b>	Not at all affordable	12.5%	87.5%	<b>100.0%</b>
	Barely affordable	52.4%	47.6%	<b>100.0%</b>
	Affordable	41.9%	58.1%	<b>100.0%</b>
	Comfortably affordable	38.7%	61.3%	<b>100.0%</b>
	Very affordable	33.3%	66.7%	<b>100.0%</b>

Table 4.23 shows at Balaka District Hospital 40% (n=65) of the women who utilised the MCH care services stated that it was very difficult for them to find money to pay for MCH care services. At Chifundo Maternity Clinic, 50% (n=6) of the women stated that it was very difficult to find money to pay for MCH care services.

At Utale 2 Mission Health Centre, 41.7% (n=12) of the women stated that it was respectively somewhat difficult or very difficult to find money to pay for MCH care services. At Chiyendausiku Health Centre 35.3% of the women stated that it was somewhat difficult to find money to pay for the MCH care services. Women experienced difficulty in finding money to pay for MCH care services irrespective of the fact that a service fee is applicable or not.

However, although most of the health care services are offered for free, many respondents still do not attend the clinics. It can be assumed that finances for the service delivery are not the only factors that impact on the affordability of the services

**Table 4.23: Difficulty finding money to afford MCH care services (N=100)**

Health facility			Frequency	Percentage	Valid percentage	Cumulative percentage
Balaka District Hospital	Valid	Not at all difficult	9	13.8	13.8	13.8
		Somewhat difficult	12	18.5	18.5	32.3
		Difficult	3	4.6	4.6	36.9
		Very difficult	26	40.0	40.0	76.9
		Extremely difficult	15	23.1	23.1	100.0
		Total	65	100.0	100.0	
Chifundo Maternity Clinic	Valid	Difficult	3	50.0	50.0	50.0
		Very difficult	3	50.0	50.0	100.0
		Total	6	100.0	100.0	
Utale 2 Mission Health Centre	Valid	Not at all difficult	1	8.3	8.3	8.3
		Somewhat difficult	5	41.7	41.7	50.0
		Very difficult	5	41.7	41.7	91.7
		Extremely difficult	1	8.3	8.3	100.0
		Total	12	100.0	100.0	
Chiyendausiku Health Centre	Valid	Not at all difficult	1	5.9	5.9	5.9
		Somewhat difficult	6	35.3	35.3	41.2
		Difficult	2	11.8	11.8	52.9
		Very difficult	4	23.5	23.5	76.5
		Extremely difficult	4	23.5	23.5	100.0
		Total	17	100.0	100.0	

Table 4.24 shows the descriptive statistics of the affordability of MCH care services and the difficulty that women face in finding money to meet the cost of the MCH care services. The variance is large (MK10444.664), which means the amount paid by women for each visit is widely dispersed around the mean (MK210.87) (ZAR21.09) (n=23) and the data points are different from the mean. With regard to the affordability of MCH care services and difficulty in finding money to meet the cost of MCH care services, the difference was large (4) between the largest and the smallest value (MK350.00). This shows that women have different experiences relating to the affordability of services and the difficulty in finding money to meet the cost of MCH care services.

**Table 4.24: Descriptive statistics: Affordability of MCH care services and the difficulty in finding money to meet the cost of the MCH care services (N=100)**

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Amount for each visit or service	23	350	100	450	210.87	102.199	10444.66
Affordability of MCH care services	99	4	1	5	3.07	1.071	1.148
Difficulty in finding money to meet the cost of MCH care services	100	4	1	5	3.33	1.326	1.759

## 4.5 ACCESSIBILITY AND UTILISATION OF MCH CARE SERVICES

### 4.5.1 Area of residence (Item 4.1)

Fifty seven percent (57%) (N=100) of the respondents who utilised the MCH care services live in the villages of the Balaka district (Table 4.25), thus the majority of women live in the rural areas of the Balaka district. This is confirmed in a study done by Grant & Loggie (2005:9), where it was found that in Malawi 90% of the population live in rural areas.

**Table 4.25: Area of residence (N=100)**

		Frequency	Percentage	Cumulative percentage
<b>Place of residence</b>	Balaka district town	43	43.0	43.0
	Village in Balaka district	57	57.0	100.0
	<b>Total</b>	<b>100</b>	<b>100.0</b>	

### 4.5.2 Distance to MCH health facilities (Item 4.2)

Sixty five percent (65%) (N=100) of the women who utilise the MCH care services in the Balaka district live less than 5 km away from the nearest health facility (Table 4.26). However, the 35% of the respondents living more than 5km from a health facility is a significant number and it should be noted by the health care authorities. In a study

conducted by Mekonnen and Mekonnen (2003:375), it was found that in most rural areas in Africa, one in three women live more than five kilometres from the nearest health facility.

**Table 4.26: Distance from home to the MCH health facility**

		Frequency	Percentage	Cumulative percentage
<b>Distance from home to the health facility</b>	Less than 1km	35	35.0	35.0
	More than 1km, less than 5km	30	30.0	65.0
	More than 5km, less than 10km	20	20.0	85.0
	More than 10km	15	15.0	100.0
	<b>Total</b>	<b>100</b>	<b>100.0</b>	

#### **4.5.3 Accessibility of the MCH care services in terms of travelling (Items 4.3 and 4.4)**

**Table 4.27: Descriptive statistics: Accessibility of MCH care services with regard to travelling (N=100)**

	n	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Amount for hiring transport	29	220	30	250	90.69	53.980	2913.793
Accessibility of the MCH care services in your area	100	4	1	5	3.43	.913	.833

Table 4.27 shows the descriptive statistics on the accessibility of MCH care services and the amount in Malawi Kwacha (MK) for hiring transport in the Balaka district. With regard to the accessibility of the MCH care services, the standard deviation, which is the square root of the variance (Kirkwood & Sterne 2003:24) was small (.913) and the variance was also small (.833). When the variance and standard deviations are small, it means the data is very closely dispersed around the mean (Dissertation Consulting 2009:1). This shows that the health facilities in Balaka district are accessible to the women. Women can walk to the health facilities, and for those who could afford to pay for transport; the arithmetic average of hiring transport is MK90.69 (ZAR9.07). However, the variance (2913.793) and the standard deviation (53.980) are large for the amount to hire transport. When the variance and standard deviation are large, the

data is more widely dispersed around the mean (Dissertation consulting 2009:1; Kirkwood & Sterne 2003:35). This shows that women pay different amounts of money for hiring transport according to the distance from their homes to the health facilities.

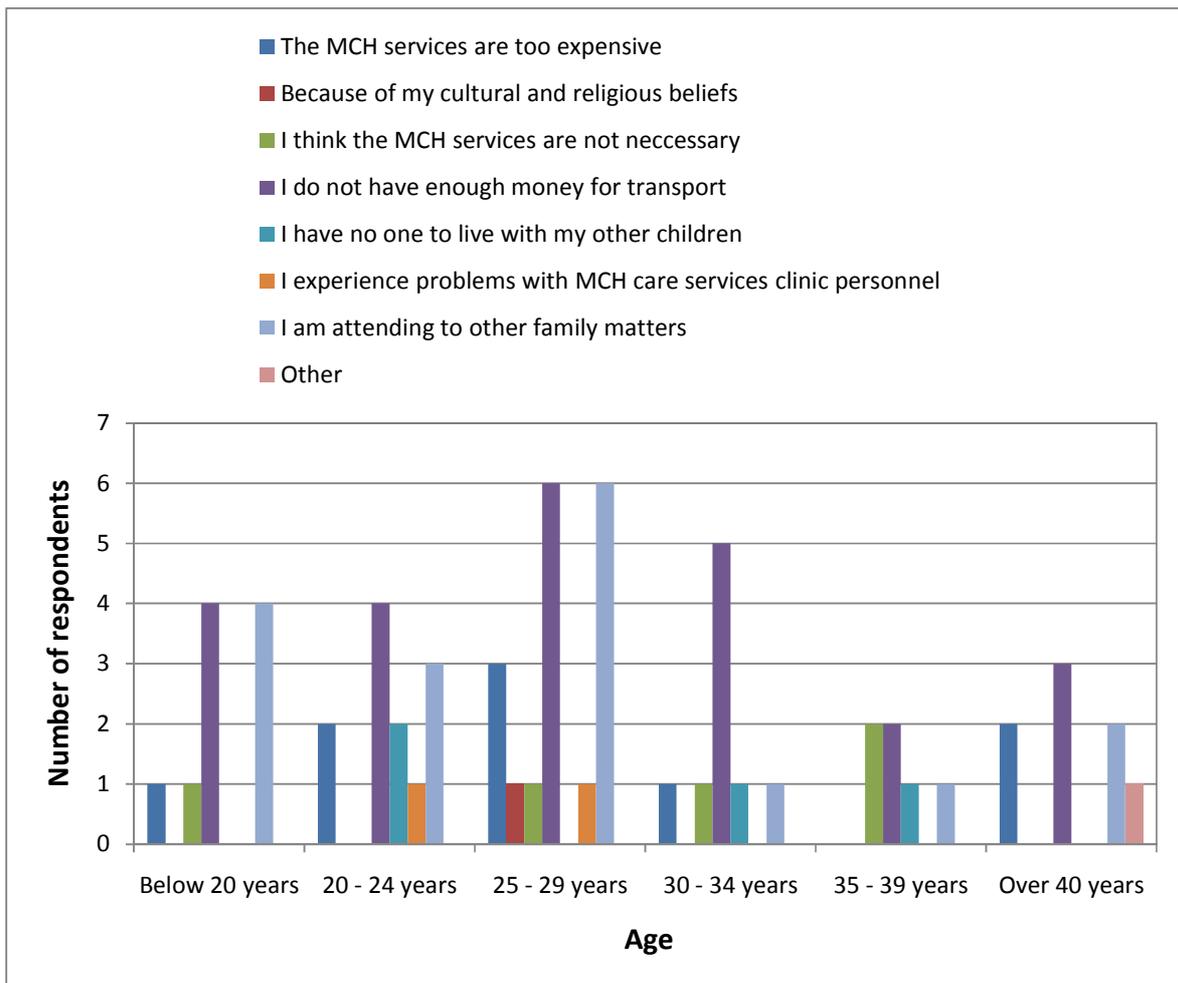
#### 4.5.4 Utilisation of MCH care services in terms of frequency and operational hours (Items 4.5 – 4.7)

Seventy six percent (76%) (N=100) of the respondents visit the MCH care clinics every month while only four percent (4%) of the respondents indicated that they visited the MCH care clinics weekly. Monthly MCH care appointments were convenient for the majority of the respondents who participated in the study. All the respondents (100%) (N=100) who utilised the MCH care services in the Balaka district stated that they visited the MCH care facility in the morning and mostly on Mondays and Thursdays. Findings of the study showed that morning times were the best times for conducting MCH clinics in order for women to balance clinic attendance with their social and family roles. The researcher noted that morning times are better in terms of tropical weather particularly in summer, since after midday it becomes too hot to travel to the health facility particularly with children. Table 4.28 shows that the majority of the participants (59%) (N=100) indicated that they do not use the health services regularly.

**Table 4.28: Regular use of MCH care services by the respondents (N=100)**

		Frequency	Percentage	Cumulative percentage
Regular use of MCH care services	Yes	39	39.0	39.8
	No	59	59.0	100.0

It was also found that most of the respondents who did not make regular use of MCH care services were in the age range of 25 to 29 years (Figure 4.6). In a study conducted by Phillips et al (1998:571) it was found that predisposing characteristics such as age influence the use of health services.



**Figure 4.6: Possible reasons for not making use of MCH services regularly according to age of the respondents (N=100)**

#### 4.5.5 Reasons for not utilizing MCH care services (Item 4.8)

Different reasons were given as to why MCH care services were not utilized regularly. Figures 4.7 and 4.8 show the main reason (30%) (n=59) being attending to other family matters. In addition, 27% (n=59) of the respondents stated that they did not have enough money for transport. MCH care services offered in private clinics, such as Chifundo Maternity Clinic are expensive

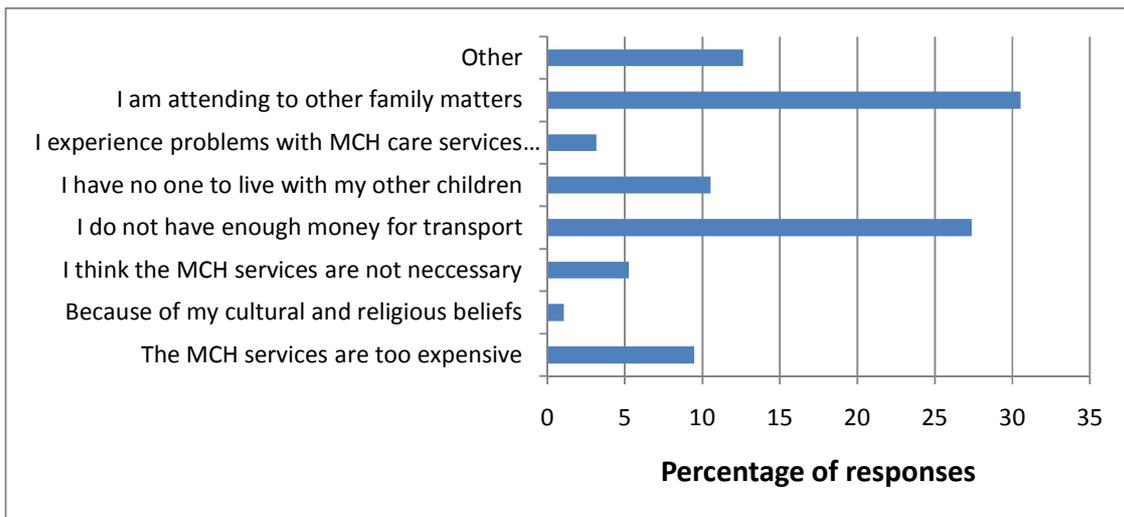


Figure 4.7: Possible reasons for not making use of MCH services regularly (N=100)

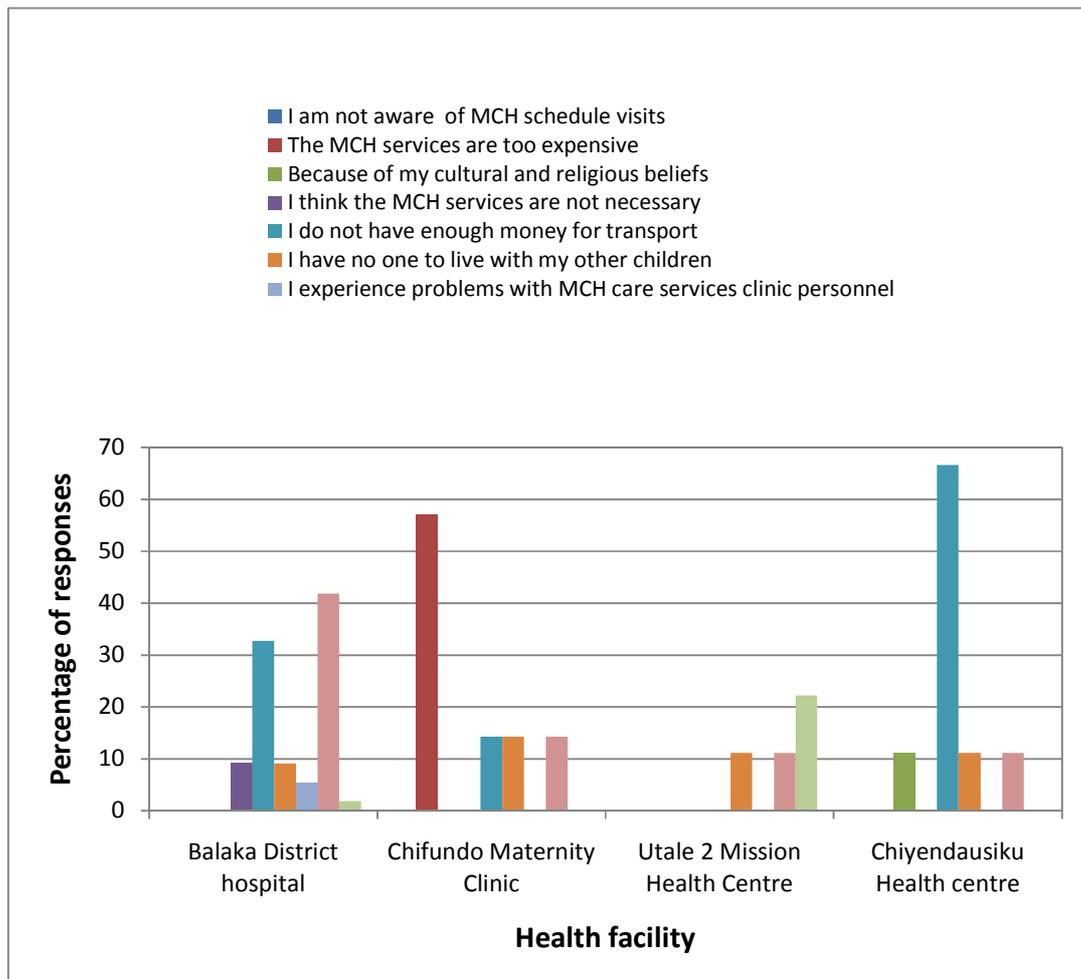


Figure 4.8: Possible reasons for not making use of MCH services regularly by the respondents per health care service (N=100)

Thirty eight percent 38.2% (n=59) of the respondents did not use MCH care services regularly even if they lived in places less than a kilometre away from the nearby MCH care services (Table 4.29 ). This shows that distance from home to the nearby health facility is not a major influencing factor for the respondents not to use MCH care services regularly.

**Table 4.29: Cross-tabulation: Distance from home to MCH health facility \* Regular use of the MCH services (N=100)**

		Do you use the MCH services regularly?		
		Yes	No	Total
Distance from home to MCH facility	Less than 1km	61.8%	38.2%	100.0%
	More than 1km, less than 5km	34.5%	65.5%	100.0%
	More than 5km, less than 10km	30.0%	70. %0	100.0%
	More than 10km	13.3%	86.7%	100.0%

#### 4.5.6 Rating of the accessibility of MCH care services (Item 4.9)

Table 4.30 shows that 16% (N=100) of the respondents indicated that the accessibility of the MCH services was between very poor and below average; while 38% (N=100) of the respondents indicated that the accessibility of the MCH care services is above average. Generally, the MCH care services are accessible to the majority of the respondents in the district. A survey conducted by Malawi Department of International Development (2004:10) found that 54 % of the rural population have access to the health facility within 5 km.

**Table 4.30: Rating of accessibility of the MCH care services (N=100)**

	Frequency	Percentage	Cumulative percentage
Very poor	1	1.0	1.0
Below average	15	15.0	16.0
Average	35	35.0	51.0
Above average	38	38.0	89.0
Excellent	11	11.0	100.0
<b>Total</b>	<b>100</b>	<b>100.0</b>	<b>100.0</b>

## 4.6 NEED FOR MCH CARE SERVICES

### 4.6.1 Common reasons why women visit MCH care services (Item 5.1)

The main reasons why women visit the MCH care services were to have access to antenatal care services, 24.5% (N=100), labour and delivery services, 21% (N=100) and under-five care services, 24% (N=100) (Figure 4.9). It was found in a demographic survey done in Malawi that the use of antenatal services varies among districts. The benefits of antenatal care in influencing outcomes of pregnancy depend to a large extent on the timing of the antenatal care as well as the content and quality of the services proved (Malawi Demographic and Health Survey 2004:133). Family planning services, postnatal care services, breast feeding and voluntary counselling services were less common reasons for women to visit MCH care services (Figure 4.9).

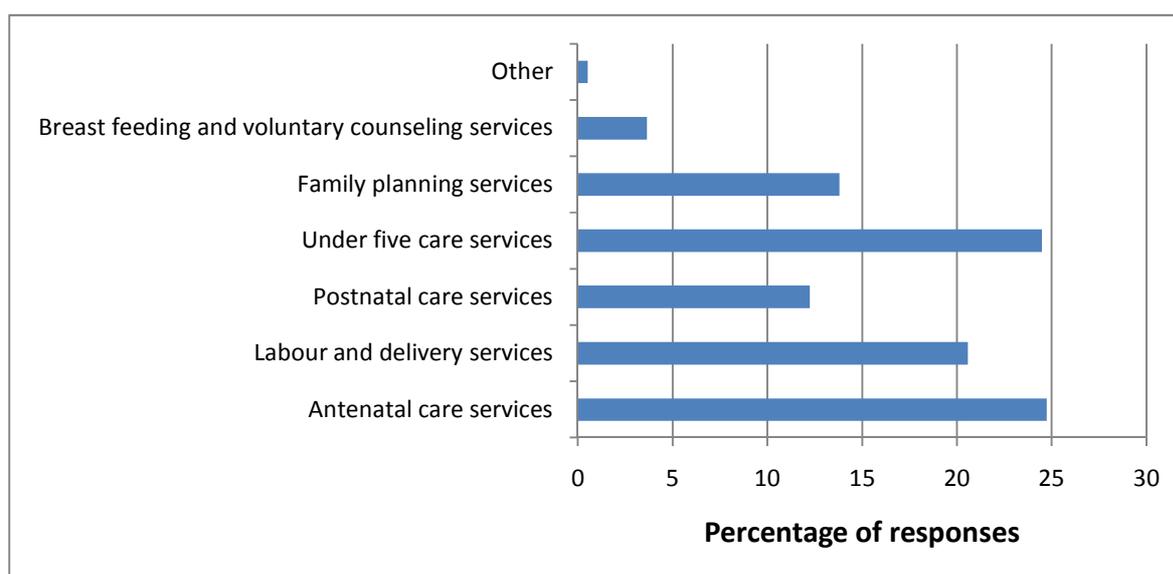
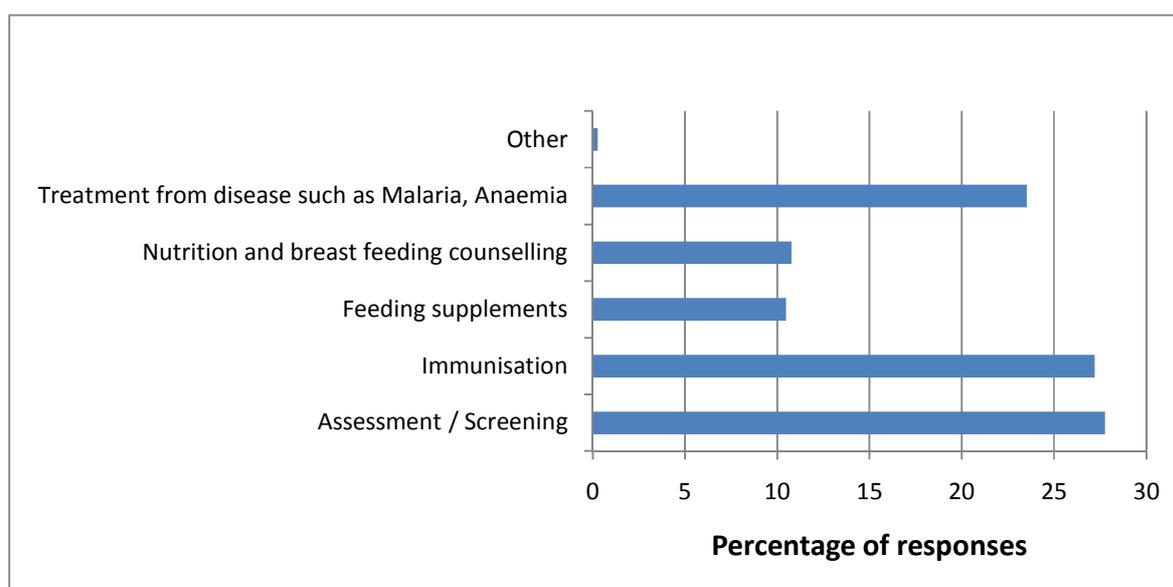


Figure 4.9: Common reasons why women visit MCH services (N=100)

### 4.6.2 Common reasons why women take their under-five children to MCH clinics (Item 5.2)

The main common reasons that women in the four health facilities take their under-five children to MCH clinics are to be assessed or screened for growth and development,

27.5% (N=100), to be given immunisations, 27% (N=100) and to be treated for malaria and anaemia 23.5% (N=100) (Figure 4.10). The Malawi's Expanded Programme on Immunisation (EPI) recommends that children receive the complete schedule of vaccinations before 12 months of age (Malawi Demographic Survey 2004:149). The Demographic survey conducted in Malawi found that malaria is a major public health problem and it is a leading cause of morbidity and mortality especially among children under the age of five years (Malawi Demographic Survey 2004:249). It was further found that nutritional status is an important health indicator as it allows evaluation of the susceptibility of the population to disease, impaired mental development and early death. In Malawi, 48% of children under five are stunted or too short for their age, five percent of the children are wasted or too thin and 22% are underweight (Malawi Demographic Survey 2004:179).

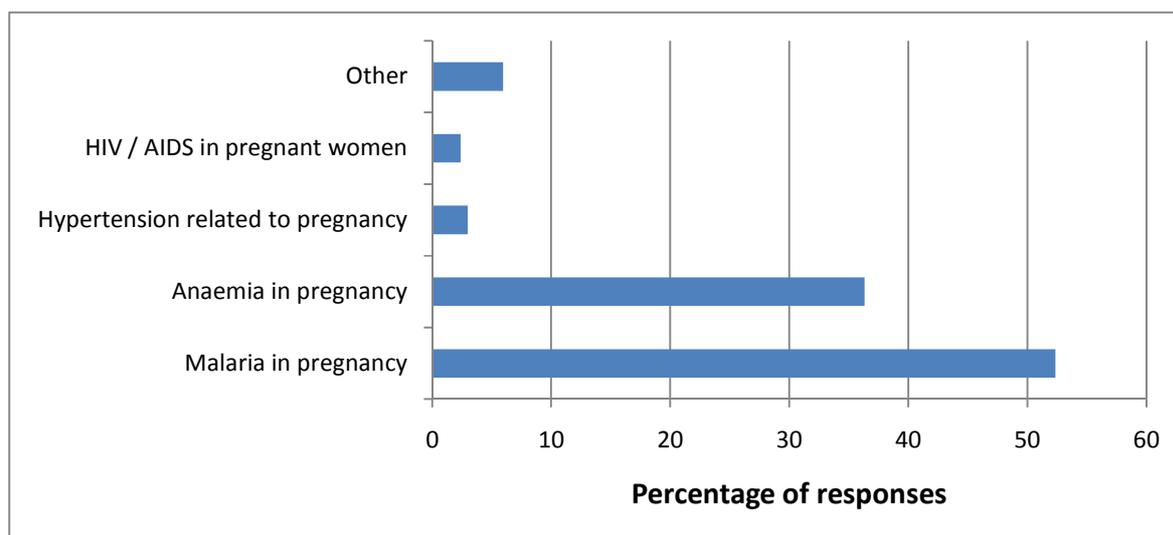


**Figure 4.10: Common reasons why women take their under-five children to MCH clinics (N=100)**

#### **4.6.3 Maternal problems women face that cause visits to health services (Item 5.3)**

Malaria and anaemia in pregnancy experienced by respectively 52% and 36% (N=100) of respondents were the main problems that caused the respondents to visit MCH care services (Figure 4.11). This was confirmed in a survey where it was found that malaria is a major public health problem in Malawi and it is a leading cause of

morbidity and mortality especially among pregnant women (Malawi Demographic Survey 2004:249). This is also in line with findings by the WHO (2003:38) that maternal deaths may result either directly from severe malaria or indirectly from malaria-related severe anaemia.



**Figure 4.11: Maternal problems that caused women to visit health services (N=100)**

#### **4.6.4 Services offered that meet the health needs (Item 5.4)**

Respondents at the different health facilities responded significantly differently to the question (Table 4.32). At Chiyendausiku Health Centre 82.4% (n=17) agreed that their needs were met whilst only 25% (n=12) at Utale agreed. Health care needs which were met promoted the regular use of the health care services by the respondents (Table 4.33). Phillips et al (1998) state that the use of health services is influenced by predisposing characteristics, enabling characteristics and need characteristics.

**Table 4.31: Cross-tabulation: MCH services met health needs \* Regular use of the MCH services (N=100)**

		Do you use the MCH services regularly?		
		Yes	No	Total
Do MCH services in your area meet your health needs?	Yes	61.7%	38.3%	100.0%
	No	5.3%	94%	100.0%
	Total			

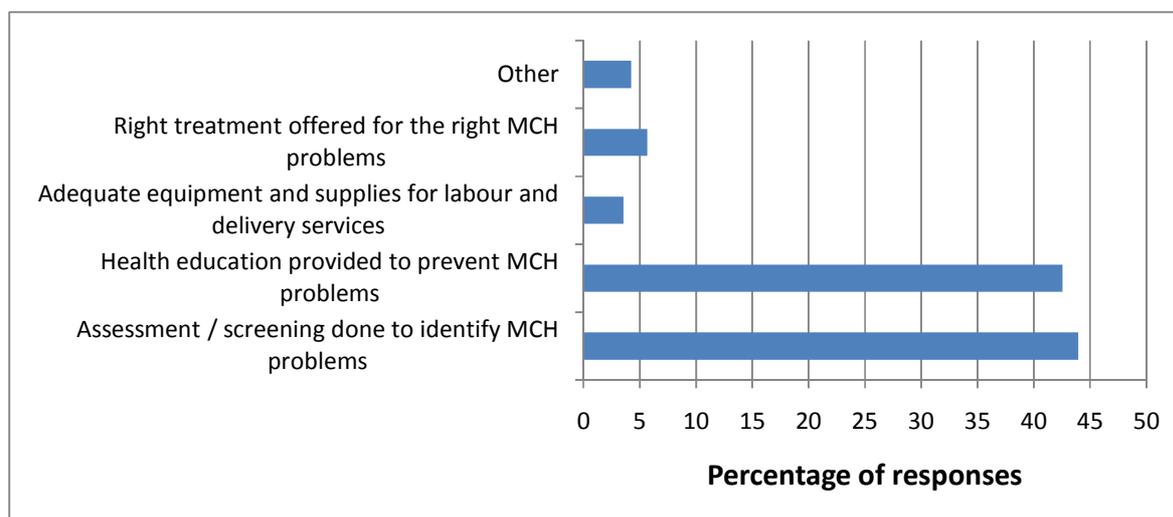
**Table 4.32: Do MCH services meet health needs of the women?**

Health facility: met women's needs?		Frequency	Percentage	Valid percentage	Cumulative percentage
Balaka District Hospital	Yes	41	63.1	63.1	63.1
	No	24	36.9	36.9	100.0
	Total	65	100.0	100.0	
Chifundo Maternity Clinic	Yes	3	50.0	50.0	50.0
	No	3	50.0	50.0	100.0
	Total	6	100.0	100.0	
Utale 2 Mission Health Centre	Yes	3	25.0	25.0	25.0
	No	9	75.0	75.0	100.0
	Total	12	100.0	100.0	
Chiyendausiku Health Centre	Yes	14	82.4	82.4	82.4
	No	3	17.6	17.6	100.0
	Total	17	100.0	100.0	

#### 4.6.5 Ways in which services offered met health needs (Item 5.5)

Respondents indicated that their needs were met mainly by health assessment or screening done to identify MCH problems 44% (N=100), followed by the health education provided to prevent MCH problems 42.5% (N=100) (Figure 4.12). In view of this, Gochman (1997:155) states that the status of health or illness is the most immediate and important reason for the utilisation of health services. Of the respondents who felt that the MCH care services in their areas met their needs, 61.7% (N=100) used the health services regularly. It was found that 94.7% (N=100) of the respondents who felt that their MCH needs were not met, did not use the health care services regularly (Table 4.31). The regular use of the MCH care services by the women depended on how the health services met the needs of the women. Phillips et al (1998: 571) states that the use of health services is influenced amongst others by

enabling characteristics and need characteristics which includes the clients own perception of his/her health needs.



**Figure 4.12: Ways in which services offered met MCH needs of the women (N=100)**

#### **4.6.6 Satisfaction with the MCH care services provided (Items 5.6 – 5.7)**

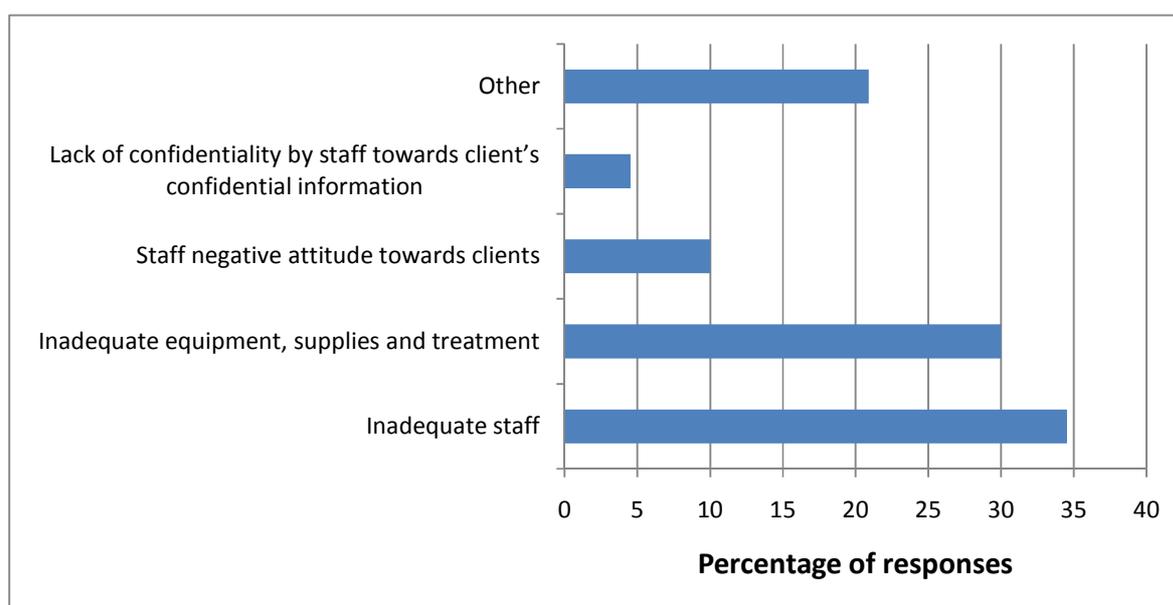
Over eighty four percent (84.6%) of the respondents who were satisfied with the MCH care services provided in their areas stated that they used the MCH care services regularly. Sixty nine percent (69.5%) of the respondents who did not use the MCH care services regularly, were not satisfied with the MCH care services provided (Table 4.33). The respondents who were not satisfied with the services provided in their areas did not use the MCH care services regularly.

Factors that influenced the use of the health services include the predisposing factors such as health beliefs, enabling factors such as available community resources and need factors such as perceived need (Phillips et al 1998:571; Chakraborty et al 2003:329).

**Table 4.33: Cross-tabulation: Regular use of the MCH services \* Satisfied with MCH services provided (N=100)**

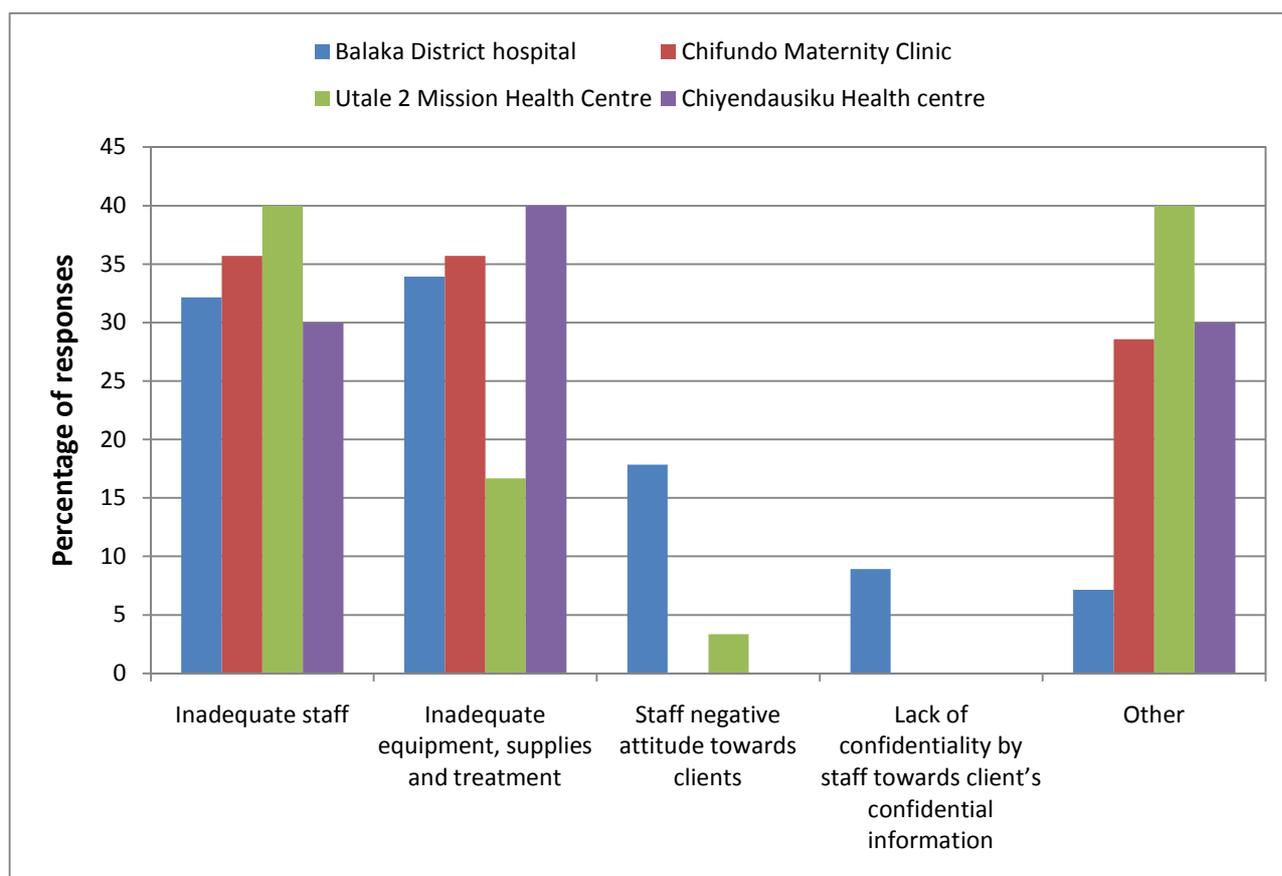
		Satisfied with MCH services provided in your area?		
		Yes	No	Total
Do you use the MCH services regularly?	Yes	84.6%	15.4%	100.0%
	No	30.5%	69.5%	100.0%

The reasons given for not being satisfied with MCH care provided included the following: inadequate staff 34.5% (N=100), inadequate equipment, supplies and treatment 30% (N=100) (Figure 4.13). Figure 4.14 represents the findings according to the four health services.



**Figure 4.13: Reasons for women not being satisfied with MCH services provided (N=100)**

Individuals, family and the community must first appreciate the significance of the available health services in their areas in order for them to utilise the available health services.



**Figure 4.14: Reasons for women not being satisfied with MCH services provided per health care service (N=100)**

Satisfaction of the respondents with the MCH care services varies from one health facility to the other. Generally the respondents are satisfied with the MCH care provided despite differences in the level of satisfaction. However, at Utale 2 Mission Health Centre, none of the respondents (n=12) were mostly or very satisfied. In fact, 25% were not at all satisfied and 75% were only somewhat satisfied with the MCH care services provided. Women were more satisfied with health services provided in the government sponsored health facilities than in the private health facilities (Table 4.34).

**Table 4.34: How women were satisfied with MCH services provided in their area**

Health facility		Frequency	Percentage	Valid percentage	Cumulative percentage
Balaka District Hospital	Not at all satisfied	12	18.5	18.5	18.5
	Somewhat satisfied	16	24.6	24.6	43.1
	Mostly satisfied	18	27.7	27.7	70.8
	Very satisfied	19	29.2	29.2	100.0
	Total	65	100.0	100.0	
Chifundo Maternity Clinic	Somewhat satisfied	4	66.7	66.7	66.7
	Mostly satisfied	2	33.3	33.3	100.0
	Total	6	100.0	100.0	
Utale 2 Mission Health Centre	Not at all satisfied	3	25.0	25.0	25.0
	Somewhat satisfied	9	75.0	75.0	100.0
	Total	12	100.0	100.0	
Chiyendausiku Health Centre	Not at all satisfied	1	5.9	5.9	5.9
	Somewhat satisfied	5	29.4	29.4	35.3
	Mostly satisfied	11	64.7	64.7	100.0
	Total	17	100.0	100.0	

## 4.7 QUALITY OF MCH CARE SERVICES

### 4.7.1 Quality of services delivered (Item 6.1)

Quality of services provided was rated different depending on the four health care facilities. Generally the quality of health care services provided ranged from average to above average (Table 4.35). There were a number of factors that impaired the quality of the health care services provided. The questionnaire allowed respondents to elaborate on their answers and those answers, among others, revealed the following factors: inadequate staff; inadequate equipment, supplies and treatment; staff's negative attitude towards clients and lack of confidentiality by staff with regard to clients' confidential information (Figure 4.12). This is confirmed in studies done by Gage (2007:1666) and Uzochukwu et al (2004:1) where it was found that the following barriers affect the quality of MCH care services: lack of trained health personnel, household poverty, and financial reasons.

**Table 4.35: Quality of MCH services**

Health facility		Frequency	Percentage	Valid percentage	Cumulative percentage
Balaka District Hospital	Below average	14	21.5	21.5	21.5
	Average	19	29.2	29.2	50.8
	Above average	32	49.2	49.2	100.0
	Total	65	100.0	100.0	
Chifundo Maternity Clinic	Average	4	66.7	66.7	66.7
	Above average	2	33.3	33.3	100.0
	Total	6	100.0	100.0	
Utale 2 Mission Health Centre	Below average	7	58.3	58.3	58.3
	Average	5	41.7	41.7	100.0
	Total	12	100.0	100.0	
Chiyendausiku Health Centre	Below average	2	11.8	11.8	11.8
	Average	14	82.4	82.4	94.1
	Above average	1	5.9	5.9	100.0
	Total	17	100.0	100.0	

#### 4.7.2 Encouragement to utilize services (Items 6.2 and 6.3)

Eighty five percent (85%) (N=100) of the respondents stated that they were encouraged to use the health services in their areas (Table 4.36). Respondents had to list the persons who encouraged them to use the services. These ranged from lay persons to different categories of professionals as seen in Table 4.37. It seems that health professionals play an important role to encourage the utilisation of health services. Health authorities should notice this.

**Table 4.36: Encouraged to use MCH Health care services (N=100)**

	Frequency	Percentage	Cumulative percentage
<b>Yes</b>	85	85.0	85.0
<b>No</b>	15	15.0	100.0
<b>Total</b>	<b>100</b>	<b>100.0</b>	

**Table 4.37: Persons who encouraged women to make use of MCH services**

<b>Health facility</b>	<b>Persons who encouraged you to make use of MCH services</b>	<b>Response frequency</b>
Balaka District Hospital	Church leaders in my village	1
	Doctors	1
	Friends	14
	Health advisers	1
	Health workers	9
	Medical staff	13
	Midwife	5
	Nursing staff	42
	<b>Total</b>	<b>86</b>
Chifundo Maternity Clinic	Friends	5
	Health workers	6
	My grandmother	1
	My mother	1
	<b>Total</b>	<b>13</b>
Utale 2 Mission Health Centre	Friends	1
	Health workers	2
	Husband	1
	Medical staff	6
	Nurses	3
	Parents	2
	<b>Total</b>	<b>15</b>
Chiyendausiku Health Centre	Health workers	3
	Medical staff	7
	Husband	1
	Parents	1
	Nursing staff	10
	<b>Total</b>	<b>22</b>

#### 4.7.3 Rating of specific services (Item 6.4)

Forty two percent (42%) (N=100) of the respondents agreed that the MCH services provided relevant and adequate information while only six percent (6%) (N=100) of the women disagreed. Forty three percent (43%) (N= 100) of the respondents agreed that comprehensive antenatal care services were provided through the MCH services in

the area while 15% (N=100) of the respondents disagreed. Thirty percent (30%) (N=100) of the respondents agreed that the MCH services provided individualised labour, delivery and postnatal care services while 15 % (N=100) of the respondents disagreed. Forty nine percent (49%(N=100) ) of the respondents agreed that the MCH services provided comprehensive under-five clinic services in the area while one percent (1%) of the women disagreed (see Table 4.38).

**Table 4.38: Rating of specific services (N=100)**

<b>How women (N=100) agreed or disagreed (%) on each of the following statements regarding MCH services provided in their areas</b>						
	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neither agree or disagree</b>	<b>Agreed</b>	<b>Strongly agreed</b>	<b>Cumulative (%)</b>
Provided relevant and adequate information		6	15	42	37	100
Provided comprehensive antenatal care		15	16	43	26	100
Provided individualised labour, delivery and postnatal care	3	15	25	30	27	100
Provided comprehensive under-five clinic services		1	8	49	42	100

The study findings revealed that adequate information regarding antenatal care, labour, delivery, postnatal care and under-five clinic services were provided to the women in the health facilities. However, there is need for the health management in the Balaka district to consider improvement in the way individualised care is provided to the women in the district particularly during labour, delivery and post natal care services.

#### **4.8 SUMMARY**

Chapter four presented and interpreted the study findings on the utilisation of MCH care services in the Balaka district of Malawi. The study limitations, conclusion and recommendations will be presented in chapter five.

## **CHAPTER 5: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 INTRODUCTION**

In this chapter the summary of the research findings and conclusions that are deduced from the study, limitations of the study and recommendations are discussed. The objectives of the study were:

- to determine the knowledge of mothers regarding maternal and child health care services in the Balaka district of Malawi;
- to identify factors that impact on the utilisation of maternal and child health care in the Balaka district of Malawi.

The objectives of the study were achieved through quantitative descriptive research, using a convenience sample of 100 mothers with at least one child under the age of five years, in four different health facilities in the Balaka district of Malawi. Data was collected by means of a structured questionnaire and was analysed using the Windows SPSS 16.0 programme.

### **5.2 SUMMARY OF FINDINGS**

The Andersen Model of Utilization of Health Care Services, as described in chapter 2, served as basis for the adapted model used in the study and for the summary of findings (Figure 2.2). For each of the three main characteristics, namely predisposing, enabling and need characteristics, the factors that revealed significant data are summarised, with cross references to the relevant information in previous chapters.

#### **5.2.1 Predisposing characteristics**

The factors under predisposing characteristics include age, marital status, educational level, occupation, religion, social roles, culture, personal attitudes towards health and health personnel as well as knowledge of illness (2.4)

- Demographic factors

The gender of all respondents was female, according to the inclusion criteria. It was found that the majority of women (81%) fall in the age range below 34 years (Table 4.2), which is within the child bearing age. It was, however, found that a large number of these respondents (47.6%) do not attend MCH care services regularly (Table 4.3).

Eighty five percent (85%) of the women who participated in the study were married, six percent separated, four percent (4%) cohabitant and only five percent (5%) never married (Table 4.10). All respondents had at least one child under five years of age, which means they have certain family responsibilities. Thirty percent (30%) of the women who participated in the study were not able to use the MCH care services regularly stating they were busy attending to other family matters. Eleven percent (11%) of the women reported that they had no one to look after their other children (refer to Figure 4.7).

- Social structure

According to Andersen (1995:2) and Gochman (1997:155), education, occupation and ethnicity (or culture), are regarded as factors used to assess the social structure of an individual in the society. These as well as religion are now discussed.

Most of the respondents had a low educational level. Nine percent (9%) had no formal education. The majority of women (65%) had primary school education and only 26% of the women had secondary school level education (Table 4.5). Of these twenty six percent, 60% use the MCH care services regularly. Of the 65% of the women who had primary school level of education (Table 4.5), 32.8% utilised the MCH care services regularly (Table 4.6). Tables 4.14 and 4.15 show that despite the low level of education, the majority of women (99%) were aware of the available MCH care services in their areas and 74% rated their knowledge of services from good to excellent. Therefore it can be assumed that awareness of the available MCH care services does not depend on the level of education of the women who made use of the health services.

Almost all (92.9%) of the respondents had meaningful religious beliefs of which 73% belong to Christianity. Of the latter, 63.9% did not use MCH care services regularly (Tables 4.7 and 4.8). Concerning cultural beliefs, 38% of the women believed in TBAs (Figure 4.1). It was found that the Balaka district is composed of mixed communities regarding tribes. Sixty four percent (64%) of respondents belonged to the three main tribes namely Chewa, Yawo and Lomwe (Table 4.9).

Fifty eight percent (58%) of the women were not employed while only 21% of the respondents were employed. Nineteen percent (19%) of the participants were farming on a small scale while 32% of the participants were doing local small scale business (Table 4.18). Unemployment is particularly high in the catchment areas of Balaka District Hospital (47.65%) and Chiyendausiku (47.83%) (Figures 4.4.and 4.5). Because occupation, income and cost of services are closely related, these will also be discussed in 5.2.2.

- Health beliefs

This refers to personal attitudes towards health and health personnel as well as the respondents' knowledge of illness and health services. Respondents provided information about their own health profile (Tables 4.12 and 4.13), and their attitude towards health was further determined by exploring their knowledge about and attendance of health services. Regular attendance of health facilities can be seen as a positive attitude towards health and in this study it is described by means of cross-tabulation, in relation to different factors such as age (Table 4.3), education (Table 4.6) and religion (Table 4.8). An irresponsible attitude towards health was portrayed by younger respondents who tend not to visit MCH care services regularly. More than fifty seven percent (57.9%) of women in the age range of 20 – 24 years did not use the MCH care services regularly, and only 33.3% of women between 25 to 29 years old utilised the MCH care services regularly (Table 4.3).

Sixty percent (60%) of the women who had a secondary school level of education used the MCH care services regularly (Table 4.6). In contrast to this, 66.7% of

uneducated and 67.2% of primary educated respondents did not use MCH care services regularly (Table 4.6). It was, however, also noted that irregular attendance of services does not necessarily refer to a negative attitude toward health. It was found that regular attendance of MCH care services was hindered by factors other than attitude, for example lack of income or the distance women have to travel to health facilities. These are discussed in 5.2.2. The study revealed that 38.06% of the participants believed in TBAs to assist women during child birth (Figure 4.1). This showed that a large group of women, particularly in the rural areas of Balaka district were still true to their cultural belief of being assisted by elderly women (the TBAs) during child birth. This is described as risky beliefs by Nankwanga (2001:77).

A long list of problems during pregnancy, labour and after pregnancy as well as the causes of these problems was mentioned in response to open-ended questions (Figure 4.7). Of the 58% of respondents who experienced problems, 19% reported malaria and 13% anaemia as the main problems. The two main causes of problems were malaria infections (25%) and poor nutrition (10%), (Tables 4.12 and 4.13).

### **5.2.2 Enabling characteristics**

The factors that were investigated include income, place of residence and community resources. The latter was investigated in terms of quality of health services (2.5.4).

- Income

The occupation and income status of a woman in Malawi influences how she utilises health care services. Women were able to pay for MCH care services and transport to the health care services if they have a source of income. The results of this study showed that the majority of women, 58% who participated in the study were not employed. Nineteen percent 19% were engaged in small scale business and 32% of the women were engaged in small scale farming, which did not guarantee a stable income (Table 4.18). Where women indicated that services were not at all affordable or barely affordable, the majority namely 87.5% and 47.6% respectively responded

that they do not use services regularly (Table 4.22). Twenty seven percent (27%) of the respondents did not have enough money for transport to go to MCH care services (Fig 4.7).

- Place of residence

Fifty seven percent (57%) of respondents lived in villages (Table 4.25). In total 35% lived more than 5km from available health services (Table 4.26). It was found that the cost of transport depends on the distance to travel (Table 4.2.7).

- Community resources

Resources address availability of services as well as the quality of services. The factors include availability, geographic accessibility, financial accessibility and comprehensiveness of services. The latter is demonstrated in the range of problems and services that women in the study mentioned. The majority of the participants (93%) stated that static MCH care services provided by government and non-governmental organisations are available in their areas in the Balaka district and six percent (6%) indicated that mobile services are available (4.3.1).

In this study it was found that the majority of the women, 65%, lived within 5km from the health facilities where the MCH health services were provided (Table 4.26). Despite the fact that the MCH facilities were located close to most of the women, the majority of the women (59%) did not use the MCH care services regularly (Table 4.26). The accessibility of MCH care services was rated from average to excellent by 84% of women (Table 4.30).

The operational hours of the MCH care services were acceptable for the women and most of them visit the facilities in the morning hours, mostly on Mondays and Tuesdays (4.5.4). A list of reasons for visits to health facilities was given by respondents. The reasons given by most women were under-five care services namely immunization (27%); assessment and screening (27.5 %); treatment for

malaria (52%) and anaemia (36 %) and antenatal services (24.5 %) (Figures 4.6.1 – 4.6.3 and Figures 4.9 – 4.11).

Nearly eighty five percent (84.6%) of regular users of MCH care services were satisfied with the services provided whilst 69.5% of non-regular users were not satisfied with services (Table 4.33). The reasons for not being satisfied with services were given as inadequate staff, 34.5%, and inadequate equipment, supplies and treatment, 30% (Figure 4.13). Negative staff attitudes and lack of confidentiality was also mentioned. The two ways in which needs were met mostly at MCH care services are assessment and screening, 44%, and health education 42.5% (Figure 4.12).

Women rated the quality of services offered at the different health facilities mostly as average or above average, with few respondents rating it as below average. There is no rating of below average at Chifundo Maternity Clinic (Table 4.35). This is in contrast with the information on problems experienced during pregnancy, labour and after pregnancy, which revealed conditions that could be prevented by high quality health services delivery (Tables 4.12 and 4.13).

### **5.2.3 Need characteristics**

The factors in this category include perceived needs and evaluated needs, which were discussed in Chapter 2 (2.6.1 and 2.6.2). Needs evaluated by health professionals were not explored in this study. Needs perceived by a person is represented by the subjective acknowledgement of problems or disease, by the patient.

Respondents in this study were able to identify their health problems and health needs. The problems during pregnancy, labour and before the birth as well as the causes of these problems were already discussed (5.2.1). Furthermore women gave reasons for visits to health facilities and these were discussed (5.2.1). Respondents were asked who encouraged them to utilize the health services and at all four health facilities, nurses, medical staff and health workers were listed, along with others such as friends, mothers, husbands, parents and even church leaders (Table 4.36). Most of

the women at Balaka District Hospital (63.1%) and Chiyendausiku (82.4%) indicated that their health needs are met. At Utale 2 Mission Health Centre 75% of women feel their health needs are not met (Table 4.32).

#### **5.2.4 Use of health services**

The last concept in the adapted Model for the Utilization of Health Services is the actual use of services. In this study, aspects of the use of services are described, as a derived from the categories described in 5.2.1 – 5.2.3. A brief summary follows:

According to the results of this study, the majority of the participants (93%) stated that static MCH care services provided by government and non-governmental organisations were available in their areas in the Balaka district where the study was conducted (Table 4.17). The results agreed with the findings by Malawi National Health Accounts (2001:11-12) that Malawi has a good network of health facilities belonging to the Ministry of Health and Population (MoHP) and non-governmental organisations. This shows that the ministry of health in conjunction with the non-governmental organisations ensures that the MCH services meet the health needs of mothers in the area. However, the study results revealed that the availability of maternal health care services at Utale 2 Mission Health Centre was very poor as compared to the maternal health services in the government health facilities (Table 4.34).

#### **5.2.5 Conclusion of findings**

The purpose and both objectives of the study were met. The Andersen's Behavioral Model of Health Care Utilization was adapted for this study. This framework guided the development of the questionnaire and the summary of the findings. Data was collected from a sample of a specific population who met the inclusion criteria namely mothers aged between 15 and 45 years who have at least one child younger than five years and who have attended at least one under-five clinic with their child/children during the period of January 2009 - March 2009. The respondents were able to give relevant data because of their first - hand experiences with the research topic.

The first objective, namely to determine the knowledge of mothers regarding maternal and child health care services in the Balaka district of Malawi was met by asking a range of questions on the nature of available services and rating of the quality of services at the four identified health facilities. The second objective, namely to identify factors that impact on the utilisation of maternal and child health care in the Balaka district of Malawi was met by data from a range of questions which included the affordability of MCH services, accessibility and utilisation of services as well as the need for MCH care services.

#### ***5.2.5.1 Knowledge of mothers***

The majority of women who participated in the study were aware of the MCH care services available in their areas, both static and mobile. They responded on the types of services rendered, the operational hours and they rated the service delivery of the specific facility they attended.

Women visited MCH care services in order to have access to antenatal care, labour services, postnatal care, family planning services, breast feeding advice and voluntary counselling services. Under-five care services such as assessment for child growth and development, immunisation and treatment for common problems such as malaria and anaemia were the common reasons for women to visit MCH care services in the health care facilities. The women who utilised MCH care services in the four health facilities were encouraged by health professionals and health workers to utilise the available health services

#### ***5.2.5.2 Factors impacting on the utilisation of MCH care services***

The respondents were asked whether they visit the health facilities regularly or not. This data was compared to a range of other data such as age, educational level, religion, affordability of services, and distance from home, how MCH services meet their needs, and respondents' satisfaction with services. This elicits information on the

factors that impact on the utilisation of MCH care. The majority of the women did not use the available MCH care services regularly. Women who did not use the MCH care services regularly were not satisfied with the health care services offered in their areas. The main reasons given were inadequate staff, equipment, supplies and treatment. More reasons given by the women for not utilising the MCH care services regularly were as follows: being busy attending to other family matters; did not have enough money to pay for transport in order to attend the MCH care services and not able to pay for MCH care services at private and mission health facilities.

Women between 30 to 34 years old were the group that utilised the MCH care services most regularly. Women younger than 25 years constitute a large portion that does not attend regularly. Against the expectation, respondents with no education or primary education were a large majority who actually utilise services regularly. Traditional beliefs have an impact on maternal utilisation of the health care services. The women in the rural areas of Balaka district trusted the TBA's more than the health workers at government and private health facilities.

### **5.3 LIMITATIONS OF THE STUDY**

Results could not be generalised to the study population since the final sample was selected through convenience sampling. This method was employed due to time as a limiting factor and logistical problems to contact possible participants in the Balaka district. Convenience sampling has the following limitations: participants were included in the sample merely because they happened to be in the right place at the right time when the data collection of the study was conducted. All members of the population did not have an equal chance of being selected; hence it was unlikely that the selected population had the correct proportions (Polit & Beck 2004:292).

The time to collect data was very limited because of logistic problems. The researcher resides in Scotland and had to arrange dates for data collection to the convenience of the four different health facilities and the research assistants.

The limited scope of this study did not allow for an exploration and verification of certain data. The adapted model that served as framework for the study, included under the need characteristics, the perceived needs and evaluated needs. Evaluated needs were not investigated. Furthermore the perceived needs, as reported by the respondents were not verified by reference to the patient records. Gathering data from health professionals and health workers could have generated useful information.

In retrospect, some of the items in the questionnaire could be more specific for example:

- Item 1.3.2 “Indicate the beliefs or cultural factors that are meaningful to you” should have been followed by an open question “Briefly explain the beliefs that are relevant to the health of yourself and your children under five years old”. This would have elicited valuable information.
- Item 6.1 “How would you rate the quality of services in your area?” it may be that respondents, as lay persons, were not able to judge the quality of health services in a broad way. A list of items could have been given to rate such as:
  - information from health personnel to understand your condition and treatment
  - respect shown by health personnel
  - availability of treatment
  - availability of staff etc.

## **5.4 RECOMMENDATIONS**

Recommendations based on the findings of the study for improving utilisation of maternal and child health care services in the Balaka district of Malawi are made in terms of the health authorities, service providers, service users and further research.

### **5.4.1 Health authorities**

- The ministry of health in Malawi should consider subsidising fees for MCH care services for women who attend MCH care services in the private and mission

health facilities, such as Chifundo Maternity and Utale 2 Mission Health Centre, which are located in the rural areas of the Balaka district where MCH care services are offered at a fee by the private health facilities only.

- The ministry of health in Malawi should collaborate with relevant ministries and communities to address poverty, especially in the catchment area of Balaka District Hospital and Chiyendausiku Health Centre.

#### **5.4.2 Service providers**

- The Balaka district health management team should consider developing strategies to improve and promote mobile MCH care services particularly in the rural areas of the Balaka district, to make services more accessible for women.
- Balaka district health management should consider conducting a needs assessment in order to determine what equipment, supplies and medications are needed according to the current maternal and child health needs particularly in the rural areas of the Balaka district.
- The Balaka district health management team should work together with the traditional births attendants in order to understand the challenges they experience as they participate in assisting women during child birth in the rural areas of Balaka.
- The Balaka district health office should consider conducting a survey on the extent of the problem of malaria and anaemia affecting women and under-five year old children in order to initiate practical preventive measures based on the guidelines stipulated by the national malaria control programme.
- The Balaka district health management should co-ordinate health education programmes in accordance with age and culture related target groups at the different health facilities.
- The Balaka district health management , in collaboration with the managers of health facilities should emphasise the important role of all categories of health professionals to improve the utilisation of MCH care services.

### **5.4.3 Service users**

- Women in the Balaka district need to be encouraged and empowered to improve their financial and social status, which might positively influence their utilisation of MCH care services.

### **5.4.4 Further research**

Research could be repeated on a larger scale in Malawi, focusing on the factors already identified in this study. A proportionate stratified random sampling method could be employed which is a probability sampling method that would allow generalisation of the findings. Both descriptive and inferential statistical procedures could be employed to analyse the data.

## **5.5 SUMMARY**

This chapter concluded the study titled 'Description of the utilisation of maternal and child health care services in the Balaka District of Malawi. A summary and conclusion of the research findings, limitations of the study and recommendations were described.

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# DESCRIPTION OF THE UTILISATION OF MATERNAL AND CHILD HEALTH CARE SERVICES IN BALAKA DISTRICT OF MALAWI.

Number of questionnaire: \_\_\_\_\_

## INTRODUCTION

The study focuses on how mothers with children younger than five years of age in the Balaka District of Malawi use health services. Therefore, through this study the researcher would like to determine the knowledge of mothers regarding maternal and child health (MCH) care services in Balaka district of Malawi in order to identify factors that impact on the utilization of MCH care in the Balaka District of Malawi.

The participation is voluntary, and as a participant to the study, you may withdraw at any stage. There will be no harm and the benefits will be to the future users of the services should the results be significant enough to change the services. You are requested to give permission to participate in this study. All information provided will be treated as confidential.

## 3 INSTRUCTIONS

- Do not write your name in this questionnaire
- Answer all questions
- Mark an **X** in the box corresponding to the answer chosen on each question or indicate your response in the space provided.
- Answer all questions as honestly and objectively as possible.

**SECTION 1:  
DEMOGRAPHIC DATA**

<b>S/NO</b>	<b>QUESTIONS</b>	<b>ANSWERS</b>			<b>OFFICE USE</b>
<b>1.1</b>	<b>AGE</b>				
	How old are you?	1	Below 20 years		<b>1</b>
		2	20 -24 years		
		3	25 – 29 years		
		4	30 – 34 years		
		5	35 – 39 years		
		6	Over 40 years		
<b>1.2</b>	<b>EDUCATION</b>				
	What level of education have you attained?	1	No education		<b>2</b>
		2	Non – formal education		
		3	Primary education		
		4	Secondary education		
		5	Tertiary education		
<b>1.3</b>	<b>SOCIO – CULTURAL</b>				
<b>1.3.1</b>	To what religion do you belong?	1	Christianity		<b>3</b>
		2	Islam		
		3	Traditional beliefs		
		4	Other (Please specify)		
		..... ..... .....			<b>4 - 32</b>
<b>1.3.2</b>	Indicate the beliefs or cultural factors that are meaningful to you.  <b>You may choose more than one.</b>	1	Religious beliefs		<b>33</b>
		2	Traditional beliefs		
		3	Traditional Birth Attendants (TBA)		
		4	Other (Please specify)		
		..... ..... ..... ..... ..... ..... ..... ..... ..... .....			<b>34 - 132</b>

**SECTION 1 (CONTINUED)**

<b>S/NO</b>	<b>QUESTION</b>	<b>ANSWERS</b>			<b>OFFICE USE</b>
<b>1.3.3</b>	To which tribe do you belong?	1	Chewa		<b>133</b>
		2	Yawo		
		3	Lomwe		
		4	Other (Please specify)		
		.....			
.....					
<b>1.3.4</b>	What is your present marital status?	1	Married		<b>153</b>
		2	Never married		
		3	Separated / Divorced		
		4	Cohabitation		
<b>1.3.5</b>	How many previous pregnancies have you had in total?	1	One		<b>154</b>
		2	Two		
		3	Three		
		4	Four		
		5	More than four (Please specify)		
		6	None		<b>155</b>
		.....			
.....					
<b>1.3.6</b>	How many live births have you had in total?	1	One		<b>156</b>
		2	Two		
		3	Three		
		4	Four		
		5	More than four ( Please specify)		
		6	None		
		.....			
.....					
<b>1.3.7</b>	Have you experienced any problems during pregnancy, labour, delivery or after pregnancy?	1	Yes		<b>158</b>
		2	No		
		If <b>YES</b> , go to questions 1.3.8 and 1.3.9 If <b>No</b> , skip questions 1.3.8 and 1.3.9			

SECTION 1 (CONTINUED)			
S/NO	QUESTION	ANSWERS	OFFICE USE
1.3.8	What are these problems?	..... ..... ..... .....	159 - 257
1.3.9	What causes these problems?	..... ..... ..... .....	258 – 357

SECTION 2: KNOWLEDGE ON THE AVAILABILITY OF MCH CARE SERVICES							
S/NO	QUESTION	ANSWERS				OFFICE USE	
2.1	Do you know the MCH care services that are available in your area?	1	Yes			358	
		2	No				
		If <b>Yes</b> , go to question 2.2 If <b>No</b> , skip question 2.2					
2.2	Are they static or mobile MCH services?	1	Static MCH services			359	
		2	Mobile MCH services				
2.3	How good is your knowledge of MCH care services?	Very poor	Poor	Good	Very good	Excellent	360
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	
		Please explain your answer:..... ..... ..... .....					361 – 560

SECTION 2 (CONTINUED)							
S/NO	QUESTION	ANSWER					OFFICE USE
2.4	How would you rate the availability of MCH care services?	Very poor	Poor	Good	Very good	Excellent	561
		1	2	3	4	5	
		Please explain your answer..... ..... ..... ..... .....					562 - 761

SECTION 3: ECONOMIC FACTORS ( AFFORDABILITY OF MCH CARE SERVICES)							
S/N	QUESTION	ANSWERS					OFFICE USE
3.1	What is your source of income?	1	Employed				762 -811
		2	Not employed				
		3	Farming (Please specify)				
		.....					
		4	Business (Please specify)				
		.....					
		5	Other (Please specify)				
		.....					

**SECTION 3 (CONTINUED)**

S/NO	QUESTION	ANSWER		OFFICE USE
3.2	Do you have to pay any fee for the MCH care services?	1	Yes	812
		2	No	
		If <b>yes</b> , go to question 3.3 If <b>No</b> , skip question 3.3 and go to question 3.4		
3.3	How much do you pay for each visit or service?	.....MK		813 -820
3.4	Can you afford to pay for the fee indicated in question 3.3?	1	Yes	821
		2	No	
		If <b>No</b> , please explain your answer: ..... ..... .....		822-919
3.5	In your own opinion, how affordable is MCH care services in your area?	1	Not at all affordable	920
		2	Barely affordable	
		3	Affordable	
		4	Comfortably affordable	
		5	Very affordable	
		Please explain your answer: ..... ..... ..... ..... ..... .....		921 – 1020
3.6	How would you rate the difficulty to find money to meet the cost of MCH care services?	1	Not at all difficult	1021
		2	Somewhat difficult	
		3	Difficult	
		4	Very difficult	
		5	Extremely difficult	
		Please explain your answer: ..... ..... .....		1022

**SECTION 4:  
ACCESSIBILITY AND UTILISATION OF MCH CARE SERVICES**

S/NO	QUESTION	ANSWERS			OFFICE USE
4.1	Where do you live?	1	Balaka District Town		1123
		2	Village in Balaka District		
4.2	How far is the MCH clinic or hospital from the place where you live?	1	Less than 1 km		1124
		2	More than 1 km, less than 5 km		
		3	More than 5km, less than 10 km		
		4	More than 10 km (please specify).		
			.....		1125 – 1126
4.3	How do you get to the clinic or hospital?	1	Walk		1127
		2	By bicycle		
		3	By personal car		
		4	By public transport		
		5	Other means (Please specify)		
			.....		1128 -1176
4.4	If you hire transport, how much do you pay?	.....MK			1177 – 1183
<b>If you make use of MCH services, answer questions 4.5 – 4.8; if you do not use MCH services, go directly to section 5.</b>					
4.5	How often do you make use of MCH services (such as antenatal clinics and under - five child immunisation) in your area?	1	Weekly		1184
		2	Every two weeks		
		3	Monthly		
		4	Every three months		
		5	Others (Please specify)		
			.....		1185 – 1214
4.6	If you are able to access the MCH services in your area, which days of the week are the services available?	1	Monday		1215
		2	Tuesday		
		3	Wednesday		
		4	Thursday		
		5	Friday		
		6	Other (Please specify)		
			.....		1216 -1223

SECTION 4 (CONTINUED)							
S/NO	QUESTIONS	ANSWERS					OFFICE USE
4.7	What time of the day are the MCH services offered in your area?	1	Morning				1224
		2	Afternoon				
		3	Evening				
		4	Night				
4.8	(a) Do you use the MCH services regularly?	1	Yes				1225
		2	No				
	(b) If your answer is No, please state the possible reasons why you are not making use of MCH services regularly.	1	I am not aware of MCH schedule visits				1226
		2	The MCH services are too expensive				
		3	Because of my cultural and religious beliefs				
		4	I think the MCH services are not necessary				
		5	I do not have enough money for transport				
		6	I have no one to live with my other children				
		7	I experience problems with MCH care services clinic personnel.				
		8	I am attending to other family matters				
		9	Other (Please specify)				
	.....						
	.....						
	.....						
4.9	How would you rate the accessibility of the MCH services in your area?	Very poor	Below average	Average	Above average	Excellent	1277
		1	2	3	4	5	
		Please explain your answer;					
.....							
.....							
.....							

**SECTION 5:  
NEED FOR MATERNAL AND CHILD HEALTH (MCH) SERVICES**

S/NO	QUESTIONS	ANSWERS		OFFICE USE
5.1	What are the common reasons why women visit MCH services?	1	Antenatal care services	1328
		2	Labour and delivery care services	
		3	Postnatal care services	
		4	Under five care services	
		5	Family planning services	
		6	Breast feeding and voluntary counseling services.	
		<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	1329 - 1428	
5.2	What are the common reasons why women take their under five children to the MCH clinics?	1	Assessment / Screening	1429
		2	Immunisation	
		3	Feeding supplements	
		4	Nutrition and breast feeding counseling	
		5	Treatment from disease such as malaria, anaemia	
		6	Other (Please specify)	
		<p>.....</p> <p>.....</p> <p>.....</p>	1430 - 1529	
5.3	What maternal problems do you face that makes you feel the need to visit health services?	1	Malaria in pregnancy	1530
		2	Anaemia in pregnancy	
		3	Hypertension related to pregnancy	
		4	HIV/AIDS in pregnant women	
		5	Other (please) specify	
		<p>.....</p> <p>.....</p> <p>.....</p>	1531 - 1630	

SECTION 5 (CONTINUED):					
S/NO	QUESTIONS	ANSWERS			OFFICE USE
5.4	Do you feel MCH services offered in your area meet your health needs?	1	Yes		1631
		2	No		
		If Yes go to question 5.5 If No skip question 5.5 and go directly to question 5.6			
5.5	In what ways are the services offered meeting your MCH needs?	1	Assessment / screening done to identify MCH problems		1632
		2	Health education provided to prevent MCH problems		
		3	Adequate equipment and supplies for labour and delivery services		
		4	Right treatment offered for the right MCH problems		
		5	Other (please specify)		
		..... ..... .....			1633 - 1732
5.6	Do you feel satisfied with the MCH services provided in your area?	1	Yes		1733
		2	No		
		If No go to question 5.6.1			
5.6.1	If you are not satisfied, what are the reasons?	1	Inadequate staff		1734
		2	Inadequate equipment, supplies and treatment		
		3	Staff's negative attitude towards clients		
		4	Lack of confidentiality by staff towards client's confidential information.		
		5	Other (Please specify)		
		..... ..... .....			1735 -1784

SECTION 5: (CONTINUED)							
S/NO	QUESTION	ANSWER					OFFICE USE
5.7	How satisfied are you with the MCH services?	Not at all satisfied	Somewhat satisfied	Mostly satisfied	Very satisfied	Extremely satisfied	1785
		1	2	3	4	5	
		.....					1786 - 1835
		.....					

SECTION 6: QUALITY OF MATERNAL AND CHILD HEALTH CARE SERVICES							
S/NO	QUESTIONS	ANSWER					OFFICE USE
6.1	How would you rate the quality of MCH services in your area?	Extremely poor	Below average	Average	Above average	Excellent	1836
		1	2	3	4	5	
		Please explain your answer ..... ..... .....					1837 - 1882
6.2	Were you encouraged to use the MCH services?	1	Yes			1883	
		2	No				
		(Option)					
6.3	Please write down all the persons who encouraged you to make use of MCH services.	1					1883
		2					
		3					
		4					
		5					
		6					

SECTION 6 (CONTINUED):							
S/NO	QUESTIONS	ANSWERS					OFFICE USE
	<b>Please indicate how much you agree or disagree with each of the following statements regarding MCH services provided in your area:</b>						
<b>6.4</b>		<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neither agree nor disagree</i>	<i>Agree</i>	<i>Strongly agree</i>	<b>1990 -1993</b>
<b>6.4.1</b>	Provides relevant and adequate information	1	2	3	4	5	
<b>6.4.2</b>	Provides comprehensive antenatal care	1	2	3	4	5	
<b>6.4.3</b>	Provides individualised labour, delivery and postnatal care	1	2	3	4	5	
<b>6.4.4</b>	Provides comprehensive under five clinic services	1	2	3	4	5	
<b>6.5</b>	Could you please outline any information about the MCH you would like to share?	..... ..... ..... .....					<b>1994 -2144</b>

**END OF QUESTIONNAIRE  
THANK YOU FOR YOUR PARTICIPATION.**