



**KAMUZU COLLEGE OF NURSING**

**DETERMINANTS OF PAEDIATRIC HEALTH SERVICES UTILIZATION AT  
DAEYANG LUKE HOSPITAL, LILONGWE - MALAWI**

**MSc (Child Health Nursing) Thesis**

**By**

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**(BSc. Nursing, UCM, Postgraduate Diploma in Child Nursing)**

**Submitted to the Faculty of Nursing in partial fulfillment of the requirements for  
the Degree of Master of Science (Child Health Nursing)**

**November, 2016**

### **Declaration**

I, **Ida Apatso Khombe**, hereby declare that the thesis “**Determinants of paediatric health services utilization at Daeyang Luke Hospital, Lilongwe - Malawi**” is my own work and has not been presented for any award anywhere else. Any sources that have been used in this thesis have been acknowledged, accordingly. I am solely responsible for all errors contained herein.

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**Date**

### **Certificate of Approval**

The undersigned approve that this thesis represents the student's own work and has not been presented anywhere else within Malawi, in Africa or outside Africa.

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## **Dedication**

I dedicate this work to my husband Moses and my three children Richard, Zaithwa and Tamanda Khombe for their love, support and perseverance during the time of my study. To my sisters, brothers and sisters in-law for the support rendered to my children during the time I was not available to them. God Bless You All.

I also dedicate this thesis to my late father and mother for their support and encouragement to excel in education. May their souls rest in peace.

## **Acknowledgement**

The completion of this thesis has been possible through the guidance and assistance from several individuals and organizations, either directly or indirectly.

First and foremost, I would like to take this opportunity to express my gratitude to God almighty for keeping me healthy during the period of study so that I was able to conduct this study.

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## Abstract

Health service utilization is crucial for the survival of under-five children. Under-utilization of health services is associated with increased number of deaths among under-five children. There was a decline in paediatric health services utilization by under-five children from Daeyang Luke Hospital (DLH) catchment area between the years 2011 and 2013. Therefore, this study was conducted to explore the determinants of utilization of paediatric health services at the hospital. Andersen model of health service utilization was used to guide the study. The study used a cross-sectional descriptive quantitative design for data collection and analysis. A semi-structured questionnaire was used to interview parents or guardians of under-five children. The results showed that 97 % (n=146) of parents and guardians had knowledge about the services that are offered at DLH, 98 % (n=147) had good health seeking behaviours in times of sickness of their under-five children, 70 % (n=105) were living within a distance of five kilometers from DLH and 80 percent of the respondents reported good waiting time at the hospital. However, the study also revealed inconsistency in utilization of paediatric services at DLH. Logistic regression analysis yielded significant results in marital status, religion, waiting time, distance, service delivery, bills and distance. Service delivery had almost five times likelihood of influencing service utilization (odds ratio 4.6). Just over half (53%) of parents or guardians could not afford to pay for the cost of care. Therefore, the results warrant the need to subsidize the cost of care to under-five children living within Daeyang catchment area, in order to enhance health service utilization.

**Key Words:** *Paediatric, health service utilization, Under-five children, determinants,*

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## **List of Acronyms and Abbreviations**

<b>CDC</b>	Center for Disease Control
<b>CHAM</b>	Christian Health Association of Malawi
<b>COMREC</b>	College of Medicine Research and Ethics Committee
<b>DLH</b>	Daeyang Luke Hospital
<b>EPI</b>	Expanded Programme on Immunization
<b>GDP</b>	Gross Domestic Product
<b>GoM</b>	Government of Malawi
<b>HIV</b>	Human Immunodeficiency Virus
<b>HMIS</b>	Health Management Information System
<b>HSSP</b>	Health Sector Strategic Plan
<b>HSU</b>	Health Service Utilization
<b>IMCI</b>	Integrated management of childhood illnesses
<b>MDGs</b>	Millennium Development Goals
<b>MoH</b>	Ministry of Health
<b>NSO</b>	National Statistical Office
<b>OPD</b>	Out-Patient Department
<b>PHSU</b>	Pediatric Health Service Utilization
<b>SDGs</b>	Sustainable Development Goals
<b>UN</b>	United Nations
<b>WHO</b>	World Health Organization

## **Definition of Terms**

**Child-** Any person aged from birth up to 18 years of age.

**Child mortality-** the number of deaths of all children in a specified area regardless of age expressed per thousand births

**Under-five children** - all children aged from birth to five years of age.

**Under-five mortality rate-** the number of deaths of children aged from birth up to five years expressed per thousand births

**Guardian** – an older person who takes care of another person whether related or not.

**Infant** - Any child aged from birth up to one year.

**Infant mortality rate** - the number of deaths of children from birth up to one year expressed per thousand births.

**Marital status** - A situation with regard to whether one is single or married.

**Millennium development goals** - The goals set by the United Nations to establish peace and a healthy global economy by focusing on reduction of poverty, children's health, empowerment of women and girls, sustainable environment, disease and enhancement of development by 2015.

**Neonatal mortality ratio** - The number of deaths of children within the first twenty-eight days of life expressed per thousand births.

**Parent** – One that begets or brings forth offspring.

**Sustainable development goals** – These are development goals set by United Nations which replaced millennium goals and these goals are aiming at transforming the nations into sustainable path targeting the people, the planet and prosperity of the nations by the year 2030.

**Health service utilization** - use of the existing modern health services in different health facilities by parents or guardians of under-five children whether it is for preventive or curative purpose.

**Waiting time** - time from entry into a health facility to time for treatment

# CHAPTER 1

## Introduction and Background

### 1.1 Introduction

Health Services Utilization (HSU) is critical for survival of sick children.

Underutilization of health services is associated with increased morbidity among under-five children (Namphande, 2015). In the year 2011, a total of 6.9 million children, worldwide, died before the age of five years (World Health Organization [WHO], 2014). Deaths of most of these children were from preventable illnesses and were aggravated by factors related to health service utilization. Therefore, there is need to enhance utilization of health services among under-five children.

Globally, HSU varies between the nations. There is good health service utilization among people in developed countries. In these countries, people are aware of available health services through media such as internet and phone-in doctor programmes. There is easy access and availability of health services in most health facilities. Furthermore, most people have attained good education which enables them to secure well-paying jobs. This eventually makes payment of hospital bills affordable (Tey & Lai, 2013).

Utilization of health services in most developing countries, including Sub-Saharan countries, remains low. Long distance to health facilities, economic problems, health beliefs and health worker attitudes are some of the contributing factors (Diaz et al. 2013; Kaunda, 2010; Sharkey, Chopra, Jackson, Winch & Minkovitz 2011). Underutilization of health services is worse in rural than urban areas (Bonfrer, Van de Poel, Grimm & van Doorslaer 2012) and mostly the option is use of traditional medication which delays seeking modern health services (Towns, Eyi & van Andel, 2014). Eventually, the illnesses among under-five children complicate leading to increased morbidity and mortality among them. Sub-Saharan Africa contributes seventy percent of children deaths yearly, Worldwide (WHO, 2014).

Malawi as a developing country is equally affected in terms of service utilization. Primary Health Care (PHC) level is the most utilized entity by health care consumers including children for both preventive and curative services. Parents living in communities that are far

from health facilities usually tend to delay and underutilize health services at health facility (Kaunda, 2010). This result in increased morbidity and mortality among under-five children and mostly those that die succumb to preventable illnesses (Namphande, 2015). Common medical conditions affecting children in Malawi, which are also the leading causes of deaths among these children are: pneumonia, malaria, diarrheal diseases, neonatal causes and malnutrition (NSO & ICF Macro, 2011).

In Malawi, several studies related to utilization of health services were done but mostly focused on reproductive health services like family planning, perinatal services, antenatal services and medical care in general. Kanthiti (2007) conducted a study on adolescent utilization of family planning services. She found that confidentiality, privacy, knowledge of reproductive health and family planning services, convenient opening hours and peer involvement influenced adolescents to utilize the services at the health facility. Kaunda (2010) conducted a study on utilization of skilled attendance for maternal health care services in Northern Malawi. Results of Kaunda's study found that distance to the health facility played a major influence of the maternal service utilization. The study also observed that good socioeconomic status was linked to more utilization of the antenatal and family planning services. Kumbani, Bjune, Chirwa, Malata and Odland (2013) investigated on why women do not utilize labour and delivery services at the hospital and it was observed that service providers' attitudes at the health facilities and inaccessibility of the services especially in the rainy season and at night were some of the reasons. However, there are limited research studies that have been done on service utilization among under-five children.

In Malawi, under-utilization of health services among under-five children contributes to poor health indicators (Namphande, 2015). In the year 2012, Malawi registered under-five mortality rate of 71 deaths per 1000 live births (WHO, 2015) as compared to under-five mortality rate of 112 deaths per 1000 births in the year 2010 (NSO & ICF Macro, 2011). In 2015, under-five mortality rate was at 64 deaths per 1000 births (NSO & ICF International, 2016). Although there has been an improvement in mortality from when the country adopted the Millennium Development Goals (MDGs) in the year 2000, mortality rates are still high. Extra efforts are needed in order to meet the global target of 25 deaths per 1000 births by the year

2030, which is one of the sustainable development goals -SDG (United Nations, 2015). Therefore, there is need to enhance prompt utilization of pediatric health services in order to help in the reduction of mortality rates among under-five children.

## **1.2 Background**

Utilization of health services is done to cure illnesses, prevent or delay future health problems, reduce pain and increase quality of life; and to obtain information about health status including prognosis (Centre for Disease Control [CDC], 2003).

In western and developed countries, mostly utilization of health services is influenced by the cost of care. People therefore seek affordable health care services. That is why issues of health insurance have determined the type and quality of care to be sought by individuals including children (CDC, 2003). In the United States of America, people without health insurance quite often made visits to emergency departments, since they could not afford to pay for routine health services. This challenge was overcome by the introduction of Obama health care insurance in 2010. The insurance started operating in January 2014, to cater for people who previously would not afford health care (Obama Care Organization, 2010). Furthermore, growing population, better preventive services, guidelines on utilization of the services and consumer preferences have all affected utilization of health care in America.

In South Africa, the current health care system still uses health care insurance obtained by individuals. People of good socioeconomic status afford health care insurance whereas the people of low socioeconomic status mostly do not afford health insurance. People who can afford to pay health care insurance have a choice on where to get health services. Those who cannot afford health care insurance usually access health services in public sector where there is subsidized cost of care. However, most of these people are limited in accessing other services such as dialysis. It is believed that about one billion people were not able to access and utilize health services in the year 2011 (Harris, et al. 2011). Currently, South Africa is driving towards achieving equal health care through the introduction of National Health Insurance plan. It is envisaged that this will improve the utilization of health services, including paediatric health services among all populations in South Africa.

Studies done in other African countries such as Kenya and Ethiopia, have found that there is marginalization in the distribution of health care services with the rural areas having fewer services than desired as compared to urban areas. Distance to health facilities and cost of care, directly through direct payment of services and indirectly through transport costs, hindered most of the people from utilizing health services. People have resorted to seek traditional health services, which have in the end complicated their illnesses (Turin, 2010; Girma, Jira & Girma, 2007). In these studies, although people perceived the need for modern health care, they could not access them and in the end opted for traditional medical services. Furthermore, there were higher numbers of people seeking care in public health care facilities as compared to private sector due to the cost of care.

Malawi is one of the 79 countries with under-five mortality rates above 25 deaths per 1000 births (WHO, 2015). Currently the country has under-five mortality rate of 64 deaths per 1000 live births (NSO & ICF International, 2016). While neighbouring countries of Zambia had 88.5, Zimbabwe 89.8, Mozambique 89.7 and Tanzania 54 under-five deaths per 1000 births during the same period (WHO, 2015). However, if under-five children in Malawi were utilizing health services very well, mortality among them would have also decreased. Reduction in mortality rates among under-five children is one of the target of the Sustainable Development Goal which plans to reduce under-five deaths to 25 per 1000 births by the year 2030 (United Nations, 2015). A study by Namphande (2015) at Zomba central hospital paediatric ward found that there were increased numbers of children dying from pneumonia due to delay in reporting to the health facility. This justifies the reason that there is underutilization of paediatric health services among children and this has resulted in poor health outcomes. Therefore, results of this study would help to inform stakeholders in providing some strategies to improve paediatric health service utilization as a way of reducing mortality among children.

### **1.3 Paediatric Service Utilization at Daeyang Luke Hospital**

Daeyang Luke Hospital (DLH), is situated in Lilongwe, Malawi, and serves a catchment population of about forty thousand and fifty (40, 050) people, of which 3,009 are under-five children (DLH HMIS, 2013). The hospital is a member of Christian Health Association of Malawi (CHAM) and offers both primary and secondary level of health care services to both

adults and children. Paediatric services offered includes out-patient services for sick children, the under-five well baby clinic, paediatric ART clinic and in-patient services for the children requiring hospitalization. The hospital also offers specialized type of services such as ultrasound scanning, computed tomography scanning, dialysis and laboratory services. It has in-patient services for both adults and children with the paediatric ward having a bed capacity of 25. The ward had a bed turnover rate of 87 percent and 71.5 percent in 2012 and 2013, respectively. The ward on average had 30 percent bed occupancy rate.

Paediatric health service utilization has been good in Anti-retroviral therapy and under-five clinics. DLH statistics shows that ART clinic attendance by under-five children rose by almost ten times more from 2010 to 2011 (from 7 to 67 HIV exposed children) and subsequently, over two times more from 2011 to 2012 and these figures remained the same in 2013 (DLH, 2013). The under-five well baby clinic attendance had an average annual increase of about 3 percent from 2010 to 2013 (DLH, 2013).

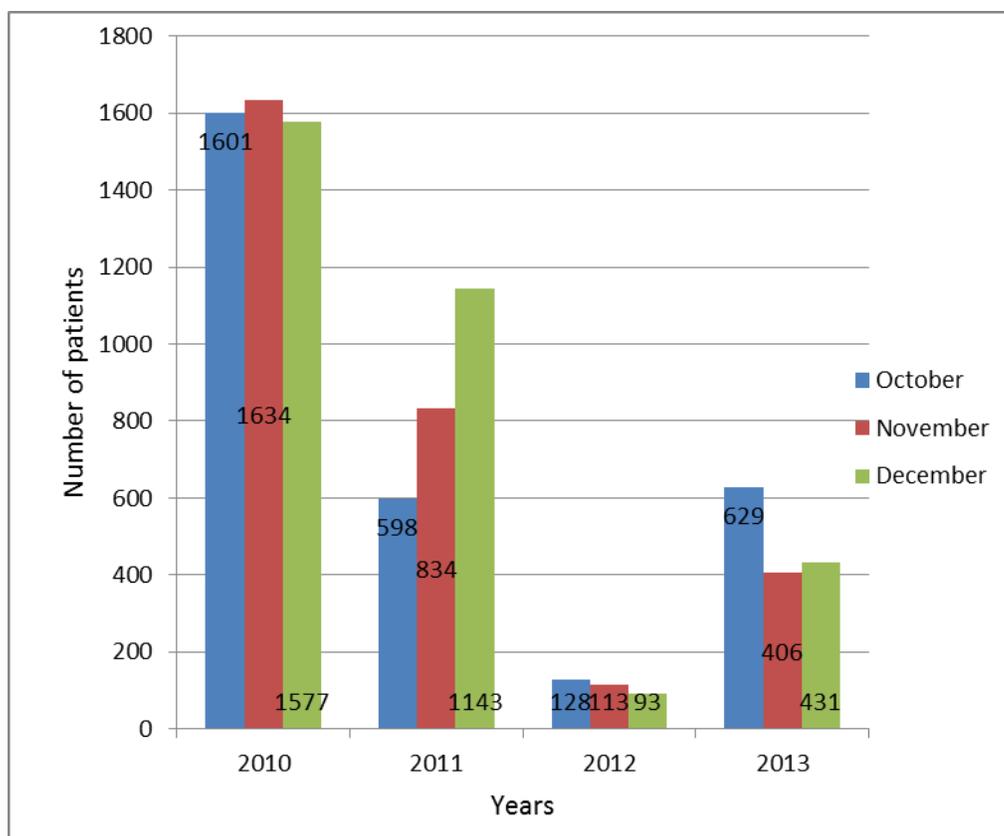
Health services at the hospital were offered at reasonable costs. For example, registration fee at out-patient department is at K100.00, microscopy test for malaria is at K150 while malaria antibody test is at K850. Doctor consultation at the out-patient department is K100 and accommodation for in-patient children is around K200.per night (DLH, 2013). However, alternative private health care service providers within the DLH catchment area such as Kampala Private Clinic offers minimum charge of K2000 for every consultation and injectable while Blessings hospital offers consultation fee of K2000 for a general practitioner and K3000 for specialist consultation, and that is excluding diagnostic tests and drugs. This showed that paediatric services at DLH were relatively cheaper as compared to alternative health facilities in the surrounding area.

Daeyang Luke Hospital is accessible to its catchment population in terms of distance from the villages to the health facility. Therefore, this would attract a lot of under-five children from the catchment area to utilize paediatric services. Besides existence of other paying health facilities in the surrounding area, there were also government health facilities offering free services to people. These could be option for health care services. However, these facilities are located far from the villages with approximate distance of more than 10 kilometers. Hence there

were indirect costs incurred by communities in terms of transport costs if people from the catchment area opted to seek the services at those health facilities which include Area 25 and Lumbadzi Health Centres. Despite the proximity of Daeyang Hospital and relatively better hospital charges, there had been a decrease in number of children utilizing other paediatric services at the hospital. Statistics at the hospital indicated a total of 2193 pediatric admissions in the year 2012 (DLH, 2012) and 1789 in 2013 (DLH, 2013). This represents 19 percent decrease in the utilization of in-patient pediatric service. Out-patient attendance for the children has also been decreasing at the hospital. The existing data showed a decrease of paediatric attendance in the peak months of October, November and December (Figure 1).

This represents an average of 46 percent decrease in the out-patient service utilization in these months. Of the total under-five children, who attended Out-patient department at the hospital in the year 2013, only 28 percent were from the hospital's catchment area (DLH, 2013). In the preceding years 2011 and 2012, data from the hospital showed that 52 percent and 42 percent of under-five children from the hospital's catchment area sought paediatric services at the hospital's out-patient department, respectively. This shows an annual average decrease of 8 percent in out-patient attendance of under-five children from the hospital's catchment area for a period of three years.

Most studies on utilization of health services in Malawi focused on general medicine and reproductive health services while others studies isolated adolescents only but not being specific to under-five children. There is limited literature related to utilization of paediatric services in Malawi, hence the need to explore possible determinants to utilization of paediatric services at the hospital.



*Figure 1: Out-patient attendance at DLH*

#### **1.4 Problem Statement**

There has been a decrease in the number of children seeking health services at Daeyang Luke Hospital between 2011 and 2013. Hospital statistics showed an average annual decrease of 8 percent in out-patient attendance by under-five children from the hospital’s catchment area, in these years. The decline was also observed even during the peak months of October, November and December the period when most under-five children seeks health care services, with illnesses such as Malaria. It is projected that if only at least 50 percent of under-five children utilized paediatric services well at the hospital, it would help in reducing mortality within the hospital’s catchment area. DLH registered 16 and 25 deaths of under-five children in 2014 and 2015, respectively. It is a well-known fact that deaths of under-five children within the catchment area also contribute to high national under-five mortality rate which is currently at 64 deaths per 1000 births (NSO & ICF International, 2016). There was no study that was done within Daeyang Luke catchment area to establish the cause of decline in service utilization at

the hospital. Such causes might have included improved health status of under-five through immunization and use of insecticide treated nets for Malaria prevention and use of other health facilities outside the catchment area. Therefore, this study was done in order to explore possible factors that determine utilization of paediatric services at the hospital.

### **1.5 Justification for the Study**

Health service utilization is very crucial for the survival of sick children. However, statistics at DLH indicates a decrease in number of paediatric admissions and out-patient paediatric attendance and this implies that there might be underutilization of paediatric services provided by the hospital. Therefore, it is important to determine the factors affecting paediatric service utilization at the hospital. The results of the study would help identify factors related to service delivery at the hospital. This again would help to inform management of the hospital and Lilongwe District Health Office in areas that requires improvement on the aspects of child health, and thus improve service utilization. The results of the study would also contribute to the body of knowledge on paediatric service utilization and areas for further study.

### **1.6 Study Objectives**

The main objective of this study was to explore factors that determine utilization of paediatric health services at DLH by parents or guardians of under-five children.

The specific objectives were three-fold:

- i. To assess knowledge of parents or guardians on paediatric health services offered at Daeyang Luke hospital.
- ii. To determine health seeking behaviours of parents or guardians of under-five children procuring services in the facility's catchment area.
- iii. To assess predisposing, enabling and need factors that influence utilization of paediatric services.

## **CHAPTER 2**

### **Literature Review**

#### **2.1 Introduction**

Literature review focuses on empirical evidence, derived from research and general theoretical knowledge. This provides the researcher with information and understanding on what has already been done related to the specific area of study (Burns & Groove, 2009). Literature review for this study included articles and studies on: health care delivery system in Malawi, socio-demographic determinants of service utilization, knowledge of paediatric health care services, health care seeking behaviors, income and health care utilization and demand for health care. Related literature was searched from data bases such as Google Scholar, Cumulative Index of Nursing and Allied Health Literature (CINAHL) via Ebsco–host and PubMed. Some of the search terms that were used were: knowledge and paediatric health service utilization; demographics and service utilization and determinants of health service utilization. Health care delivery system for Malawi was also part of literature that was reviewed. Some information was also accessed from Kamuzu College of Nursing (KCN) Library from both published and unpublished studies of former KCN students. The literature review was guided by Andersen 1968 Model of Health Care Service Utilization (Figure 2). Articles and studies within ten years scope were searched and were prioritized unless very important information related to health services utilization was retrieved from articles and studies done beyond ten years. These articles and studies were read, analyzed, evaluated and summarized. This chapter discusses literature that was reviewed.

#### **2.2 Overview of Andersen Model of Health Service Utilization**

Andersen 1968 Model of Health Care Utilization shows three interrelated factors which influence health care service utilization. The model describes predisposing factors, enabling factors and need based factors as the factors influencing health service utilization (Figure 2).

##### **2.2.1 Predisposing Factors**

Predisposing factors are socio cultural characteristics of individuals that exist prior to their illness (University of Manitoba, n.d.). These include demographics such as age, gender, marital status; health beliefs and social structure (University of Manitoba, n.d.).

### 2.2.2 Enabling Factors

Enabling factors are factors that logistically enable a person to obtain health care services (University of Manitoba, n.d.). These factors include family and community resources.

### 2.2.3 Need Based Factors

The need for health care can be determined by an individual person or family (perceived need) or by the hospital/ clinical staff (clinically evaluated need). Perceived need describe attributes in the person that prompts the person to seek health service and how often to seek the health services. These attributes include perception of illness-in terms of type of illness, intensity of illness and episodes for that illness. On the other hand, clinically evaluated need is when the clinical staff makes a judgment on the person's health status and decide the type and amount of care) to be rendered to a person.

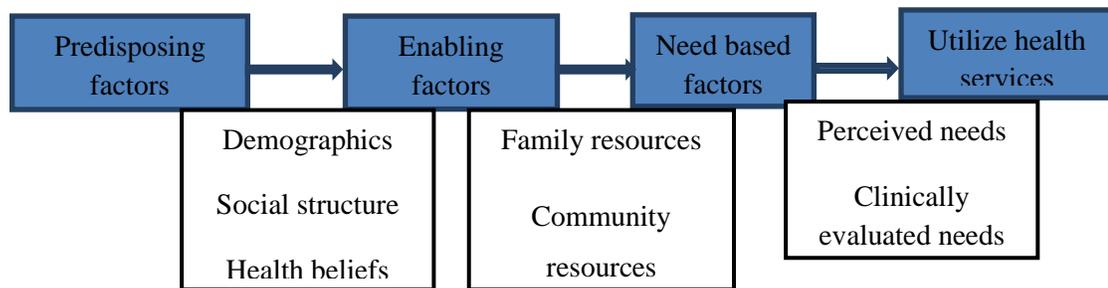


Figure 2: Andersen Model of Health Service Utilization

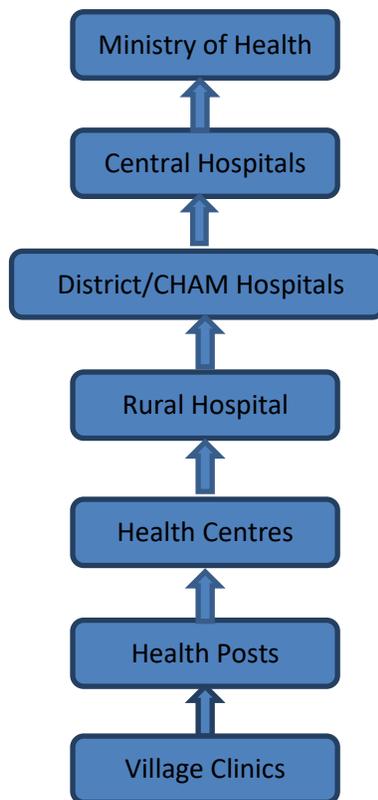
### 2.2.4 Adaptation of the Model

The model has been adapted in such a way that predisposing factors include demographic characteristics, knowledge of services, beliefs and values and social structure such as occupation and culture with emphasis on family decision maker. Enabling factors include income, distance to health facility and facility attributes like service availability and accessibility, health worker attitudes, waiting time and service delivery. For Need factors, only perceived needs have been considered. Clinically evaluated need was not included because it meant observing and interviewing health workers.

## 2.3 Health Care Organization and Delivery System in Malawi

### 2.3.1 Introduction

Health care delivery system is a mechanism of providing services that meet the health related needs of individuals (White, 2001). Health care delivery system in Malawi is categorized into primary, secondary and tertiary levels of health care. The referral system starts at the lower primary level up to tertiary level. The health care delivery system is organized in such a way that Ministry of Health is the overseer of all issues related to health care in Malawi (Figure 3).



*Figure 3: Healthcare Organization in Malawi*

Health care services in Malawi are mainly provided by the Government's public health care facilities, just like many African countries like Kenya and Nigeria. The public health sector provides 63 percent of the total health care in Malawi. CHAM health facilities rank second in provision of health care services providing at least 35% and 2% from private clinics and hospitals. The Ministry of Health provides salary for health workers in CHAM facilities (Seed Global Health Organization, 2015). Most of health services offered to consumers in the public

sector are paid for by government of Malawi through the Ministry of Health. These services are commonly called free services since the consumers do not pay directly for the services. However, within the government facilities, especially at tertiary levels, there are both paying and non-paying pathways of health service delivery and consumers have options for either pathway depending on choice and income.

Government of Malawi through the Ministry of Health strives to have health care services within 8 kilometers radius to ensure increased accessibility to health care services by its population (MOH, 2011). However, there is still a discrepancy in distribution of health services in Malawi as some facilities are still further from consumers and some services are not available at other health care facilities. A survey by Ustrup et al. (2014) on potential barriers to health services for under-five children with cough and fever in Malawi revealed that access to health facilities by poor rural facilities was impeded by long travel time and higher costs of care. These made the families least sought health care from trained personnel. Eventually there was minimal or delayed access and utilization of paediatric health services.

### **2.3.2 Primary Health Care level**

Primary health care is the first level of entry into the health care delivery system. The goals of care at this level of service delivery are to promote wellness and decrease the risk of disease and disability to individual clients and the community prevention (MOH, 2011).

At this level of health care delivery system, there is Essential Health Package (EHP) which includes services like under-five screening, immunization, nutrition counselling and supplementation, Routine vitamin A supplementation, deworming and treatment of Malaria and other minor ailments. These services are mostly offered at village health clinics, health posts and health centers (Figure 3). Health service utilization at primary level health care facility is meant for people living within the catchment areas of the health facility. Allocation of resources by the Government to health facilities at this level is therefore, based on the number of people living in the hospital's catchment area. However, a tendency of by-passing primary health facilities is observed in Malawi for both adult and paediatric services. This could be attributed to lack of resources such as diagnostic facilities, drugs, poor services and lack of skilled health workers. A study by Kahabuka, Kyale, Moland and Hinderaker (2011) which explored on

reasons for by-passing primary health care facilities for child care in rural Tanzania, confirms this. In another study, Mkutumula (2015) investigated on experiences of caregivers of severely ill under-five children referred from rural health facilities to a referral hospital in Lilongwe, Malawi. Mkutumula found that negative health worker attitudes at primary health care facilities, was an obstacle to utilizing child health services at this level of care. The negative attitudes led to inadequate assessment of sick children and delayed their referral to next level of care. The participants in her study also lacked trust in the health care personnel. Similarly, in a study by Opwora, Laving, Nyabola and Olenja (2011) on perspectives of caregivers on barriers to accessing healthcare for the under-fives in Butere District, Western Kenya, it was also found that parents of under-five children cited bad attitude of health workers as one of the reasons they would not utilize services at primary health care facilities. This may result in care givers of under-five children to avoid utilizing health services at the facility or not to return if their children's condition worsened. This practice may lead to increased morbidity and mortality among the under-five children. Furthermore, bypassing primary health care facilities leads to congestion of patients at the referral hospitals hence may compromise quality of care. Some tertiary hospitals like Kamuzu Central Hospital introduced a by-pass fee of K2,500 in July, 2015 as a mechanism of controlling the number of people bypassing primary health care facilities (Kamuzu Central Hospital, 2015).

### **2.3.3 Secondary Health Care level**

Secondary health care level focuses on diagnosis and treatment of illnesses. Health care facilities at this level of health care include rural hospitals, district hospitals and most CHAM hospitals (Figure 3). Services offered at this level include antenatal services, labour and delivery, care of the newborn, admission and treatment for Malaria and other ailments, conducting uncomplicated caesarean section and minor surgeries. Diagnostic investigations are also done at this level of care. For example, ultrasound scanning, x-rays, blood investigations like full blood count. Health service utilization at this level is meant for people living within the catchment areas for the health facility and those that have referred from primary care level (Seed Global Health Organization, 2015).

### **2.3.4 Tertiary Health Care level**

Tertiary health care level offers advanced and specialized care to patients. This care is designated in central hospitals and other private hospitals (Figure 3). In Malawi, there are four government health facilities offering tertiary services. These are: Kamuzu, Mzuzu, Zomba and Queen Elizabeth Central Hospitals. Mwaiwathu Private Hospital and Seventh Day Adventist Hospital are the only two private hospitals offering tertiary health care services. Usually patients admitted to public health facilities at this level of care have been referred from secondary level health facilities for advanced care which is not available at secondary level. Some of the patients may also have medical or surgical conditions with complications that have arisen from untreated illnesses or illnesses that have not responded well to treatment or delayed treatment. Patients who utilize health services at private health facilities offering tertiary health care services mostly are able to pay for the services and usually by-pass primary care facilities. This is because at this level of care, facilities have specialized health care personnel who include medical specialists, surgeons, paediatric specialists. There are also specialized diagnostic investigations at this level of health care such as Magnetic Resonance Imaging (MRI) and Computed Tomography (CT) scanning.

## **2.4 Predisposing factors**

Literature reviewed on predisposing factors included demographic characteristics, knowledge of health services, beliefs and health seeking behaviours.

### **2.4.1 Socio- Demographic Determinants of Health Service Utilization**

Literature review in this section aimed at identifying socio-demographic characteristics that are associated with health service utilization.

Most studies related to paediatric health service utilization found that age of mothers who mostly are care givers of under-five children, affect health service utilization. Age of mother is associated with understanding of health care issues perception and decision to seek health care for their children. A study done by Ajibade et al. (2013) on determinants of mothers' health seeking behaviour for their children in a Nigerian teaching hospital found that mothers between 35-40 years brought their children to hospital immediately they noticed the children were sick. On the contrary, mothers below 26 years of age tried other relieving modalities and thus delayed

reporting to health facilities with their children. Delay in reporting to hospital results in increased morbidity and mortality among under-five children. Similarly, in another study on diarrhoea prevalence in children under five years of age in rural Burundi it was found that there was an association between age of care giver of a child and prevalence of diarrhea to the under-five children. In homes with caregivers aged below 25 years, under-five children suffered from diarrhea quite more often than in homes with care givers who were above 40 years of age (Diouf, Tabatabai, Rudolph & Marx, 2014).

These studies were done in African countries which face similar health problems. In Jordan, age of mother was highly correlated with fever management whereby older mothers surpassed younger mothers in fever management (Abu-Baker, Gharaibeh, Al-Zoubi, Savage & Gharaibeh, 2012). Fever is a common symptom in most childhood illnesses hence prompt management is very crucial to avoid complications such as convulsions which damage the brain in under-five children (Kazembe, Phillips & Nelson, 2015). Marital status is also crucial to health service utilization. Most married people seek health care services quite more often than those not married. A study by Namphande (2015) on determinants of high case fatality of under-five children suffering from pneumonia at Zomba Central Hospital in Malawi found that majority of participants in her study were married and that they sought care more often than the participants who were not married. Similarly, studies by Kassile, Lokina, Mujnja and Mmbando (2014), Awoke (2013), Mukiira (2012), Kong (2010), Liu, Zhang, Lu, Kwon and Quan (2007) and Al-Nahedh (2004) also found that majority of the participants in their studies were married and that they sought appropriate health care for their children. Health seeking among married couples possibly could come from an advantage of collective decision making and resource mobilization for accessing healthcare services which prevails in married couples. Carsson, Martinsson, Qin and Sutter (2012) support this through their study in rural China. The study found that majority of participants in their study had collective decision making on most aspects of life which would also affect the decision to utilize health services.

Literature shows that education is associated with health related attitudes (NSO & ICF MACRO, 2011). A study by Mahejabin, Parveen and Ibrahim (2014) on mothers or care givers' health seeking behavior during childhood illness in an urban slum of Dhaka city

revealed that mothers who were more educated sought health care services more often than mothers with little education. In a study by Carsson et al. (2012) on the influence of spouses on household decision making under risk in rural China, education of an individual influenced collective decision made by couples whereby if mothers had good education, the final decision made inclined very much to the individual mother's decision. Another study by Pokhrel and Sauerborn (2004) in Nepal, found that family decisions were mainly made by the household head but in households with more educated mothers, there was an influence of these mothers on the decision to seek health care. Therefore, education has to be enhanced in females to improve their decision making. Similarly, in the Jordan study by Abu-Baker et al. (2012), education also had a positive correlation with knowledge and practices of fever in under-five children. Because mostly women are care givers of under-five children and need to make proper decisions, there is need to enhance education among women population in order to improve decision making related to under-five children's health, However, most studies in Sub-Saharan Africa including Malawi, indicate that majority of the participants were primary school drop outs. This is supported by Oyekale (2015) and Kapungwe (2005). This is in line with findings of Malawi Demographic and Health Survey of 2010 and 2015 which also found that almost half of the women, who mostly are the care givers of under-five children, were primary school drop outs (NSO & ICF Macro, 2011; NSO & ICF International, 2016). This shows that decision to seek health care for their children would also be affected negatively due to poor reasoning and decision making. On the contrary, a study by Galanis et al. (2013) found that majority in their study on public health services knowledge and utilization among immigrants in Greece had high school and college levels of education. This supports the fact that education level is better in Western countries than developing countries. This would improve health care decision making which subsequently would very likely improve health care outcomes for children in western countries.

#### **2.4.2 Knowledge of Danger Signs in children and Health Service; and Health Service Utilization**

This section reviews literature on the association between knowledge about signs and symptoms of a particular illness and knowledge about availability of particular health services and utilization of that particular health service. Knowledge of signs and symptoms of childhood

illnesses is very important because this is what persuades care givers of under-five children to seek health care (Nwala, Ebunoha & Ugwu, 2013). A cross sectional study, which sought to explore on knowledge, attitudes and practices of mothers on symptoms and signs of illnesses included in Integrated Management of Childhood Illnesses (IMCI) strategy, by Juma (2010) in Dar es Salaam, Tanzania supports this. The study found that majority of the mothers had knowledge about the symptoms like unable to breast feed, diarrhea and fever and even recognized danger signs such as difficulty in breathing and convulsions. On a positive note, mothers of under-five children in the study sought health care immediately. This suggests that mothers are prompt in managing under-five children. A study by Oyekale (2015) on assessment of Malawian mothers' Malaria knowledge, healthcare preferences and timeliness of seeking fever treatments for children under five, found that 84 percent of mothers in his study reported having knowledge of fever as a symptom of Malaria. Therefore, mothers sought biomedical health care when their sick children presented with fever more than when the children had chills. This shows that mothers mostly were very knowledgeable of fever as a symptom of Malaria but lacked knowledge of other symptoms like chills, hence they would delay formal treatment if the children presented with symptoms of Malaria which mothers could not recognize. This eventually would complicate the illness and ending up with severe Malaria or increased deaths from Malaria. In Mkutumula (2015) study, it was found that care givers of under-five children were able to recognize danger signs in their children and immediately reported or returned to health facility and were very willing accepting to be referred to tertiary hospital. Likewise, in a study by Musoke, Boynton, Butler and Musoke (2014) on health seeking behaviour and challenges in utilizing health facilities in Wakiso district, Uganda, it was also found that majority of the participants had knowledge about existence of health services in their area and 65 percent sought health care from health facilities when they were sick. The participants, who mostly were mothers, influence family decisions including decision to seek health care services for their under-five children. If decision makers do not support prompt modern health care seeking, the children would be delayed or would not at all access care, hence increase the likelihood of prolonged suffering from illnesses as well as mortality which would have been prevented.

Contrary to findings by Mkutumula (2015) and Musoke et al. (2014), a study by Ferdous et al. (2014) in rural Bangladesh, found that only 29 percent of participants were able to recognize signs and symptoms of Pneumonia. Knowledge on the symptoms came from their previous experience in the same disease condition meaning that mothers who faced a new childhood illness, would not be able to identify its symptoms and therefore not take proper actions to address the condition. Furthermore, the study also revealed low health seeking behavior in that even those who knew about symptoms of Pneumonia brought their children late to the hospital when they developed danger signs.

In another study by Chibwana, Mathanga, Chinkhumba and Campbell (2009) in Mwanza-Neno District in Malawi, it was found that majority of mothers knew that fever was one of the symptoms of Malaria. However, the mothers lacked knowledge of the causes of fever in under-five children and they associated it with some maternal reproductive system problems. This led to mismanagement of the conditions that presented with fever and most of the mothers did home management of fever by employing measures which would not address the cause of fever. Such measures included bathing the child in cold water and taking the child to traditional healer. Misdiagnosis and mismanagement of a condition delays proper treatment and eventually results in unfavourable health outcomes in under-five children. With adequate knowledge on the symptoms of the illnesses, the mothers would be able to make informed decision of promptly seeking health care for their children to avoid fatal consequences to the children. Similarly, a study by Kinung'hi et al. (2010) on knowledge, attitudes and practices about malaria among non- epidemic and epidemic communities of Muleba District in North-western Tanzania, found that majority of participants had knowledge related to Malaria but minimally practiced measures to reduce the risk of the infection like use of mosquito nets. This suggests that under-five children were at risk of Malaria epidemic in that District of the country. In another study by Abu-Baker et al. (2012) in Jordan, mothers with higher incomes in their households had more knowledge related to management of Upper Respiratory Tract Infections (URTI) unlike other infections like diarrhea. This is good in overcoming URIs which are commonest infections among under-five children and the leading causes of under-five mortality. However, this leaves out the other important symptoms in common childhood illnesses not being promptly addressed by them.

### **2.4.3 Health Seeking Behaviours**

Seeking formal health care for under-five children is a positive step in reducing morbidity and mortality among them. This section presents literature related to health seeking behaviours of caregivers. Caregivers are decision makers for under-five children including the decision to seek health care services for them. If care for under-five children is sought in good time, morbidity and mortality among these children would decrease (WHO, 2015). Health seeking behaviours are a result of beliefs and values attached to illnesses since they are known to influence health care utilization (Shellenberger et al. 2007) and also from factors such as distance to the health facility which has been discussed under enabling factors. Some studies report higher rates of health care seeking than others.

A study by Diaz et al. (2013) on healthcare seeking for diarrhea, malaria and pneumonia among children in four poor rural districts in Sierra Leone found that majority of the participants were seeking modern health care for their children when health care services were declared free for all in the districts that were studied. Thus they appreciated the need to seek health care services in the absence of other obstacles like money to pay for the services. Similarly, high rate of seeking modern health care services was reported in a study by Mahejabin, Parveen and Ibrahim (2014). Likewise, a study by Kinung'hi et al. (2010) in Tanzania also found that majority of participants in their study sought health care from formal health care facilities. Seeking health care in times of child sickness is a positive development towards decreasing deaths among under-five children. Ashorn (2003) study on child health seeking in Mangochi, Malawi, found decreased number of deaths among children whose mothers sought hospital care immediately unlike children whose mothers combined both traditional and hospital treatment. Similarly, Najnin, Bennett and Luby (2011) in Bangladesh found that there was good health care seeking among caregivers in urban Dhaka with about 59 percent seeking modern health care services. It was observed that this area had less under-five deaths than the overall national under-five deaths for the country. Hence good health seeking behaviours have to be encouraged among people to enhance health service utilization.

The need to seek health care services is also based on perceived severity of illness and benefits of seeking health care. While literature reveals good health care seeking practices in some countries and regions, there are still some areas with poor health seeking behaviours

among its population. Although there were two good paediatric hospitals that were built in Dhaka area in Bangladesh, there was still 41 percent of the participants which sought other care when their children were sick (Najnin, Bennett & Luby, 2011) showing that people have their own instincts about modern health care service utilization which would be perception of doubt or no benefits from modern health care services. Similarly, a study by Chibwana et al. (2009) on socio-cultural predictors of health-seeking behaviour for febrile under-five children in Mwanza-Neno District, Malawi, found that participants, who perceived fever as being caused by unnatural factors, sought traditional medicine first and did not link it to malaria which is the commonest cause of fever among under-five children in Malawi. Likewise, a study done by Salah, Adam and Malik (2007), on care-seeking behavior for fever in children under five years in an urban area in eastern Sudan, found that majority of mothers who perceived that their children had high fever, reported to the hospital as opposed to when they perceived the fever to be low, whereby they opted for self-investigations and self-treatment. This suggests that every symptom in a child is a sign of illness and if mothers do not really know the classification of fever, they would delay in reporting to the hospital when in fact the children needed immediate care.

In Edo State in Nigeria, a study by Aigbokhaode, Isah and Isara (2015) on health seeking behaviour among caregivers of under-five children, found that generally there was poor care seeking among caregivers of under-five children as majority's first choice for care was home followed by chemist shop and health facility came third as a preferred entity for health care service. Furthermore, one of the reasons for not seeking care was that they perceived the condition of child not serious to warrant them visit to hospital. In another study by Thandar, Kyaw, Jimba and Yasuoka (2015), poor health seeking was observed among mothers of under-five children in rural Myanmar. Similarly, in Ethiopia, the 2011 demographic health survey found low formal health care seeking among Ethiopian population whereby only a third of care takers sought formal health care services for common childhood illnesses (Gebretsadik, Worku & Berhane, 2015). This is a missed opportunity for early diagnosis of childhood illnesses which delays appropriate care. Likewise, a study on healthcare seeking behaviour for common infectious diseases in rural Kenya which aimed at finding out health care sought for acute episodes of diarrhea or fever and Pneumonia, found that majority of participants, almost 90

percent sought appropriate care for their children only when they had pneumonia and not for other illnesses (Burton et al. 2011). This means that caregivers were more concerned with this illness than others and perceived the need to seek care for pneumonia more than other illnesses. Diarrhea and fever are equally important in under-five children and is also one of the priority illnesses in Integrated Disease Surveillance Responses (IDSR) in Malawi. In Kenya, a study by Abubakar et al. (2013) also found that mothers of children would seek health care for their children when they perceived the illness to be from natural causes and opted for traditional medicine if the illnesses presented with mental symptoms like anxiety or hallucinations and when the condition did not improve. Parents were thus unaware of clinical manifestation of complicated illnesses in under-five children. For example, severe Malaria presents with convulsions or confusion (Kazembe, Phillips & Nelson, 2015). In another study, Noordam, Carvajal-Velez, Sharkey, Young and Cals (2013) examined care seeking behaviour for children with suspected pneumonia in countries in Sub-Saharan Africa with high pneumonia mortality and found that there were higher mortality rates in countries which did not seek appropriate health care for their children with pneumonia than in countries in which care givers sought appropriate care.

In conclusion, these studies gave an insight into health seeking behavior because individuals, parents or guardians or caregivers' decision to seek health care services is linked to under-five children health care utilization because they (as adults) are decision makers for under-five children and their health seeking behaviours are therefore directly linked to under-five children health care seeking and health care utilization. If parents or guardians opted for other treatment modalities, they would cause delay in seeking health care at the hospital and this delay increases mortality among under-five children. Most of the studies in this literature review were done in Sub-Saharan African countries or in developing countries in Asia. These countries face similar economic and health problems and therefore the literature was relevant to this study because Malawi is within the Sub-Saharan region. Furthermore, sharing the same ordeals, these countries could benchmark from each other on aspects, which a particular country from these regions is doing well, and therefore help each other in improving the health status of their nations.

## **2.5 Enabling factors**

Literature reveals that distance to the health facility, availability and quality of health services, health worker attitudes and money to pay for services decide where and how often to seek health services (Kanthiti, 2007; Kaunda, 2010; Ustrup et al. 2014).

### **2.5.1 Distance to Health facility and Health Care Utilization**

Literature shows that people including parents or guardians of under-five children seek health care at health facilities, which are conveniently located in terms of distance. This dates back to a study by Abernathy and Schrems (1971) on distance and health services in Stanford, England in which they found that there were many visits to health facilities that were closer to the residents as compared to facilities far but within the same locality. Similarly, Awoyemi, Obayelu and Opaluwa (2011) study in Nigeria which sought to find out the effect of distance on utilization of health care services in rural Kogi State, found that there were many visits to health facilities that were closer to participants with a distance of zero to four (0-4) kilometers having most participants both for government and private health care facilities. Similar findings were reported in studies in Yemen and Kenya (Al-Tair, Clark, Longenecker & Whitty, 2010; Feikin et al. 2009). The study in Yemen revealed under-utilization of vaccination services due to long distance. Vaccination is the preventive service that helps to reduce morbidity and mortality among under-five children and depriving these children of this service puts them at risk of preventable and treatable illnesses such as pneumonia and measles. The more distance to health facility, the less frequent visits to the facility.

Even in countries where people have medical insurance, distance has an influence on utilization of health services. A study by Venkatesh and Metri (2011) in India, which was aimed at assessing for negative correlation between frequency of insured in-patient visits to specialist clinics and patient's geographical distance, found that distance negatively affected utilization of health care services as participants infrequently visited health facilities which were far from them. Sharkey et al. (2011) in South Africa also found that mothers were not seeking health services for their children in facilities that were far from them, despite being covered by health insurance.

In conclusion, most literature point to the fact that distance affect health service utilization whereby the more distance to be travelled to the health facility, the less the people would utilize health services at the facility. Thus access indirectly contributes to the morbidity and mortality because of delay or not even visiting the hospital due to distance and also because of indirect costs that may be incurred as people travel to the facilities that are far from them.

### **2.5.2 Quality, availability of Health Services, waiting time and consumer satisfaction**

People can seek health care only when they are aware that service exists as reported by Nwala, Ebunoha and Ugwu (2013). To concur with this, Musoke et al. (2014) also found that participants in their study would seek services outside their area of residence because health care services were not available in their areas of residence. In the same vein, Mkutumula (2015) also reported of absence of health services at health centres on some days of the week and during some periods of the day hence forcing parents to seek care elsewhere. This increased the distance to be travelled in order to access services and eventually delayed care which could lead to complications in under-five children.

Quality of care can be compromised because of shortage of staff to run the services properly or material resources not being available. This is very common in most public health facilities and often leads to inadequate assessment of sick children (Kahabuka et al. 2011). Addressing these issues, therefore, would enable caregivers to seek health services for their under-five children.

Although easy access and availability of health services enables people to seek health services for under-five children, Kahabuka et al. (2011) argued that quality of care matters because in their study they found that people opted to visit facilities that were further located from them and even choosing paying health services in facilities further from them, if they were assured of quality health services. This was one of the reasons for bypassing primary health care facilities by participants in their study. The same applies to under-five children in Malawi in that most parents bypass health centers and opt for health services at pediatric department of tertiary hospitals such as Kamuzu Central Hospital in Lilongwe because they are assured of proper diagnostic test and drugs which enhance recovery from illnesses. Equal access and

quality health care services must therefore be realized among under-five children in line with Malawi Health Equity Network's aim of ensuring equity in health services (Banda et al. 2006). This is hoped to improve health services among vulnerable groups like under-five children and eventually reduce morbidity.

Waiting time is another determinant of health service utilization at a health facility. Most public hospitals are congested and therefore have more waiting time and poor quality services due to lack of resources like drugs, supplies and low staffing levels. A study by Kahabuka et al. (2011) supports this when they found that people would by-pass primary care facilities for these reasons. Similarly, a study on assessment of quality of care for children in eighteen randomly selected district and sub district hospitals in Bangladesh, found that there was poor quality of care in these hospitals with no essential drugs for pediatric care and no triage system for paediatrics (Hoque et al. 2012). Poor quality health services may lead to dissatisfaction among consumers and hence hinder subsequent utilization of health services. Furthermore, no triage among under-five children may lead to missed emergency medical conditions and hence fatal health outcomes within the health care delivery system.

In a study by Oche and Adamu (2013) which was aimed at exploring determinants of patient waiting time at one of tertiary health institutions in North-west Nigeria, found that 61 percent of participants in their study had long waiting time between 60 to 180 minutes before being attended to but only spent five minutes in the consultation rooms. In this study, long waiting time was attributed to lack of adequate resources like staff and many patients queue for few doctors and thus waiting for too long. Long waiting time leads to dissatisfaction among the consumers of health care services and therefore may not utilize the services subsequently This is supported by Umar, Oche and Umar (2011) whose study on patient waiting time was also done in Nigeria and Sharkey et al. (2011) in South Africa. Long waiting time also delays diagnosis and treatment of under-five illnesses, which contribute to morbidity and mortality among under-five children.

### **2.5.3 Income and Health Care Utilization**

Income and financial resources are strong determinants for seeking care for under-five children as they influence decision about the type of health services and health facilities for

health care services (Ajibade et al. 2013). There is increased health service utilization at health facilities which offered services for free (Awoke, 2013; Diaz et al. 2013). Findings in other studies concur with this (Girma, Jira & Girma, 2007; Quan et al. 2006; Shaikh & Hatcher, 2004; Zyaambo, Siziya & Fylkesnes, 2012). In these studies, it was found that majority of participants sought health care services from public hospitals because they were offered for free. In the same vein, Musoke, et al. (2014) additionally found that participants in their study would seek services from health facilities outside the communities they lived because their counterparts offered these services either for free or relatively cheaper. In another study by Najnin, Bennett and Luby (2011) in Bangladesh it was found that majority, 80 percent, of the richest sought care from trained health care providers. This is because they are able to pay for cost of care and even for transport expenses if these providers were located far within or outside the areas of residence. This leaves out the poor who are unable to pay for the services to have other treatment options like just buying inadequate drugs from shops or not doing anything to the sick children which complicates the illness. In a study by Aigbokhaode, Isah and Isara (2015) it was found that being unable to pay for cost of care was one of the reasons for not seeking modern health care among the 49 percent of participants who did not seek modern health care services. Similar findings were also reported by Mbagaya, Odhiambo and Oniang'o (2005). If participants had enough income, this would not be a barrier to seeking care for their children. Whereas if parents of under-five children do not have money for health care, they may need to travel far to public health care facilities or else wait to source money for health care costs. This may lead to delay in seeking health care and therefore increase the likelihood of mortality and morbidity among under-five children. Making health services free made consumers utilize services whenever sick, which reduced risk of complications among them. Conversely, pay- for services attract few consumers to utilize the services, supporting the fact that income decides the type and where to seek health care.

In Malawi, Kavinya (2013) reported that majority Malawians were not able to pay for health services. This shows that Malawians have a thin economic base to cater for essentials like health care. This is also supported by Oyekale (2015) study in Malawi whereby he found that participants had to sell some of the assets, borrow money and utilize part of regular and irregular income, in order to pay for health services. Furthermore, that is why participants

preferred public over private health facilities of which although free in terms of direct costs of care, transportation costs and travelling time were a set-back to utilizing health services for under-five children.

In summary, most of literature reviewed showed that income had a big impact on health service utilization in that people can choose the types of services and where to seek them. The economically challenged mainly seek health care from public government hospitals because they are mostly free in most Sub-Saharan countries like Malawi, Kenya and Uganda or the services for under-five children are covered for by the government, as is the case with Jordan. In order to achieve equality in health services utilization, nations should therefore seek to ensure universal coverage for all so that even the economically challenged equally utilize health services and therefore reduce morbidity among under-five children in all nations.

## **2.6 Need factors**

This sub section presents literature related to need factors that influence health service utilization. These include demand for health care which is based on individual self- reports, health status indicators and geographical variation.

### **2.6.1 Demand for Healthcare**

Demand for health care in the society is based on individual self-reports about their health status at a particular time, health status indicators and geographical variations (Anderson, 2008). Demand for health care falls under both predisposing and need based factors in Anderson model of health service utilization. It is a predisposing factor because the size of population in a particular country and area (demographics), would determine the amount of health care resources to be allocated to such area. It is a need because people may demand health care based on self- reports and government's analysis of health indicators in that particular area. For example, in Malawi, when people's demand for Antiretroviral drugs increased, the GoM scaled up Antiretroviral therapy so that the eligibility criteria has been revised to enroll as much people as possible including under-five children (MOH, 2014). Under the new criteria, all confirmed HIV positive adults and children aged 5 years and below are eligible for ART regardless of their CD4 count and clinical staging. This promotes low viral load among the HIV positive children and prevents mother to child transmission (PMTCT) of

HIV, in case of HIV positive pregnant mothers. Subsequently, these reduce the likelihood of opportunistic infections such as Pneumonia which are responsible for high disease burden among under-five children (MOH, 2014).

However, increased demand and utilization for health services may lead to other challenges like increased workload on health care workers which eventually would affect quality of health services being rendered. This is supported by Makombe et al. (2007) who found that there was increased demand for ARVs in Malawi once they scaled up health facilities which offered the service. With many people accessing ART services, there was increased workload on health care workers.

This, therefore, is the reason that Malawi public health sector service delivery system has proper demarcation of levels of health care services offered at different level of care, in order to ensure that quality care is provided, especially at levels two and three by decreasing the workload among health workers at these levels of service delivery. As such ART services are now offered at primary health care level unless patients have complications that need referral to tertiary health facilities.

Similarly, in their study in Jimma Zone, South West Ethiopia, Girma, Jira and Girma (2007) found that people would also seek health services depending on their perception of illness. Majority of those who acknowledged illness being present in them, sought care from health facilities. Thus they demanded health care based on their perception of the illnesses.

### **2.6.2 Self-reports**

Individuals may report poor or good health status, subjectively and may demand health care based on self-reports of their health status (Anderson, 2008). A study which was done in Iraq depended on reports of episodes of diarrhea, which a particular soldier encountered in order to establish the epidemiology of self-reported diarrhea in operation Iraq freedom and enduring freedom among soldiers who were deployed to Iraq. In this study, it was reported that every soldier had at least one episode of diarrhea. After the soldiers assessed themselves that they had diarrhea they saw the need to demand health care and therefore they reported to responsible people within the camp (Sanders et al. 2004). Without this information, treatment for diarrhea

would not be instituted. Thus self-reports are reliable in assessing individual health status and evaluating demand for health care. Similar findings were also reported by Watson et al. (2014) who investigated on validity of home safety questionnaire in terms of safety practices that are followed by the parents of under-five children when faced with some home injuries like poisoning, falls and scalds and compared with what was actually observed in the homes in terms of the safety practices. The study found that there was a great consistency between what was asked in the questionnaires and what was observed in terms of safety. This consistency in verbal information and actual observation made it possible to believe self-reported information regarding individual health.

Poor self-rated health drives people to seek health care services (McNamara, Normand, Brendan Whelan & Kennedy, 2013). This is good in paediatric health care service utilization in that mostly mothers of under-five children are the ones who bring children to hospital whenever sick and report health status of their children. The outcome of illness depends on mothers' recognition of signs and symptoms of the illness and reporting them to relevant health care personnel.

### **2.6.3 Health status Indicators**

Health status indicators include mortality, morbidity, disability, perceptions and social wellbeing (Anderson, 2008). In Malawi there is a high disease burden and mortality rates in children. The high disease burden is evident by high bed turn-over rate of 71.5 percent in paediatric ward at DLH (DLH, 2013). High mortality rate is evident by under-five mortality rate of 64 deaths per 1000 Live births in Malawi in 2015 (NSO & ICF International, 2015) from 71 deaths per 1000 live births in 2012 and infant mortality rate of 46 deaths per 1000 births (WHO, 2012). Causes of mortality in under-five children in Malawi are pneumonia, diarrhea, HIV and AIDS, malaria, prematurity and birth asphyxia (WHO, 2012). Pneumonia accounts for 25 percent of all under-five pediatric admissions in Malawi (Zimba et al. 2012) and is responsible for the average 4.6 percent death rate on all paediatric admissions in central hospitals of Malawi (Namphande, 2015).

Government of Malawi (GoM) through the Ministry of health, planned to combat child morbidity and mortality through several programmes. For example, Acute Respiratory Infection

(ARI) programme reduced deaths due to pneumonia from 35 to 40 percent (WHO, 2015), Expanded Programme of Immunization; deworming; malaria control through distribution and use of insecticide- treated mosquito nets; isoniazid preventive therapy during pregnancy and management of malaria for children; vitamin A supplementation; HIV and AIDS; promotion of exclusive breastfeeding for the first 6 months and effective management of childhood diarrhea (AHO & WHO, 2014).

Some of the contributing factors to morbidity and mortality rates among under-five children in Malawi are delay in seeking health service (Namphande, 2015). In her study, Namphande found that most of children who died were the ones who had delayed in reporting to the hospital. Hence the need to emphasize on early reporting to the hospital and increasing awareness on signs and symptoms of illness as Namphande recommended. However, even if parents or guardians are aware of danger signs in their children and perceive the need to report to the hospital, they would still underutilize the services if these services were not accessible. Kaunda (2010) and Kumbani et al. (2013) jointly concur with this in their studies on utilization of maternal services in which mothers underutilized antenatal services and labour and delivery services because of poor access to health facilities.

However, building of more health facilities by GoM is one of the efforts to increase accessibility of health care services, yet there are still some areas where universal access to health care services has not been fully realized. For example, Balaka, Chitipa and Kasungu where people live at a radius of over 8 kilometers from a health care facility (MOH, 2011) and in areas where there are CHAM health institutions which are pay for non-profit health facilities. Government of Malawi introduced service level agreement with its CHAM partners including Daeyang Luke Hospital. In their memorandum of understanding, the Ministry of Health subsidizes most of health care services so that pregnant women and neonates utilize health services from CHAM health facilities for free. However, this only covered neonates as a category of children, leaving out the rest of under-five children. If parents or guardians of under-five children cannot afford to pay, eventually there is underutilization of services which is associated with mortality and morbidity.

Geographic regions also affect health status and therefore health care demand. Some regions experience high prevalence of some illnesses than others. Therefore, there is a higher demand for services related to that particular illness than would be in another geographical location. For example, Malnutrition is quite high in the Southern followed by Central then Northern region of Malawi being the last. Malaria is quite higher in Lakeshore areas since the swamps found in these areas provide breeding sites for mosquitoes which are responsible for Malaria. Similarly, a study by Islam, Jothi, Islam and Obidul Huq (2014) in Bangladesh revealed higher percentage of malnutrition in rural as compared to urban areas within the same Tangail District. This comes from disparities in income between the rural and urban areas. Majority parents in urban afford to buy food for their children. The parents also have easy access to health related messages which equips the urban population with knowledge on nutrition and other healthy habits. Hence prevents the under-five children from nutrition related illnesses and other preventable illnesses.

### **Summary of Literature Review**

Literature has revealed that socio-demographic factors, health seeking behaviours, perceived need for health care services and facility factors affect health service utilization. The literature gave insights as to what extent these factors influence health care utilization in different countries and regions both in Sub-Saharan Africa and in Malawi. Therefore, this study would assist in generating information on determinants of health service utilization specifically from villages within Daeyang Luke Hospital catchment area.

## **CHAPTER 3**

### **Methodology**

#### **3.1 Introduction**

A methodological research approach is a framework that binds research together so that research questions can be analyzed effectively (Edmunson & McManus, 2007). Identification of a suitable research method is important because it makes the collection of data easier and gives a clear idea about the required information (Trochim & Donnelly, 2006). This chapter gives a detailed exposition of data and methodological approach that has been followed to answer primary and secondary research questions.

#### **3.2 Study Design**

This study used a cross-sectional design employing quantitative methodology for data collection and analysis to explore factors that determine utilization of paediatric health services among parents or guardians of under-five children.

#### **3.3 Research Study Setting**

The study was conducted in the catchment area for Daeyang Luke Hospital in June, 2015. The catchment area for the hospital includes the following villages: Liwera, Mlezi, Malikha, Khongo, Namangwe, Katola, Chimwasongwe, Mwadenje, Kalulu, Njera, Dothi, Maenje and Kangwanda. There were 40,050 people in the hospital's catchment area in 2013 and of these 3009 were under-five children. The hospital's catchment area was chosen because it is the area that surrounds Daeyang Luke Hospital and therefore it was expected that people coming from these areas mostly utilize health services at this hospital.

#### **3.4 Study Population**

All parents or guardians of under-five children, living in the hospital catchment area, formed the study population. However, among them, there were characteristics in the parents or guardians which had to be considered to suit the objectives of the study and these formed the inclusion and exclusion criteria.

### **3.4.1 Inclusion Criteria**

The following characteristics of the parents or guardians, living in the hospital's catchment area, were the inclusion criteria:

1. Parents or guardians of under-five children living in DLH catchment area for a minimum of three months.
2. Parents or guardians who had under-five children in their homes, whether biologically or through adoption.
3. Parents or guardians of under-five children who were able to speak Chichewa fluently.
4. Parents or guardians who were willing voluntarily to participate in the research study.

### **3.4.2 Exclusion Criteria**

The exclusion criteria for the study participants were as follows:

1. Parents or guardians who do not have under-five children in their homes whether biologically or through adoption.
2. Parents or guardians of under- five children who have stayed in the area for less than three months.
3. Parents or guardians of under-five children who were unable to speak Chichewa fluently.
4. Parents or guardians who were not willing to participate in the research study.
5. Children were automatically excluded for issues of accent and consent.

### **3.5 Period of Study**

The whole research process was done from January, 2014 to March, 2016 (Appendix 9).

### **3.6 Sampling and Sample size Determination**

Sampling is the process of selecting representative units of a population for study (Lobiondo-Wood & Harber, 2010). Random sampling was done from the population of parents

or guardians living in DLH's catchment area. It was estimated that 50 percent of parents or guardians in the hospital's catchment area had knowledge of paediatric services offered at DLH and therefore would be expected to utilize the services. This was the proportion of the population of the parents or guardians that was used to calculate the sample size. 50% was used in calculating the sample size because 50% gives a maximum sample size. However, prior to data collection the counting of total number of under-five children in the catchment area yielded 3009 as total under-five children in the area. The targeted population was the number of households with under-five children and it was 1532.

The desired level of precision was set at 8 percent which was the average rate of decline in OPD attendance by under-five children from the hospital's catchment area. The desired confidence level was set at 95 percent. The calculated sample size was 150. Random sampling was done to select participants into the study. Households with under-five children were listed down and each parent was assigned a unique number. These numbers were written on individual pieces of paper and folded into small pieces that would fit a box for raffle draw. The small pieces of paper bearing a unique number were put in box and mixed up by shaking the box. Randomly, papers were picked from the box until 150, which was the calculated sample size, was reached and matched against the names that were listed previously. The names that matched with the numbers picked from the box were the ones selected for interviews. A parent or guardian, male or female, available at the time of interview, was the one asked to participate in the study.

### 3.7 Sample size

Sample size was calculated using Cochran (Israel, 2013). The equation is as follows:

$$n = \frac{Z^2 pq}{e^2}$$

Where: n is the sample size, Z is the desired confidence interval. In this study, it had been set at 95 percent giving a Z value of 1.96. P is the proportion of the population that has been used to calculate the sample size. In this study, it was estimated that 50 percent of the parents or guardians of the under-five children would have the knowledge of pediatric services offered at DLH and expected to bring their under-five children. Therefore, p was 0.5 while q is

1-p and e is the desired level of precision which in this case is 8% which translates to 0.08. Therefore, the calculation for the sample was according to the following equation:

$$n = (1.96)^2 \times [50\% \times (1-50\%)] / 0.08^2$$

$$n = 3.8416 \times [0.5 \times (1-0.5)] / 0.0064$$

$$n = 3.8416 \times (0.5 \times 0.5) / 0.0064$$

$$n = 3.8416 \times 0.25 / 0.0064$$

$$n = 0.9604 / 0.0064$$

$$n = 150.0625$$

Because n = number of people which would not be in a fraction, the figure was therefore rounded to a total of 150 parents or guardians of under-five children.

### **3.8 Data collection**

#### **3.8.1 Data collection tool**

Data was collected using a semi-structured questionnaire (Appendix 5), in June, 2015. The questionnaire was based on Andersen model of health service utilization, which contained predisposing factors, enabling factors and perceived need factors that influence health service utilization. The tool had been developed from standard questions contained in Malawi Demographic and Health survey of 2010 (NSO and ICF MACRO 2011). The dependent variable in this study was health service utilization while independent variables were: demographic information such as the age, marital status and number of children, knowledge of the pediatric services; socio-economic factors like income, family resources, community resources and support; and perceived need for health care.

The questionnaire was developed in English and then translated to Chichewa. Chichewa is the local language spoken fluently by most people in Lilongwe and the entire Central region of Malawi where the study setting was located.

### **3.8.2 Data collection method**

The researcher visited villages and sought permission from the village headmen to conduct the study. Listing of households with under-five children was done. Each household had unique number linked to a name. The papers bearing household number were put in a box and mixed up by shaking and then randomly picked until the desired sample size of 150 was reached. These selected households were listed for interviews. Then the researcher went to selected households, introduced herself to the families and the purpose for the visit, which was data collection. After obtaining consent from the participants, questions were asked orally to the participants and responses were recorded manually on the questionnaires using a pen. Verification of responses that were not clear was being done also immediately by asking participants to explain further and clarify specific responses. Soon after each interview which was lasting about 30 minutes, the filled questionnaires were reviewed for completeness and kept in cartons ready for analysis. All 150 participants selected into the study responded to the questions representing 100 percent response rate. In this catchment area, parents or guardians turned up very good and very willingly participated in the research.

### **3.8.3 Validity of the Data collection tool**

Validity is defined as the degree to which the instrument measures what it is intended to measure (Polit & Beck, 2008). In this study, the researcher used a semi-structured questionnaire. The tool was valid because most of the questions contained in it were standard questions that are also contained in Malawi Demographic and Health Survey of 2010 and hence adapted to this research. The tool was also guided by Andersen Model of health service utilization and the constructs contained in the tool such as demographic characteristics and community resources were also captured in the questionnaire. Andersen model has been utilized in several studies hence it was valid to adapt the construct to questionnaire of this research study. Content validity was achieved by checking that questionnaires contained the same questions, there were no grammatical errors and that the questionnaires addressed all the objectives of study (Suttleworth, 2015). The questionnaires were also pre-tested on ten parents of under-five children who were randomly selected in three villages of the catchment area, Njera, Dothi and Maenje. The responses that the participants gave answered the questions contained in the tool. Mostly the

changes that were made on the questionnaires were on errors in grammar. Therefore questionnaires were valid.

### **3.8.4 Reliability**

Reliability is defined as the degree of consistency and dependability with which an instrument measures the attribute for which it is designed to measure (Polit & Beck, 2008). In order to ensure reliability of the tool, the researcher did pre testing. After pre-testing and during the actual data collection, there were no missing data in the questionnaires which meant that for all questions contained in the questionnaires, there were responses. The tool was also developed from similar studies. Therefore, the tool was reliable to be used.

### **3.8.5 Ethical Consideration**

Ethics is about what is right or wrong (Burnard, Morrison & Gluyas, 2011). Ethical approval to conduct the study was obtained from College of Medicine Research Committee – COMREC (Appendix 10). Permission was also sought from Lilongwe District Council to allow the researcher to go into various villages for the study. Permission was also sought from chiefs of villages in which the study was done. Lastly, informed consent was obtained from selected participants for the study after they were given information about the researcher and the study. The participants were also assured of confidentiality about information they provided.

### **3.9 Data Management**

Soon after data collection, questionnaires were checked for completeness and then stored in a secure place. Database was then created and data were entered. The collected data were analyzed using statistical package for social sciences (SPSS version 16.0). Descriptive statistics on demographic variables, knowledge of paediatric services, health seeking behaviours of participants; predisposing, enabling and need factors that influence utilization of paediatric health services were entered and presented in form of frequencies and percentages.

The association between participants' demographic variables of age, sex, education and nationality were investigated using Chi-square test during cross tabulation at 5% level of significance. Chi square test was run to explore the association that existed between each variable and utilization of paediatric health services. The significance of the variable was

determined and expressed in terms of  $p$  value. Variables with  $p$  value of 0.05 and below were considered to be significant. Thereafter, logistic regression analysis was done because some variables were categorical and that service utilization could be influenced by more than one factor.

## CHAPTER 4

### Results of the Study

#### 4.1 Introduction

The study investigated on determinants of paediatric health services utilization at Daeyang Luke Hospital. There was a 100% (n=150) response rate from the participants. The results are presented according to demographic characteristics of parents or guardians of under-five children and the objectives of the study which were: to assess knowledge of paediatric health services from parents or guardians of under-five children; to determine health seeking behaviours of the parents or guardians of under-five children procuring services in the facility's catchment area and to describe determinants of paediatric service utilization. Presentation of findings of the study was guided by Andersen model of health service utilization.

#### 4.2 Demographic Characteristics of the Study Participants

Results of the study showed varied distribution of demographic characteristics of study participants (Table 1).

##### Age

Results of the study showed that out of 150 participants who were interviewed in the survey, 59% (n=89) were between 25 – 34 years and 27% (n=41) were between 15-24 years (Table 1).

##### Marital status

The study findings revealed that 82% (n=125) of the participants were married. (Table1).

##### Number of Children per Household

Out of 150 interviewed participants, 68% (n=102) had 2-4 children (Table 1).

##### Education

The study found that of the 150 participants, 78% (n=117) were primary school drop outs (Table 1).

##### Tribe

The study also found that 80% (n=120) of the participants belonged to *Chewa* tribe (Table 1).

## **Religion**

The study found that out of 150 participants, 91% (n=137) were Christians and 6% (n=9) were Muslims (Table 1).

## **Occupation**

Out of 150 participants, 36% (n=54) were subsistence farmers and 27% (n=41) were employed as labourers (Table 1).

### **4.3 Predisposing factors**

#### **4.3.1 Beliefs of the Participants**

Of the 150 participants, 93% (n=140) believed in modern medicine while the 7% (n=10) acknowledged relying on traditional medicine.

#### **4.3.2 Knowledge of Paediatric Services offered at Daeyang Luke Hospital**

Out of 150 participants, 66% (n=99) knew that DLH offered general medical services and 26% (n=39) knew that DLH offered under-five clinic services and 5% (n=8) knew about child OPD services (Figure 4).

Despite having knowledge on paediatric services offered at DLH, 53% (n=80) of the participants inconsistently utilized the available paediatric services.

#### **4.3.3 Decision maker in times of illness**

Out of 150 participants, 98% (n=147) of the participants decided to seek care for their under-five children when sick. They could not wait for decision of other people like spouses, uncle, grandmothers, in their absence.

*Table 1: Distribution of characteristics of the study participants*

<b>Variable</b>	<b>Categories</b>	<b>Frequency</b>	<b>Percent</b>
Age	15 to 24	41	27
	25 to 34	89	59
	35 to 44	15	10
	Above 44	5	3
Marital Status	Never Married	7	5
	Married	123	82
	Divorced	7	5
	Separated	13	9
Number of Children	1 Child	22	15
	2 Children	47	31
	3 Children	27	18
	4 Children	28	19
	5 Children	21	14
	6 Children	5	3
Tribe	Chewa	120	80
	Ngoni	18	12
	Yao	10	7
	Others	2	1
Religion	Christian	137	91
	Moslem	9	6
	None	4	3
Education Status	None	17	11
	Primary	117	78
	Secondary	15	10
	Tertiary	1	1
Occupation	Farming	54	36
	Employed	41	27
	Business	29	19
	Others	26	17
	<b>Total</b>	<b>150</b>	<b>100</b>

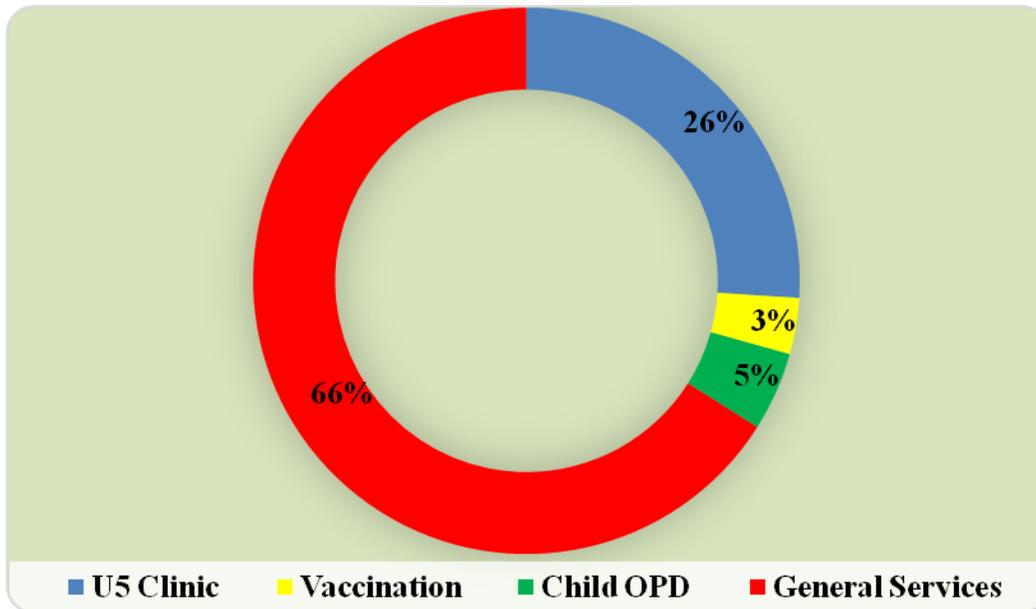


Figure 4: Distribution of Knowledge of paediatric services at DLH

#### 4.4 Enabling factors

##### Distance to Health Facility

The study found that 70 % (n=105) of participants, were living within a distance of 5 kilometers to DLH. Mostly the participants would walk to the hospital and very few would use other means of transport to the hospital like Bicycles to enable them utilize paediatric health services at the hospital.

##### Waiting Time

The study found that out of 150 participants, 80 % (n=120) reported that they did not wait much for paediatric services at DLH health facility, thirty minutes to one hour to be assisted and then one to two hours in total from the time of entry to the hospital up to exit or until when the child got admitted.

##### Service Delivery Satisfaction

53 % (n=79) of the participants reported that health workers at DLH were friendly and were satisfied with paediatric services and therefore they would utilize the services again.

### Hospital Charges

In this study, 53 % (n=80) of the participants reported that charges at Daeyang Luke Hospital were expensive. 47 % (n=71) would afford to pay only K1,000 and only 5 % (n=8) would afford to pay over K4.000 as direct hospital charges (Figure 5).

### Hospital Preference

In addition, 61% (n=92) of the participants preferred government hospitals, 19 % (n=29) opted for private hospitals and 18 % (n=27) preferred CHAM Hospital- DLH specifically.

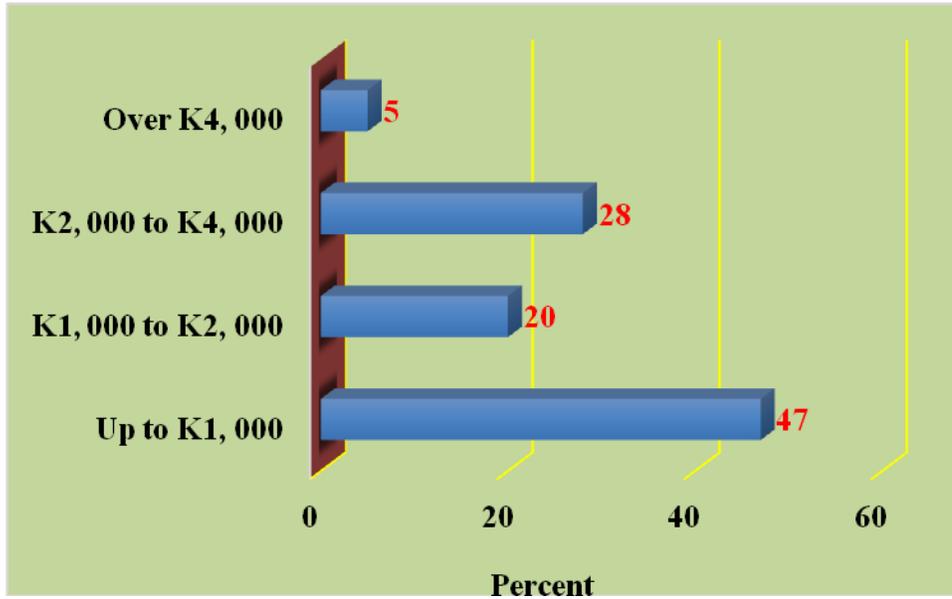


Figure 5: Distribution of paediatric Health service utilization by charges at DLH

### 4.5 Need Factors

#### Traditional Beliefs

Out of 150 participants, 93% (n=140) did not have specific beliefs related to illness and took their children to hospital once they noticed the children were sick, regardless of intensity of illness.

### 4.6 Results of Chi Square Test

Chi square test is based on participants who utilize services against those who did not utilize the services. Chi square test showed that age significantly influenced health service utilization whereby majority participants between 25 years and 34 years utilized paediatric

health services at Daeyang Luke Hospital (*chi 21.6102 p value of 0.000*). Other demographic variables did not yield significant results after chi square test. These were: nationality (*p 0.686*), tribe (*p 0.683*) and education (*p 0.147*).

#### 4.7 Logistic Regression Analysis

Using the fact that households either go to DLH or not (Yes = 1 and No = 0) as a proxy (dependent variable) for health services, bivariate logistic regression analysis was fit to the collected independent variables. This sub section presents the results of Logistic regression model of Paediatric Health Service Utilization (PHSU) at DLH with the Coefficients (B), Wald test statistic values, *p*-values and factor change – the Odds Ratios. The constant, which is the intercept, shows that when all variables are zero; the coefficient is -17.4 (Table 2).

*Table 2: Regression Analysis of Determinants of paediatric health service utilization*

<b>Variable</b>	<b>B</b>	<b>Wald</b>	<b>p-Value</b>	<b>Odds Ratio</b>
Marital Status	1.710	5.6	0.02*	5.5
Religion	1.663	4.0	0.03*	1.6
Education	0.115	0.0	0.86	1.1
Waiting Time	-1.223	3.3	0.03*	0.3
Service Delivery	1.535	6.2	0.01**	4.6
Bills	-1.454	1.9	0.02*	0.6
Distance	-1.064	5.0	0.00**	0.4
IGA	0.081	0.0	0.87	1.1
Children	-0.273	2.9	0.09	0.8
Beliefs	0.178	0.0	0.83	1.2
Age	0.615	0.5	0.26	1.8
Constant	-17.440	0.0	1.00	0.0

*Table Classification = 74.4 percent, Cox and Snell = 0.26 and Nagelkerke R<sup>2</sup> = 0.35*

“\*” = 0.05. “\*\*” = 0.01

## Summary of Logistic Regression

Logistic regression analysis showed that marital status, religion, waiting time, service delivery, hospital bills and distance yielded very significant results to paediatric health services utilization.

In this Logistic regression analysis marital status yielded  $p$ -value of 0.02 and Odds Ratio of 5.5. This means that married participants would likely utilize paediatric services at DLH 6 times more than those who were not married.

Religion had a  $p$ -value of 0.03 and Odds Ratio 1.6 (Table 2). This indicates a positive influence that religion influences paediatric health service utilization by almost 2 times more in the participants who belonged to any religion than in those who did not belong to any religion.

Waiting time had coefficient of -1.223,  $p$ -value of 0.03 and Odds Ratio 0.3. There was a negative influence of waiting time on PHSU (Table 2). The more time spent waiting for service, the less likely the participants utilize the service.

Service delivery at DLH has a  $p$ -value of 0.01 and an odds ratio of 4.6. This means that service delivery influences PHSU by almost five times (Table 2). The more satisfied with the service, the more likely the participants would utilize the service.

In the logistic regression, hospital bills have a coefficient of -1.5,  $p$ -value of 0.02 and an Odds Ratio of 0.6 (Table 2). There is a negative influence of hospital bills on PHSU. This means that the more the hospital bills, the less likely the participants would utilize the services.

The results also show that Distance has a coefficient of -1.1,  $p$ -value of 0.00 and an Odds Ratio of 0.4 (Table 2). This is another factor that is negatively influencing PHSU. Meaning that the farther the distance to DLH the less likely the participants would utilize paediatric health services.

### 4.8 Key Findings of the Study

Overall, the study found that majority of participants were aged between 25 and 34 years of age and most of them were subsistence farmers and employed as labourers. There was inconsistency in utilization of services at DLH because of inadequate income to pay for hospital bills. Furthermore, most participants utilized under-five well baby clinic services possibly

because they were free of charge. There were significant associations between distance to the health facility, service delivery, bills at the hospital, marital status, waiting time and religion and utilization of paediatric health services at the hospital.

## CHAPTER 5

### Discussion

#### 5.1 Introduction

This chapter presents the discussion of findings of the study which investigated on determinants of paediatric health services utilization at Daeyang Luke Hospital. The discussion which was guided by Andersen model of service utilization begins with demographic information of study participants followed by determinants of health service utilization based on predisposing, enabling and need factors, according to the model. The chapter also includes limitation of the study, recommendations, areas for further research and conclusion of the study.

#### 5.2 Demographic Characteristics

The study found that over half of participants (59 %) were between twenty five and thirty four (25-34) years of age. In addition, most participants within this age category also utilized paediatric health services at Daeyang Luke Hospital. Majority of participants in other studies were also between 25-34 years of age (Adedini, Odimegwu, Bamiwuye, Fadeyibi & De Wet, 2014; Aigbokhaode, Isah & Isara 2015; Ajibade et al. 2013; Awoke, 2013; Valluri, 2011). This is possibly because this age is within the reproductive age group which bears and takes care of children (NSO & ICF Macro, 2011).

Most parents or guardians of under-five children, in this study, sought hospital health care services. Similarly, high rate of seeking modern health care services was reported in other studies (Mahejabin, Parveen & Ibrahim, 2014; Diaz et al. 2013). However, Gebretsadik, Worku and Berhan (2015) found low formal health care seeking among Ethiopian population. Seeking health care in times of child sickness is a positive development towards decreasing deaths among under-five children. This is supported by Ashorn (2003), who examined health-seeking behavior among mothers of children in Mangochi, in Malawi. She found decreased number of deaths among children whose mothers sought hospital care immediately unlike children whose mothers combined both traditional and hospital treatment.

The study also found that most participants were married. Furthermore, majority of married couples in this study utilized paediatric services at DLH as reflected in the results of

logistic regression analysis which yielded significant results in paediatric service utilization. Similarly, several studies also found that majority of their participants were married and that they sought appropriate health care more often than the participants who were not married (Al-Nahedh, 2004; Awoke, 2013; Kassile et al. 2014; Kong, 2010; Liu, Zhang, Lu, Kwon & Quan, 2007; Mukiira, 2012). Good health care seeking among married couples possibly could be explained by collective decision making and the ability to prioritize and mobilize resources for their families which would include mobilizing money to pay for health services (Abdellaoui, Haridon & Paraschiv, 2011). The married couples in this study were involved in other income generating activities like casual labour and temporary employment at Kanengo Industrial site which is close to DLH catchment area. This makes them economically better than those who were not married, although the overall economic status of the participants was low as evidenced by the inadequate amount of money they would be able to pay for the direct cost of care at DLH.

Most families in the study had two to four children and very few had one child or over 4 children. Similarly, Mukiira (2012) found that majority of the mothers in her study had two to four children. Families with few children prioritize resource allocation including health care services for their children and therefore would very likely seek health care whenever child is sick. This is supported by Kassile et al. (2014) and Pokhrel and Sauerborn (2004). In these studies, respondents who had one child in their household frequently reported the illness of the child because they had time and money for health care. Mothers with more than four children may refuse hospital admission for their sick children because of the commitment to care for the other siblings left at home. This is supported by Kayode, Adekanmbi and Uthman (2012) who found that mothers with over five children rarely sought health care services for their children due to inadequate money and commitment to care for other siblings. This results in inadequate monitoring of the child's condition at home, which would otherwise be fulfilled by health workers and hence the child may deteriorate and therefore die before proper interventions are done. However, a study by Mukiira (2012) found that mothers who had more than three children sought appropriate care for their children more likely than those with one to two children. This could come from understanding and experience of nurturing children so that these mothers are able to recognize danger signs and act appropriately.

In the study, majority of the participants were primary school dropouts. In Malawi, similar findings about low education level of the participants were revealed in other studies (Chibwana et al. 2009; Oyekale, 2015). This is also in line with findings of the Malawi Demographic and Health Surveys of 2010 and 2015 which reported that over half of the women, who mostly are the care givers of under-five children, were primary school drop outs (NSO & MACRO, 2011; NSO & ICF International, 2016). Likewise, studies in Zambia and Bangladesh also reported low education level education levels among their participants (Kapungwe, 2005; Mahejabin, Parveen & Ibrahim, 2014). This means that these countries have to strive to improve education levels of their people and more especially that of women who mostly are caregivers of under-five children.

Most participants sought hospital services whenever children were sick, regardless of their education level. Likewise, Prosser (2007) also found that education did not influence health-seeking behaviour. Choosing hospital services as first option in child illness is a positive attribute towards improving the health of under-five children. However, findings in other studies revealed that Education is associated with health related attitudes (NSO & ICF MACRO, 2011). In those studies, mothers who were more educated sought health care services more often than mothers with little education (Adika, Baralate, Agada & Nneoma, 2013; Mahejabin, Parveen & Ibrahim, 2014). It is also argued that education is an indicator of reasoning capacity of an individual but not significant in decision making for seeking health. Therefore, it is imperative that education status is not a determining factor for service utilization as there are inconsistencies in the results of different studies. This study and other studies confirm this.

Majority of the participants belonged to Christianity as religion. Similarly, this was reported in other studies (Awoke, 2013; Chukwudi et al. 2015; Kapungwe, 2005). This is in line with findings of the 2010 Malawi Demographic and Health Survey (NSO & ICF MACRO, 2011).

Type of religion in a specified area is dependent on the religion that is deep-rooted in that area. Although Christianity was dominant among majority participants in this study, if it was conducted along the Lakeshore area, majority would be Moslems since Islam dominates this

area (NSO & ICF MACRO, 2011). This is also supported by Diaz et al. (2013) in Sierra Leone, who found that majority of the respondents in their study, belonged to Islam as a religion. Religion is important because it provides norms, values and beliefs that are known to influence the perspective that a person may have on health, illness and disease (Shellenberger et. al. 2007). Consequently, this would influence the health seeking behaviours and eventually affect utilization of health care services, drug compliance and the practices that are done in relation to illness of which some are detrimental to the health of a child. These findings are consistent with findings from other studies (Abubakar et al. 2013; Oyekale, 2015; Padela & Curlin, 2012). Religion was significantly associated with health service utilization although the study did not specifically investigate the association between different religions and health service utilization.

### **5.3 Predisposing factors**

#### **5.3.1 Traditional Beliefs**

The main tribe to which participants in the study belonged was *Chewa*. Similarly, *Chewa* tribe dominates Malawi population as revealed in the MDHS 2015 (NSO & ICF International, 2016).

There were also no specific beliefs in relation to health care service utilization, among all tribes to which participants in the study belonged. The majority of participants sought modern health care for their children regardless of their tribes. In the same vein, a study by Kapungwe (2005) in Luapula province in Zambia found that majority of caretakers sought health care from modern health care facilities when their children were sick. Seeking modern health care is good because it results in prompt treatment of the children hence prevents complications which increase morbidity and mortality among the under-five children. However other studies indicate that although participants were aware of the services, PHSU was hampered by beliefs they hold. Chibwana et al. (2009) support this when they found that majority of participants in their study had knowledge about fever as a danger sign in children but delayed seeking hospital care by prioritizing traditional medicine over hospital care. Delay in seeking health care, complicates the illness and leads to increased morbidity and mortality among under-five children (WHO, 2015).

### **5.3.2 Knowledge about Health Services**

The study found that majority of participants had knowledge about paediatric services that were offered at Daeyang Luke Hospital. Likewise, several studies (Galanis et al. 2013; Lubbock & Stephenson, 2008; Nwala, Ebunoha & Ugwu, 2013) reported that participants in their studies were aware of the existence of health services and hence they were utilizing the services. Having this knowledge enables people to seek for the service that is why most participants utilized paediatric services at one point. NSO and ICF MACRO (2011) supports this when the results of 2010 MDHS showed improved overall immunization coverage of over 80 percent which would be attributed to knowledge about immunization services which is enabled through intense message distribution to the communities which eventually improved utilization of immunization services. Oyekale (2015) also concurs that service utilization depends on knowledge of existing services and knowledge of symptoms of illness which influence health care utilization. Therefore there is need for health care professionals to provide adequate information about health and health care services to communities in order to improve awareness of services which subsequently would also enhance prompt service utilization. A cross sectional study by Juma (2010) in Dar es Salam Tanzania, support this when he found that majority of mothers of under-five children in the study had knowledge about symptoms and danger signs in common childhood illnesses and they sought health care immediately which is very good in prompt management of under-five children. Similar results were reported by Musoke (2014) whereby care givers of under-five children were able to recognize danger signs in their children and immediately reported or returned to health facility and even were very willing to be referred to tertiary hospital as reported by Mkutumula (2015). This is a good development in reducing child mortality. Adequate information about health services will enable mothers seek health services for their children as supported by Nwala, Ebunoha and Ugwu (2013). Therefore, there is need to enhance provision of adequate information about childhood illnesses and health care seeking regardless of their ages.

### **5.3.3 Health Seeking Behaviours**

This section discusses participants' health seeking behaviours including decision makers during illnesses of under-five children.

This study found that 98 percent of participants sought formal health care in times of illnesses of their children. Furthermore, participants, who were mothers of under-five children, sought care immediately, even in the absence of their spouses. They utilized health services from formal health care centers within and outside catchment area for Daeyang Luke Hospital. Likewise, high rate of seeking modern health care services was reported in several studies (Diaz (et al. 2013; Kinung'hi et al. 2010; Mahejabin, Parveen & Ibrahim, 2014), Najnin, Bennet & Lubby, 2011). Seeking health care in times of child sickness is a positive development towards decreasing deaths among under-five children (WHO, 2015). This is supported by Ashorn (2003). Hence good health seeking behaviours have to be encouraged among people to enhance health service utilization.

#### **5.3.4 Decision makers in time of Sickness**

The study found that most participants took their children to the hospital when sick, even when the spouse was not present at that time. Similarly, a study by Thandar et al. (2015) in Myanmar also found that the same percentage of mothers were decision makers in seeking health care outside their homes for their children. Further it was reported that majority sought care within twenty-four hours of illness as required and did not use other drugs before medical consultation was made. Making good health care decisions for under-five children is necessary for them to be healthy.

Unlike in this study, Adedini et al. (2014) in Nigeria revealed that majority Hausa women would not seek health care for their children unless their husbands granted them permission. Likewise, a study by Pokhrel and Sauerborn (2004) in Nepal, reported that family decisions were mainly made by household heads but in households with more educated mothers, there was an influence of these mothers on the decision to seek health care. Therefore education has to be enhanced in females to improve their decision-making. In another study in South Africa, Sharkey et al. (2011) found that mothers relied on their neighbours on decisions related to their sick infants, instead of rushing the infants to the hospital. This increases the risk for complications and deaths as was reported in their study due to delays in seeking health care.

## **5.4 Enabling factors**

### **5.4.1 Occupation and Source of Income**

Majority of participants in the study were subsistent farmers and depended on small scale businesses, casual work- *ganyu* and spouses for their income. Likewise, the 2010 Malawi Demographic and Health Survey reported that majority Malawians were subsistence farmers (NSO & ICF Macro, 2011). Similar finding was reported in other studies done in Myanmar and Zambia, which are also developing countries (Kapungwe, 2005; Umar, Oche & Umar, 2011), respectively. This shows that participants in this study had a thin economic base because they had to sell the proceeds from their subsistence harvests to carter for various needs including healthcare services. That is why majority reported inconsistency in utilization of pediatric health services at DLH because they would not afford to pay for hospital bills and opted for other health facilities and mostly government facilities which were far from them and had other operational problems including lack of resources. Occupation which determines source of income very significantly became a factor that deterred mothers from utilizing health services at DLH and needed to be addressed to enhance PHSU at the hospital.

Report by Kavinya (2013) concluded that Malawians are economically challenged and may not be able to pay for health care services. In his report on Malawians' views on the policy to offer paying services in public health facilities, Kavinya obtained majority views that this should apply to people with good income and leave the low income people to access free services. Further, he also found that people suggested for paying services in health facilities that are also patronized by foreigners and that government should subsidize other operational costs incurred by private health facilities to enable private health facilities offer services at subsidized costs. This would enable everybody access and utilize health care services including under-five children living in these areas. NSO and ICF MACRO (2011) concur with this when they reported that Malawi is a low income country. This low economic status also spreads to its population hence payment of services like hospital bills would be a problem to them. In the year 2015, Gross Domestic Product (GDP) was 5.6 billion United States dollars (USD) and GDP per capita was at 777 USD (Trading Economics, 2015). Only 8.4 percent of the country's GDP was spent on health care in 2011 (WHO, 2014). In a country that struggles economically, the economic struggles also pass on to its population and worse still to those with low education

and without employment. This is why participants would have problems to pay for the hospital expenses, since they were economically challenged.

Economic challenge in paying for health care services is also confirmed by findings from other studies (Buor, 2004; Girma, Jira & Girma, 2007; Mbagaya, Odhiambo & Oniang'o, 2005; Musoke et al. 2014; Pillai et al. 2003; Pokhrel & Sauerborn, 2004; Zyaambo, Siziya & Fylkenes, 2012). The studies concluded that high cost for health care bills and high transport costs deter people from seeking health care. These studies were done in developing countries, Ghana, Nepal, India and Uganda, which face the similar economic challenges like Malawi. Hence the studies were applicable to this study and give a degree to which income affects health service utilization. This makes mothers and guardians of under-five children to seek health care from institutions that offer free services but which could be located far from the areas of residence, eventually leading to delay in health care utilization and poor health outcomes.

Therefore, if cost of care in hospital (DLH) was improved and people were empowered to pay for these services, this would attract a lot of children from the catchment area to utilize the services, consistently. This is supported by Abubaker et al. (2012) who found that there was increased utilization of health services by children less than six years in Jordan from the year 2005, when the user fee was abolished. Service level agreement (SLA) between government and CHAM health facilities, for which DLH is also a member, covers only neonates as part of under-five children. This leads to prompt utilization of paediatric services at DLH by the neonates but leaves out the rest of under-five children.

#### **5.4.2 Distance to the Health Facility**

Most participants were living within a distance of five kilometers to DLH, likewise in Diaz et al. (2013). Majority of participants in the study would walk to the hospital and very few would use other means of transport to the hospital like Bicycle to enable them utilize pediatric health services. Distance determines the decision about where to seek and utilize health services. The reasonable distance to health facility enables majority of people to utilize services offered at the facility. This is supported by findings from other studies (Feikin et al. 2009; Mbagaya, Odhiambo & Oniang'o, 2005; Musoke et al. 2014; Oladipo, 2014). These studies found that parents would seek health care for their children in health facilities that were very

close to them; some mothers opted for over the counter drugs in case of very far Government health facilities and that parents less often sought health care for their children if health facilities were very far and thus would not utilize modern health services at all. Likewise, Mariolis et al. (2008) found that there were many visits to the urban facility as compared to a rural health facility because of its proximity to the residents in their study. Even within the same area of residence, distance was an important factor to seek health services to age group 15-64 years. This signifies the importance of distance in health service utilization.

Conversely, increased distance to health facility is associated with increased number of deaths among under-five children (Kapungwe, 2005). These deaths are attributed to delayed treatment or no treatment at all towards childhood illnesses. In this study, therefore, participants were at advantage of utilizing paediatric health services at DLH in good time because of good distance to the hospital, which is essential in prompt management of paediatric illnesses and improved health outcomes.

#### **5.4.3 Waiting time and consumer satisfaction**

Most participants in the study reported being attended to in good time at- least within thirty minutes to one hour at Daeyang Luke Hospital. They also reported of friendly attitudes from the health workers and satisfying services. Results of logistic regression analysis revealed that waiting time and service delivery very significantly affected paediatric service utilization and would make participants in the study (consumers) to utilize paediatric health services at the hospital again. Several studies (Buor, 2004; Chukwudi et al. 2015; Mariolis et al. 2008; Obiechina & Ekenedo, 2013; Shaikh & Hatcher, 2004) support this when they also revealed that participants opted to visit health facilities with low waiting time and that waiting time would determine future utilization of the services at a particular hospital. Timely health services contribute to personal satisfaction of the mothers of sick children coupled with health worker attitude. This is supported by Umar, Oche and Umar (2011) study on patient waiting time in a tertiary health institution in Northern Nigeria who found that participants who spent less time in waiting rooms had more service satisfaction than those who waited very long over an hour to be assisted. In times of sickness, mothers of sick children would not wish to wait too long for health services on their children especially if they have knowledge of danger signs and consequences of delayed health care. That is why majority participants who did not wait long

for their children to be attended to at DLH expressed the willingness to utilize paediatric services again at the hospital.

Daeyang Luke Hospital had reasonable waiting time, which attracted and enabled the participants to utilize paediatric health services at the hospital. Most paying hospitals have lower waiting time than government hospitals as supported by Mensah, Asamoah, Amponsaa and Tawiah (2014) who found that waiting time was much longer in a government hospital than in private hospital within the same area of study. Further, little waiting time is attributed to good supervision that prevails at private health facilities which results in efficiency in rendering services and adequate staffing levels. However, this study did not investigate on supervision and staffing levels as an aspect of improving utilization of services.

The participants in this study also reported friendly attitude of health workers at DLH. This was also an enabling factor to PHSU at the hospital. Health worker attitudes determine service utilization at the particular health facility whereby unfriendly attitudes from health workers deter people from utilizing the services. This is supported by studies by Opwora et al. (2011) who found that mothers of under-five children in their study in Kenya would not seek health care because of negative attitudes of health workers at the health facilities. Likewise, in Chukwudi et al. (2015) study in which unfriendly attitudes from health workers deterred participants from utilizing health services. Although Chukwudi et al. study targeted the elderly the study is applicable to this study which focused on under-five children because the decision to utilize pediatric health services is made by care givers who are older people including the elderly. If they are not satisfied with the attitudes of the health care workers, they would not promote health care utilization among these under-five children from a particular health facility. If under-five children cannot utilize services because of negative attitudes from health care workers, their right to health care is infringed. Furthermore, this delays timely treatment for the children which complicates the illness and increase the morbidity rate. Therefore, it is a good development for health care workers at DLH to have these positive attitudes that enhances service utilization.

### **5.5 Need factors**

In this study, most parents or guardians would rush to the hospital whenever their children were sick, whether to government health facility or Daeyang Luke Hospital. Similarly,

in another study, majority participants sought modern health care services (Diaz et al. 2013). By rushing to hospital with sick children, means that participants were aware of the importance of early reporting to hospital, that is, prompt treatment of childhood illnesses (perceived need) which has also been supported by Pillai et al. (2003). However, this perceived need for health care may be determined by care givers' knowledge of signs and symptoms of childhood illnesses and general health status of the child (Oladipo, 2014). Mothers or caregivers, who are not able to recognize signs and symptoms or do not appreciate the intensity of illness in their children, would delay in reporting to the hospital hence delaying care for the children. Findings from other studies (Aigbokhaode, Isah & Isara, 2015; Awoke, 2013); Chibwana et al. 2009; Salah et al. 2007) concur with this. Therefore, parents' knowledge and recognition of signs and symptoms including danger signs in the children is very crucial in substantiating the need for health care. Being unable to recognize danger signs prevents or delays health care utilization which has always been associated high morbidity and mortality rate (Namphande, 2015; Webair & Bin Ghouth, 2014; WHO, 2015). Need to seek health service is also determined by the beliefs and values which parents have towards health care - perceived need (Shellenberger et al. 2007) and judgement by the health care workers on the patient's condition and treatment modalities (clinical evaluation). Majority of participants did not have specific beliefs towards health care and were not negatively influenced by cultural or religious beliefs. Use of modern medicine during sickness is a positive attribute towards improving health status of children. Reporting to hospital in good time allows for early diagnosis and prompt treatment of pediatric illnesses in good time that allows quick recovery and therefore decreases morbidity and mortality among the children. This is also in line with offering health care services to people of all ages including children, which is one of sustainable development goals.

### **Limitations of the study**

The study was conducted within the catchment area of DLH and therefore the results would not be generalized to all under-five children living in other areas and in Malawi.

There was limited time for the study since it was done within the scheduled time for the accomplishment of the programme. Furthermore, the study had limited funding from the scholarship. Therefore, it was not possible to expand the study to parents or guardians of under-

five children who utilized paediatric health services at DLH but living outside the hospital's catchment area.

The study did not find out on knowledge and practices of health workers in management of childhood illnesses at the hospital which would also contribute to service utilization by the catchment population.

The study did not explore some determinants of service utilization like specific religions and clinically evaluated need according to Andersen model.

The study was not able to determine monthly income for the participants so as to appreciate the burden which DLH bills would cause on their economic status.

### **Recommendations**

#### **To Daeyang Luke Hospital**

Since there were positive friendly attitudes among health workers at DLH, the workers should continue with their positive and friendly attitudes when assisting paediatric patients as this a significant factor that drew them closer to utilizing the services at the hospital.

Since most of the parents or guardians would not afford to pay for the paediatric services, Daeyang Luke Hospital through CHAM, should negotiate with the Ministry of Health to consider free health services to all children under-five years of age. In the previous arrangement, service level agreement (SLA) between Government and CHAM health facilities only covered neonate. Therefore, health service coverage to under-five children would help improve utilization of paediatric health services at DLH. This is in line with World Health Assembly (WHA) section 58.33 of attaining universal coverage of primary health care services among the member states; also in line with the Malawi Government goal of achieving universal accessibility of quality health services across the nation as stipulated in the 2011-2016 Malawi health sector strategic plan, HSSP (Ministry of Health, 2011) and finally, in line with the sustainable development goal of ensuring healthy lives for all at all ages. If there is improvement in paediatric health services utilization among under-five children, Malawi would also improve in under-five morbidity and mortality.

## **To Participants and Community under study**

The participants in the study including all parents and guardians living in the hospital's catchment area should engage in village banking groups and establish small scale businesses in order to boost their economic status so that they should be able to pay for hospital bills at Daeyang Luke Hospital while waiting for free services to all under-five children.

### **Suggested areas for further study**

There is need to conduct a study on Knowledge of management of childhood illnesses among nurses and physicians working in pediatric and emergency departments at Daeyang Luke Hospital, since prompt management of the children depend on pre-existing knowledge among the health workers.

There is also a need to do further cluster survey so as to be able to compare service utilization factors among people from same villages who would share most aspects of living and also use of bigger sample size.

Need for client satisfaction survey to explore further the aspects at DLH that made them satisfied with the services.

### **Conclusion of the study**

This study was done to investigate on determinants of utilization of paediatric services at Daeyang Luke Hospital. The results of the study revealed that mothers and guardians of under-five children in DLH catchment area had knowledge about services offered and good health seeking behaviours. Significant determinants of paediatric health service utilization at DLH were: marital status, religion, distance to the facility, waiting time, delivery of services and charges for the services. The analysis showed that some factors negatively affected facility choices while other variables positively affected facility choices. For instance, the more the waiting time and the more money you are charged for the services, the farther you stay from the hospital thus negatively affect service utilization. This was shown by the negative signs associated with the coefficients of the variables as shown in logistic regression analysis.

Majority of the respondents in this study could afford to pay less than K1,000 for the services at DLH. Therefore, this negatively affected service utilization at the hospital hence the

need to subsidize cost of care to under-five children living in Daeyang Hospital catchment area. This would enhance health service utilization among the under-five children in this area which would result in improved morbidity and mortality among these children. Eventually, Malawi as a country would have a healthy nation that would participate in its development efforts. At the same time, the goal of providing quality health care to people of all ages, as one of the sustainable development goals, would be realized.

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## **Appendix 1: Information Sheet**

### **1a: About the Researcher**

I am **Ida Apatsa Khombe**, a student at Kamuzu College of Nursing under the University of Malawi. I am currently pursuing a masters' degree programme in Child Health Nursing. As part of the requirement for the fulfillment of the course, I am conducting a research study on determinants of paediatric health service utilization specifically related to Daeyang Luke Hospital in Lilongwe. The aim is to identify possible factors at individual, community and the health facility- Daeyang Luke Hospital level that determine the utilization of these services especially to people living in the hospital catchment area and the close surrounding areas. The findings of the study will help the management of the hospital to come up with measures that would help improve the paediatric health services at the hospital.

### **1b: Information About the Research**

#### **Do I have to take part in the study?**

Your participation in the research study is highly welcome. However, you are free to take part in the research study or not as it have to be your willingness to be part of it. You are also free to withdraw from the study if you feel so. Your personal information and the responses will be kept confidential as no names will be used on the questionnaires and the findings of the study will also be disseminated with no any of the names of the participants in it.

#### **What will happen if I take part?**

You will be asked questions related to demographic data and questions related to paediatric services as the topic of interest. The answers will be recorded on the questionnaires. The actual interview is expected to last for 30 minutes. 15 minutes is allocated to read, understand and clarify the purpose of the research and the consent forms. Therefore the whole exercise will last for 45 minutes.

**What are the risks related to the study**

There are no physical risks associated with the study. All what is required is your consent and time for the study

**What are the benefits of participating in the study?**

The benefit is that the findings of the study would help the management of Daeyang Luke Hospital to come up with measures to improve the paediatric services at the hospital Therefore your contributions to the study are very important. However, there are no personal benefits to the participants in the study.

For any concerns related to the study, please contact:

The secretariat,

COMREC,

P/ Bag 360,

Blantyre.

Phone: 01871911

OR:

Ida Khombe on 0991041077.

Dr. A. Kazembe on 0888396530

Mrs T. Munkhondya on 0999468842

## **Appendix 2: Information sheet in Chewa Language**

### **Zokhudza kafukufuku**

#### **2a: zokhudza ochita kafukufuku ndi cholinga cha kafukufuku**

Ndine **Ida Apatso Khombe**, ophunzira ku koleji yokhudza za unamwino ndi uzamba ya Kamuzu College of Nursing, yomwe ili nthambi imodzi ya sukulu ya ukachenjede ya University of Malawi. Pakali pano ndikuphunzira maphunziro a ukachenjede okhudza za umoyo wa ana.

Ngati gawo limodzi la maphunzirowa, ndikupanga kafukufuku yemwe cholinga chake ndikupeza zomwe zimapangitsa anthu okhala mdera lozungulira chipatala cha Daeyang Luke kukalandira chithandizo cha ana awo kuchipatalachi. Zotsatira za kafukufukuyu zidzathandiza kuunika bwino thandizo lomwe ogwira ntchito pa chipatalachi amapereka kwa ana ndi kukonza zomwe zingabwezera mmbuyo thandizo la kwa ana pakutero, kupititsa patsogolo umoyo wa ana ndi kupewa imfa pakati pa anawa.

#### **2b: zokhudza inu omwe mwadzipereka kulowa nawo mu kafukufuku**

### **Kodi ndi koyenera kutenga nawo mbali mu kafukufukuyu?**

Kutenga nawo gawo mu kafukufukuyu ndi chinthu chofunikira kwambiri koma chosakakamiza. Zonse zomwe mudzanene pamene mwayankha mafunso omwe mudzafunsidwe sizidzakhala ndi dzina lanu ayi komanso sizidzakambidwa kwa anthu omwe sakukhudzidwa ndi kafukufukuyu.

### **Zochitika pamene mwalowa mu kafukufuku**

Mudzafunsidwa kuyankha mafunso okhudzana ndi zaka zanu, maphunziro, chipembedzo chanu komanso ana anu, mwa zina. Komanso mudzafunsidwa mafunso okhudzana thandizo la ana anu pamene adwala kuyambira kunyumba, mmudzi mwanu komanso kuchipatala cha Daeyang Luke. Mayankho anu adzalembedwa pa chikalata ndi kusungidwa. Pamene mwakumana ndi ochita kafukufuku, mphindi khumi ndi zisanu zoyambilira zidzakhala zokufotokozerani zolinga za kafukufuku, kuwerenga tsatanetsatane wa kafukufuku, kuwerenga

makalata omwe mukuyenera kuwamvetsa musanavomereze kutenga mbali mukafukufukuyu komanso kuyankha mafunso omwe mungakhale nawo okhudzana ndi kafukufukuyu. Pamene mwavomera kulowa mu kafukufukuyu, zidzakutengerani mphindi makumi atatu kuyankha mafunso amene ali pa zikalata cha kafukufukuyu.

### **Zoopsa zokhudzana ndi kafukufuku**

Palibe zoopsa zilizonse pathupi lanu ndi la ana anu pamene mwalowa mukafukufukuyu. Chopemphedwa kwa inu ndikuvomereza kutenga nawo gawo mu kafukufukuyu komanso kupatula nthawi yanu kuyankha mafunso amene adzafunsidwe.

### **Phindu la kafukufuku**

Zotsatira za kafukufukuyu zidzathandiza kukonza thandizo la ana pamene abwera ku chipatala cha Daeyang Luke komanso kukonza zomwe zingabwezere mmbuyo thandizo la ana pa chipatalachi. Palibe phindu lenileni kwa inu monga phindu la ndalama pamene mutenga nawo gawo mu kafukufukuyu.

Ngati pali mafunso okhudzana ndi kafukufukuyu, mungathe kulemba kalata kapena kuimba lamy kwa anthu awa:

The secretariat

COMREC

P/Bag 360

Blantyre.

Lamy: 01871911

Ida Khombe: 0991041077 (ochita kafukufuku)

Dr. A. Kazembe 0888396530 (oyang'anira ophunzira)

Mrs T. Munkhondya 0999468842 (oyang'anira ophunzira)



#### **Appendix 4: Consent form in *Chewa* Language**

##### **Kuvomereza kutenga nawo gawo mu kafukufuku**

##### **Chonde werengani ndi kumvetsa bwino kalatayi musanasayine.**

1. Ndamvetsa bwino lomwe cholinga cha kafukufuku
2. Kuti palibe choopsa chimene chichitike pathupi langa komanso la ana anga pamene ndalowa mu kafukufukuyu.
3. Ndamvetsetsa kuti ndili ndi ufulu olowa komanso kutuluka kafukufuku pamene ndili ndi zifukwa zina zomwe zandipangitsa kuti ndisathe kupitiriza nawo kafukufuku.
4. Ndamvetsetsa kuti zones zokhudza zaka, maphunziro anga ndi mayankho anga zidasungidwa pabwino posafikira wina aliyense ndi kuti sipadzakhala dzina langa pa zomwe ndayankhazo.
5. Ndili ndi ndondomeko ya omwe ndingawafikire pa zokhudzana kafukufukuyu.

Ine ..... / / 2015.

Ochita kafukufuku: Ida Khombe. .... / / 2015.

## Appendix 5: Questionnaire

### A: Demographic information

1. How old are you

10-14

15-24

25-34

35-44

Above 44

2. What is your marital status?

Single

Married

Divorce

Widow

Separated

3. What is your nationality?

Malawian

Other specify

4. Which tribe are you from?

Chewa  1

Ngoni  2

Yawo  3

Lomwe  4

Tumbuka  5

Tonga  6

Other specify  7

5. What is your religion?

Christian  1

Moslem  2

Other specify  3

6. What is your highest level of education?

Primary  1

Secondary  2

Tertiary  3

None  4

7. What is the source of income?

Employment

Farming

Business

Other specify

8. How many children do you have?

1

2

3

4

5

6

Other specify

.....

9. What are the ages of your children? Please state the ages.

.....

.....

10. How long have you stayed in this village?

<5 years  1

10 years  2

>10 years  3

**B: Enabling factors (Individual and community factors)**

11. Where do you prefer to seek help when your child is sick?

Traditional healer  1

Government hospital  2

CHAM Hospital  3

Private Clinic/ hospital  4

12. Why would you prefer health service at the facility of your choice?

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

13. Who decides when and where to seek child health care in your family?

Father  1

Mother  2

Both mother and father  3

Uncle  4

Grandmother  5

14. How much would you afford to pay for the health service?

Up to K1000.00  1

Between K1000 and K2000  2

K2000.00 to K3000.00  3

Up to K5000.00  4

15. What support do you get from the community during illness of your child?

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

16. Are there aspects in the community that promote the health of the children in your area?

Yes  1

No  2

17. What are these aspects?

Water and sanitation facilities  1

Roads  2

School  3

Community support groups  4

NGOs working with the Ministry of health  5

18. How do you perceive illness as it comes and affect your child?

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

19. What is the first aid in your home, which is given to a child when sick?

.....  
.....

**C. Need based factors**

20. What are some of the cultural beliefs related to children prevail in your community?

.....  
.....

21. Do you have a health surveillance assistant in your village?

Yes  1

No  2

22. How often does s/he visit your community?

Once a week  1

Once in two weeks  2

Once a month  3

Whenever possible  4

Never  5

**D: Utilization of health service (Health facility factors and clinically evaluated need)**

23. Have you ever gone to Daeyang Luke Hospital for paediatric health services?

Yes  1

No  2

24. What paediatric health services are available at Daeyang Luke Hospital? Tick the responses

Under-five well baby clinic

Immunization

Out-patient services

In-patient services

Laboratory services

Radiology services

25. How were you treated the last time you visited the health facility?

Friendly  1

Unfriendly  2

Neutral  3

26. What is the distance from your home to Daeyang Luke Hospital?

1-5 km  1

Up to 10 km  2

Over 10km  3

27. What means of transport do you use from your home to Daeyang Luke Hospital?

Bus  1

Your car  2

Walking  3

Bicycle  4

Ox-cart  5

28. Were you satisfied with the care you received?

Yes  1

No  2

29. How long did it take for you to be assisted, the time you visited the hospital?

1-2 hours  1

2-4 hours  2

5 hours and above  3

30. Why would you visit Daeyang Luke Hospital again?

.....

.....

.....

.....

.....

31. Which aspects at the hospital would hinder you from utilizing the paediatric services at the hospital?

.....

.....

.....

.....

.....

## Appendix 6: Letter to Daeyang Luke Hospital

University of Malawi

Kamuzu College of Nursing

P.O. Box 415

Blantyre.

10<sup>th</sup> February, 2014.

The Hospital Director

Daeyang Luke Hospital

P.O. Box 30330

Lilongwe.

Dear Sir/ Madam,

### REQUEST FOR DATA ON PAEDIATRIC SERVICE UTILIZATION AT DAEYANG LUKE HOSPITAL

I hereby, write to seek your permission to use the data on utilization of paediatric services utilization at Daeyang Luke Hospital.

I am a student pursuing a Masters' Degree Programme in child health nursing at Kamuzu College of Nursing. As part of the requirement for the fulfilment of the course, I am required to conduct a research study related to child health. The title for my study is "**Determinants of paediatric health services utilization at Daeyang Luke Hospital.**" I therefore request for the data to substantiate my research proposal.

Yours sincerely,

Ida Apatsa Khombe (Mrs).

## Appendix 7: Letter to Lilongwe District Commissioner

University of Malawi  
Kamuzu College of Nursing  
P.O. Box 415  
Blantyre.

10<sup>th</sup> March, 2014.

The District Commissioner  
Lilongwe District Assembly  
Lilongwe.

Dear Sir/ Madam

### PERMISSION TO CONDUCT A RESEARCH STUDY

I hereby, write to seek your permission to conduct a research study in the catchment area for Daeyang Luke Hospital, within the Lilongwe District.

I am a student persuing a Masters' Degree Programme in child health nursing at Kamuzu College of Nursing. As part of the requirement for the fulfilment of the course, I am required to conduct a research study related to child health. The title for my study is "Determinants of paediatric health services utilization at Daeyang Luke Hospital. For more details, please herewith the attached copy of the research proposal.

I am looking forward to your response.

Yours faithfully,

Ida Apatsa Khombe (Mrs).

## Appendix 8: Support Letter from Child Health Department

University of Malawi  
**KAMUZU COLLEGE OF NURSING**

PRINCIPAL  
DR. A. MALATA, DipNur, MRM  
B.Sc.MN, Ph.D.



P/BAG 1, LILONGWE, MALAWI  
TELEPHONE: 265 (0) 1751 622/200  
TELEGRAMS: NURSING  
FAX: (0) 756 424  
EMAIL: [Principal@kcn.unima.mw](mailto:Principal@kcn.unima.mw)  
Website: [www.kcn.unima.mw](http://www.kcn.unima.mw)

**Our Ref.: KCN/DPGS**

22<sup>nd</sup> October 2014

The Chairperson,  
COMREC  
Private Bag 360,  
Chichiri  
**BLANTYRE 3.**

Dear Sir

**RE: SUPPORT LETTER FOR MRS IDA KHOMBE**

Ida Khombe is a student at KCN pursuing a Masters Degree in Child Health Nursing. As a requirement for the fulfilment of a Masters degree, she is required to submit a thesis. I am therefore writing to support the submission of her proposal titled: "***Defermnants of paediatric health services utilization at Daeyang Luke Hospital***".

Ida Khombe has worked with her supervisor and the proposal is now ready for submission.

Thanking you in advance for considering her proposal.

Yours faithfully,

  
Mercy Pindani, PhD.  
**DEAN OF FACULTY**

**Appendix 9: Period of Research Study**

<b>YEAR</b>	<b>2014</b>											
<b>Month</b>	<b>Jan 2014</b>	<b>Feb 2014</b>	<b>Mar 2014</b>	<b>Apr 2014</b>	<b>May 2014</b>	<b>June 2014</b>	<b>July 2014</b>	<b>Aug 2014</b>	<b>Sept 2014</b>	<b>Oct 2014</b>	<b>Nov 2014</b>	<b>Dec 2014</b>
<b>Development of research proposal</b>												
<b>YEAR</b>	<b>2015</b>											
<b>Month</b>	<b>Jan 2015</b>	<b>Feb 2015</b>	<b>Mar 2015</b>	<b>Apr 2015</b>	<b>May 2015</b>	<b>June 2015</b>	<b>July-Aug 2015</b>	<b>Sept-Oct 2015</b>	<b>Nov 2015</b>	<b>Dec 2015</b>	<b>Jan-Feb 2016</b>	<b>Mar 2016</b>
<b>Sending proposal to COMREC</b>												
<b>Proposal approval</b>												
<b>Pilot study</b>												
<b>Data Collection</b>												
<b>Data analysis</b>												
<b>Discussion</b>												
<b>Report writing</b>												
<b>Binding</b>												
<b>Submission of thesis</b>												

**Appendix 10: COMREC Approval**

