

**EXPLORING PERCEPTIONS OF HEALTH CARE WORKERS AND
CAREGIVERS ON CAUSES OF POOR TREATMENT RESPONSE OF
MALNOURISHED CHILDREN AT QUEEN ELIZABETH CENTRAL
HOSPITAL, BLANTYRE MALAWI:**

M.S.C (CHILD HEALTH NURSING) DISSERTATION

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Declaration

I, Sakina Ilepere, hereby declare that the dissertation on exploring perceptions of health care workers and caregivers on causes of poor treatment response of malnourished children at Queen Elizabeth central hospital, Blantyre Malawi is entirely my work. This thesis has not been published or presented for any award at any university within or outside Africa. All the sources of information quoted in this thesis have been acknowledged and referenced.

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Certificate of approval

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

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Dedication

I dedicate this thesis to almighty God for gift of life and protection. To my husband John Mkhuta for being always on my side and for his untiring support throughout the whole period I was carrying out this project.

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I would like to convey my sincere heartfelt gratitude to the following people for their support during this study:

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Definition of Terms

Stunting : When the child's height is less for his age described in Z scores

Underweight: When the child's weight is less for his age described in Z scores

Wasting : Low weight for height or BMI for age described in Z scores

Severe malnutrition: Severe wasting with Z Scores $< -3SD$ or Oedema

Large family: Family comprising of five or more members

Caregiver: Any person male or female who is taking care of a child in the ward or at the clinic

ABSTRACT

Malnutrition continues to be a major public health problem worldwide including Malawi as it leads to high morbidity and mortality rate in children less than five years. At Queen Elizabeth Central Hospital (QECH), malnutrition remains a big problem with poor treatment response. For instance, the average mortality rate at QECH in 2014-2015 was at 20.8% which is two times higher compared to the World Health Organization (WHO) cut off point of less than 10%. This poor response might be contributed by household and health management factors.

This was a descriptive qualitative study which aimed at exploring perceptions of health care workers and caregivers on causes of treatment response of malnourished children at Queen Elizabeth Central Hospital-Nutritional Rehabilitation Unit.

The study was conducted at QECH. Both caregivers taking care of malnourished children and healthcare workers participated in the study. Pre-testing of the study tool was conducted at Zomba Central Hospital Nutritional Rehabilitation Unit. Sampling was done using purposive sampling technique. The study recruited 13 participants; 10 caregivers and 3 nurses. Data was collected using semi structured in-depth interviews through face to face interviews and analysis was done using simple thematic analysis.

The study findings revealed inadequate knowledge among caregivers regarding causes of malnutrition, poor relationship between caregivers and health care workers, impact of other conditions, inadequate resources and poor adherence to guidelines as some of the factors that contributed to the treatment outcome of malnourished children.

Keywords: *Malnutrition, household, health management, caregivers, health care workers*

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Acronyms

AIDS	: Acquired Immuno Deficiency Syndrome
CMAM	: Community Management of Acute Malnutrition
DHO	: District Health Officer
EBF	: Exclusive Breast Feeding
HCW:	Health Care Worker
HIV	: Human Immunodeficiency Virus
HOD	: Head of Department
HSA	: Health Surveillance Assistant
IEC	: Information Education Communication
MAM	: Moderate Acute Malnutrition
MOH	: Ministry Of Health
NNPSP	: National Nutrition Policy and Strategic Plan
NRU	: Nutrition Rehabilitation Unit
OTP	: Out Patient Therapeutic Program
PHC	: Primary Health Care
QECH	: Queen Elizabeth Central Hospital
RUTF	: Ready to Use Therapeutic Food
SAM	: Severe Acute Malnutrition
SFP	: Supplementary Feeding Programme
UN	: United Nations
UNICEF	: United Nations International Children Education Fund
USAID	: United States Agency for International Development
WHO	: World Health Organization

Chapter One

Introduction and Background

Introduction

Malnutrition still remains a major health challenge worldwide. According to Le Roux et al (2010), malnutrition accounts for approximately 3.5 million deaths of under-five children each year and 35% of the disease burden in this age group. In Malawi, malnutrition also continues to be a major public health problem. According to the state of the world's children, (2015), 14% of children in Malawi are underweight, 48% are stunted while 4% are wasted. World Health Organization (2010-2014) estimated that underweight contributed to 22% of deaths in Malawi. This is because malnourished children have reduced immunity and suffer from other complications like diarrhoea, septicemia, hypothermia, reduced immunity and bronchopneumonia which put them at a higher risk of mortality than the well- nourished children (MOH, 2012; Roy et al 2011). .

Malnutrition occurs when there is an imbalance between the food intake and the body's dietary needs (Picot et al, 2012). The term malnutrition is used to refer to both undernutrition and over-nutrition, but for the sake of this study, the term malnutrition will focus on under-nutrition only. Under-nutrition is defined as the insufficient provision of energy and nutrients in the human body and inability of the body to meet the requirements to ensure growth, maintenance and specific functions (Picot et al, 2012). In order to assess for malnutrition in children aged 6-59 months, common nutritional anthropometric indicators are used. These are; Mid Upper Arm Circumference (MUAC), which is used to measure the circumference of the upper non-dominant hand, and weight- for- height (WFH)

z -score, which compares a child's weight to that of a healthy reference population of children of the same height or length. This is then expressed in units of standard deviations from the mean of the reference population and is used to assess for Wasting. Severe wasting is defined by either WFH below -3 z-scores or MUAC below 115mm in children under the age of five. Correspondingly, moderate wasting is defined by WFH of -2 z scores and MUAC of less than 125mm. Besides low MUAC and WFH, bilateral pitting Oedema also called nutritional oedema is an independent indicator of SAM (WHO, 2009). Three grades of severity are used such that oedema on both feet/ankles is categorized as + or mild oedema, oedema on feet and lower legs, hands and lower arms is categorized as ++ or moderate oedema while severe oedema or +++ is generalized to the feet, legs, hands, arms and face (WHO, 2009).

There are several efforts put in place in order to improve the quality of care and treatment outcomes of malnourished children. Protocols, guidelines, and training materials were developed to standardize treatment of SAM and treatment outcome of these children, the one most recommended being the World Health Organization (WHO) standardized guidelines (Black, et al 2008, WHO, 2013). However, case fatality rate for children treated as inpatients for SAM is still high ranging from 3.4-35% (Lenters, et al 2013). Severity, prognosis and determinants of successful treatment of Severe Acute Malnutrition (SAM) depend on the time of presentation to the health facility (Collins, 2007). In addition, SAM is effectively managed when patients access nutrition care early and comply with treatment until recovered. Furthermore, the Outpatient Therapeutic Programme (OTP) attempts to address the socioeconomic factors particularly poverty, high workloads for women and

education facilities that contribute to the late presentation of malnutrition cases (Collins, 2007).

When cases of SAM are identified at early stages, for instance a period during which the child still has a good appetite, an aspect of treatment is simple and treatment outcome is successful most of the times (Collins, 2007). These children and those with mild and moderate malnutrition are treated as outpatients and receive specialized food products such as Ready to Use Therapeutic foods (RUTF). Children with SAM and medical complications require intensive nursing care in centralized inpatients units (Collins, 2007). While in the hospital, they receive inpatient treatment using therapeutic milks until complications have stabilized and can be transitioned to Ready to use Therapeutic foods (RUTF). The caregivers of these malnourished children stay in the hospital with their children during inpatient treatment. Many times, children treated on outpatient and inpatient basis do not respond well and the outcome is mostly poor. Children with mild and moderate malnutrition develop severe malnutrition and end up being admitted and those with severe malnutrition take long to respond, develop other medical complications and others die. Much as many research have been done to look at the factors contributing to poor treatment outcome of malnourished children worldwide like high death rate, high readmission rate, high default rate and minimal recovery rate, many research focused on hospital and children factors as well as environmental factors without including caregivers and health care workers. Other research studies have dwelt much on Outpatient factors. No much studies have been done focusing on what caregivers and health care workers perceive are some of the reasons that are contribute to poor treatment response of malnutrition. In addition, no studies have been done in Malawi that explored perceptions of health care

workers and caregivers on reasons that are contributing to poor treatment response of malnourished children. This research therefore wishes to explore perceptions of caregivers and health care workers on causes of poor treatment response of malnourished children at Queen Elizabeth Central Hospital Nutritional Rehabilitation Unit. The aim is to come up with recommendations on how to improve prompt and good treatment response of malnourished children.

Background Information

Malnutrition continues to be a global concern and Malawi is not spared. It contributes to high morbidity and mortality rate among under-five children (MOH, 2012). There are several factors which contribute to malnutrition. Some of these factors include household food insecurity, maternal and child caring practices, as well as access to health care facilities, (Abubakar, Holding, Mwangome, & Maitland 2013). When there is food insecurity at household level, children have inadequate food intake which is also low in nutritional content leading to malnutrition. Maternal caring practices have a great impact on child's nutritional status. When caregivers provide inadequate care to children due to lack of commitment and laziness, it can lead to malnutrition in children. Other caregivers tend to give foods which have low nutritional content like biscuits and fizzy drinks due to laziness in preparing nutritional rich foods like porridge which in turn lead to malnutrition in children.

These factors may also be influenced by socio-economic factors, infections, congenital abnormalities, as well as caregivers and political conditions (Amsalu, 2008). Poor socioeconomically caregivers are unable to purchase nutritional foods hence tend to give

their children foods which lack essential nutrients like carbohydrates, proteins, fats and minerals. Similarly, children who have congenital abnormalities have difficulties in eating for example, cerebral palsy, cleft lip and palate which make them to be underweight. Chelule & Chihope (2014) found that there is a great association between education level of household head and malnutrition as parental illiteracy was directly associated with higher risk of malnutrition. This is because caregivers who are illiterate may be unaware of the dietary requirements of their children and tend to give their children foods which have no enough nutrients, vitamins and minerals hence causing malnutrition to the children. According to World Health statistics report, Acute malnutrition affects approximately 52million children under the age of five worldwide, of which 33 million of these children have moderate acute malnutrition (MAM) (UNICEF, 2012). The consequences of malnutrition are fatal as a child with severe acute malnutrition has 11.6 times chance of dying and a child with moderate acute malnutrition has 3 times chance of dying than a well-nourished child (Olofin, 2013). This means that children with severe acute malnutrition are at higher risk of mortality than those with moderate malnutrition. Apart from this, children with malnutrition are at risk of other complications such as, attention deficit disorder, impaired school performance, memory deficiency, memory disability and compromised immune system (Guerrant, Oria, Moore, Oria& Lima, 2008). Evidence indicates that omega-3 fatty acid is essential for brain development and functioning. As such, lack of these fats has an impact on the child and can cause symptoms such as decreased school performance and memory loss (Grohol, 2017). Furthermore, malnutrition causes compromised immunity in that severe protein deficiency causes reduction in the number of cells in the thymus by causing atrophy of the thymus and affects development of peripheral

lymphoid organs. This has a negative impact on the immune system as it causes decreased white blood cells and decreased immunity and immature T-cells. This predisposes children with malnutrition to different infections.

Acute malnutrition is characterized by rapid weight loss, and/or nutritional oedema (USAID 2014). These are caused either by an illness or inadequate intake of food such as abrupt change of quality of food or poor infant feeding practices (USAID 2014). Illness in children causes them to have loss of appetite, vomiting and inadequate intake of food. Infections cause high demands to calories, proteins and other nutrients. They also cause malabsorption hence leading to malnutrition. Abrupt change in quality of food for instance from high nutritious foods to low nutritious foods in children means low intake of vitamins, proteins and minerals in the child which lead to malnutrition.

There are many strategies put in place to deal with malnutrition. In 2013, The Lancet series identified 10 high-impact interventions that are very specific to nutrition. If taken as a package to 90 percent coverage, these interventions could reduce wasting by 60 percent and stunting by 20 percent (Bhutta, 2013). SAM and MAM management are 2 of the 10 interventions. Community Management of Acute Malnutrition (CMAM) is a proven approach to managing SAM and MAM in children under 5 and is currently implemented in more than 70 countries including Malawi (UNICEF, 2013).

Before CMAM was introduced children with SAM were treated as inpatient with therapeutic milk, commercially called F75 and F100. The inpatient model posed many challenges to effective treatment for both health systems and patients which included long recovery periods (up to 6 weeks); overcrowding and cross-infection; high opportunity costs for families to access and remain on the treatment which is expensive as well as other

services for health systems in order to sustain and address concerns about safe preparation and storage of therapeutic milks; and low coverage of services. During the mid-1990s, ready-to-use therapeutic food (RUTF) was chosen as the best option of feeding compared to therapeutic milk (F100) that could be safely consumed at home (WHO, et al 2007). This innovative product allowed treatment of uncomplicated cases of SAM to be managed at household level. The first pre-test study of the project was conducted on CMAM approach in 2000 during humanitarian emergencies in Ethiopia, (WHO, et al 2007) This approach was found to be so efficient that it was made into existence by United Nations (U.N.) agencies in 2007 (WHO et al., 2007), and it is now considered the standard of care for managing acute malnutrition in emergency and development context.

Despite strategies put in place to combat Malnutrition, the rates of children experiencing effects of malnutrition in Malawi still remain poor with 52.5%, 47% and 48% of children being stunted in 2004, 2010 and 2013 respectively. Severe wasting was at 6%, 4% and 4% in 2004, 2010 and 2013 respectively while underweight at 17.3%, 13% and 14% in 2004, 2010 and 2013 respectively(The state of the World's children, 2015). This has been contributed by a number of factors such as droughts, floods, inflation, poverty and lack of diversified farming which has rendered a large population of Malawi to food insecurity (USAID, 2014). Furthermore, improper implementations of guidelines, poor infant and young child feeding practices as well as poor socio-economic factors have a great impact to this effect.

Malawi sorely depends on Agriculture, and as such, Malawi government has tried its best to combat malnutrition by elevating Agriculture and nutrition as key priorities in order to

reduce poverty and food insecurity (USAID, 2014). Food security policy (2006) and national nutrition policy and strategic plan (NNPSP) (2007-2012) have been put in place to address five outcomes namely: Improved maternal nutrition and care, improved young child feeding practices, improved intake of essential micronutrients, prevention and treatment of common infectious diseases and improved management of acute malnutrition (USAID, 2014).

Mothers are the core providers of health and their nutritional status is linked to that of their children. Improving maternal nutrition by ensuring that mothers are taking nutrient rich foods during pregnancy and breastfeeding ensures a healthy baby and prevention of nutritional problems to both the mother and the baby. Improvement of nutritional status of all children can be realized through optimum feeding to ensure proper growth and development as well as survival of infants and young children. Improved intake of essential nutrients is another outcome to be addressed. This can be done by ensuring that all Malawians are consuming micronutrients rich and fortified food and strengthening delivery of micronutrient supplementation to all beneficiaries according to the schedule by conducting routine targeted campaigns (MoHP, 2003-20). Furthermore, there will also be prevention of common infections through promotion of health practices that help in reduction of risk of diseases among all Malawians. Lastly, the plan to ensure improved management of malnutrition will be addressed through timely and proper management of all children who present with malnutrition to attain the targeted levels. However, there is still no significant change in the cases of malnutrition in Malawi. This nominal change in statistics renders a lot of children to have complicated malnutrition which is serious and treatment responses are likely to be poor most of the times.

Malnourished children need to receive specialized care when they are hospitalized as well as after discharge so that they achieve good treatment outcome (high recovery rate and no readmission). There are several activities that need to be done both at household and hospital level to improve treatment outcome of malnourished children. In an observation study done by Puoane, (2008) where he wanted to find out why some hospital achieve better care of severely malnourished children than others in Eastern cape, South Africa, it was found that positive attitude of nurses towards malnourished children and their caregivers, less judgmental, team work, managerial supervision improved care of malnourished children. The research used observation on ward procedures, compilation of ward data and staff interviews and discussions related to attitudes, team work, managerial support and leadership. However, Caregivers were not involved in the discussion and interviews of which they are the important people who are core providers of care and who experience a lot of challenges when providing care in the hospital and at home.

In another prospective cohort study done in Ethiopia by Tesfay, (2016) where he was trying to know the treatment outcome of severe survival in Northern Ethiopia, it was found that distance from health facility and amoxyl provision were some of the factors that led to treatment outcome of malnourished children. Nevertheless, the study was done at a health centre creating a gap.

However, little is known about the factors that are influencing treatment response of these children at Queen Elizabeth Central hospital.

Problem Statement

Currently, Malawi has attained notable success in meeting child-oriented development goal number 4 which is a reduction of child mortality. However, level of malnutrition

which is one of the contributors to child mortality remains unacceptably high with poor treatment outcomes (Thornton, 2015). There is no significant change in admissions of children with complicated malnutrition at Moyo Nutrition Rehabilitation Unit (NRU). According to 2014-2015 ward data, (1 year period) approximately 614 children were admitted to the ward. Of these children, the average stabilization rate was 75.6% with an average death rate of 20.8%, average readmission rate of 4% and average default rate of 1.3%. According to World Health Organization (WHO) the stabilization rate needs to be >75%, death rate, <10%, average default rate, <15% and there should not be any readmissions (WHO, 2013). Although the average cure rate is within the normal range, the death rate is more than double the WHO cut off point. There is also high readmission rate. However, little is known on the reasons that are contributing to this high death and readmission rate. The high death rate may be due to a number of factors: Late recognition of symptoms, late reporting to hospital, late admission and higher severity of cases, poor implementation of guidelines at the health facility, poor socioeconomic factors, poor infant and child feeding practices and poor farming practices. There is a knowledge gap on what is really causing this treatment response. This proposed study, therefore wished to address this gap by exploring perceptions on what the caregivers and health care workers perceive are the reasons causing this poor response of children to treatment.

Objectives of the Study

Broad Objective.

To explore perceptions of caregivers and Health care workers on causes of poor treatment response of malnourished children.

Specific Objectives.

- To describe caregivers knowledge on malnutrition
- To identify hospital and household challenges experienced by caregivers when caring for malnourished children
- To identify activities influencing poor treatment response of malnourished children at household level
- To explore perceptions of Health care workers on activities influencing poor treatment response of malnourished children at hospital level

Significance of the Study

This study attempted to identify perceptions of caregivers and Health care workers on reasons causing poor treatment response from both household and health system levels. Problem identification is the first step to problem mitigation. The study has provided information to the health systems policy makers and ward managers to have information to help them to come up with proper interventions in dealing with malnutrition problem in Malawi especially its complications which is very dire. Furthermore, the study results will help the nurses and other health workers to properly follow the guidelines when managing children in the ward as well as giving comprehensive nutrition education and other related topics to the caregivers. It will also help health workers at tertiary level in proper screening and management of moderate malnutrition and severe malnutrition to improve care outcomes.

Chapter Two

Literature Review

Introduction

This chapter reviewed and evaluated information which was related to this study. It identified gaps in other studies with an aim of filling them. The literature review in this study was accessed online through resources such as HINARI, Google scholar, Google search and printed books. The literature ranged from 2006-2016 but where information was not found, the researcher used old literature. The literature used in this research was sourced from research work done globally, sub-Saharan Africa and in Malawi. The presentation has been done according to objectives.

Key words used to access articles were: *malnutrition, household, health management, caregivers, and health care workers*. The review included articles published in English language only. This was done because the researcher could only understand articles published in English.

Care Giver's Knowledge on Causes of Malnutrition

Nankumbi & Muliira, (2015) acknowledges that caregivers play important roles to ensure that the health and wellbeing of the malnourished children are improved and maintained. In many settings, children are cared for by their mothers. However, due to other circumstances like deaths, illnesses and other responsibilities, some are cared for by significant others like aunts, grandmothers etc. Reinhard, Given, Petlick and Bemis (2008) defined a family

caregiver as an unpaid family member, friend, or neighbour who provides care to an individual with acute or chronic condition and needs assistance in order to manage a variety of tasks. This tasks ranges from bathing, dressing, and taking medications to tube feeding and ventilator care. These authors continue discussing that the level of confidence of the caregiver is a critical factor in providing care to their children. This is because caregivers meet a lot of challenges to make sure that Infant and Young Child Feeding Program (IYCFP) is adopted (Nankumbi & Muliira, 2015).

Though many studies have shown that caregivers are able to recognize multiple causes and determinants of under nutrition in children, there are some gaps in knowledge for the caregivers.

Studies done by WHO (2012); Singh (2010); Khattak, Gul, Muntaha & Jamaluddin, (2007) discovered that mothers had limited knowledge on breastfeeding practices.

Khattak et al, (2007) conducted a cross-sectional study in Warsak colony, Peshawar, Pakistan. 30 housewives who had children were recruited and given questionnaires and their responses were recorded. The findings revealed that 23(76.67%) of the mothers were illiterate, 80(76.19%) of the infants received gutti (medicine that is given to newborn babies and is believed to build baby's immunity and tackle common baby issues like diarrhoea, colic stomach pains and bowel movements.) as the first feed. 25(23.80) of the infants received Colostrum. Breastfeeding was done in 28(93.3%). However, 10(33.3%) of the mothers gave cow milk and 11(36.6) formula milk along with breast milk. Early weaning was observed in 12(11.4%) such that 39% (41/105) of the infants were weaned in 4-6 months while delayed weaning was noticed in 49.5% (52/105) of the infants.

Colostrum is the first milk which helps to clean the stomach of the baby and gives it the nourishment. It also protects the baby from infections. Gutti is not supposed to be given to babies as it acts as a source of contamination and reduces the breast milk production. Breast milk is free from contamination and is sufficient for all babies during 4-6 months period. Khattak, (2007) discourages giving of pre lacteal feeds and other liquid feeds to children below 6 months as these reduce the milk supply for the mother and it is a source of infection.

Some of the possible factors that contribute to children getting pre lacteal foods are lack of knowledge and confidence that breast milk is enough for the child, increased urban women work- load demands that make them be separated from their babies for longer hours, discomfort on breastfeeding in public and intense promotion of commercial milk formula (WHO, 2012). Lack of knowledge among caregivers on benefits of breastfeeding has a negative impact in such a way that infants are not fully breastfed, for instance, caregivers feel that breast milk is not enough and therefore, opt for mixed feeding. This deprives the infants from acquiring the necessary nutrients found in breast milk for healthy growth, thus leading to malnutrition. Furthermore, when caregivers have no time to breast feed or prepare food for their children, the children have insufficient food intake which may in turn lead to malnutrition.

Literature also reveals that attitude towards breastfeeding may also affect the breastfeeding practice. UNICEF (2014) discovered that 73% of caregivers received information on infant and young child feeding from the health facility by health workers; some received the information from the community health worker and from parenting program. 45% of the

caregivers received information from the grand mothers. However, only 48% of the caregivers practiced EBF and 52% of the children were introduced to complementary feeds prior to 6 months. This clearly shows that although the caregivers receive the information pertaining to breastfeeding and young child feeding, there is poor implementation of the information that the caregivers receive. This may be due to poor attitude towards breastfeeding and young child feeding program.

Awogobenja et al (2010) pointed out breastfeeding as the most effective method for reducing child mortality in under-five children. However, some infections for instance, the Human Immuno Virus (HIV) have exposed a lot of infants to malnutrition. In an explorative qualitative study conducted by Kafulafula, Hutchinson, Gennaro & Guttmacher, (2014), it was discovered that sero positive women in Malawi fear to breastfeed their children claiming this will expose their babies to HIV. This can lead to malnutrition as a majority of HIV- positive people in Malawi cannot afford replacement feeding due to high poverty levels in Malawi. Additionally, children are at increased morbidity and mortality due to over dilution of milk in case of inadequate formula, and unhygienic environment and practices. Furthermore, caregivers may opt to use other foods like Kamba, fizzy drinks, crisps which are not nutritious to the baby in the absence of formula milk in a low socio-economic setting like Malawi. This in turn renders many children to be under-nourished.

In contrast, some studies have shown that other caregivers exhibit good knowledge on nutrition. Chelule & Chihope, (2014) in Botswana & Abeshu et al, (2016) in their study found that caregivers demonstrated good knowledge on introduction of complementary

feeds. Abeshu et al, (2016) conducted a cross sectional study in Ethiopia where they found that almost all, (88.2%) of the caregivers of the children investigated started giving complementary feeds to children by the age of 6 months, while the earliest age for introducing complementary foods was at 4 months (2.9%). In addition, 98.5% of the respondents continued until and beyond the age of 24 months. This was achieved because health extension workers made sure that health information was made available to all caregivers.

This shows that some caregivers lack knowledge on nutrition and when Health care workers provide appropriate information to these caregivers, good nutritional practices will be followed which may in turn improve treatment outcome of malnourished children. Infant and young children feeding practices have a substantial influence on growth, development and health of infants and children as adequate nutrition depends on the proper feeding practices by the mothers/caregivers. Adequate knowledge on nutrition to caregiver meant that sufficient time was given to feed the child, therefore, this led to adequate consumption of required amounts of complimentary foods to meet the child's energy and micronutrient needs leading to good nutrition.

In relation to this, other studies revealed that women had some knowledge on causes of malnutrition. In a qualitative study by Abubakar, et al, (2013) in Kilifi, 10 focus group discussions of between 8-10 people were conducted in a rural coastal community of Kenya. The results showed that women regarded inadequate child supervision, a heavy work-load and maternal attitude and behaviours as some of the causes of child malnutrition. Mothers admitted that they are overwhelmed by household chores like farm work, fetching water and fuel-wood. Maternal workload leads to fatigue. This leads to caregivers' to neglect their children or leave the children to be cared for by hired workers or their siblings. However, these people may not have adequate skills to monitor the feeding pattern of the children or may not give the food to the child. Lack of supervision to children during

feeding has a negative impact on children's health as children do not adequately take enough food as they get tired easily. As a result, these children end up having inadequate food intake which leads to malnutrition. Nevertheless, individual experiences from the mothers would have helped because caregivers have different experiences and face different individual challenges when caring for children and on what they perceive are the causes of malnutrition.

Furthermore, Khunga, Okop & Puoane, (2014) in Zambia, Rasheed, Haider, Hassan, Islam & Jalal in Uganda, (2011), found that poor feeding practices were the main contributing factor to malnutrition. When children are given foods which are low in nutrition content like junk foods especially before the main meal, they get full are more likely to refuse the main meal which has high nutrition content. In addition, when children are given food with older siblings on the same plate, younger children do not take enough food as they eat slowly compared to their counterparts. This has a negative effect on the child's health as children do not take sufficient foods which eventually lead to under- nutrition.

Studies discovered that although some women had information about the causes of malnutrition from their interactions with some health care workers, some participants demonstrated other cultural beliefs as causes of malnutrition (Khunga, Okop & Puoane (2014); Abubakar, et al, (2013); Navarrete, 2013; Mweemba, 2017). These studies revealed that malnutrition is as a result of bewitchment and violation of sexual taboos.

Mweemba (2017) conducted a qualitative study at Chipata Health Centre in Lusaka where he conducted 3 focus group discussions each comprising of 8-10 people. the findings revealed that in all the groups there was a general agreement that a child might suffer from

malnutrition as a result of violation of sexual taboos by both the mother or a father if the mother got pregnant while breastfeeding. In a descriptive exploratory qualitative study by Khunga, Okop & Puoane, (2014) conducted at Kamchele, Kalomo, in Zambia; participants believed that a child with marasmus had HIV and AIDS while kwashiorkor was believed to have been caused by air in the environment and also father's promiscuity. This belief led the caregivers to take the child to a traditional healer when he or she is malnourished. They believed that only the traditional healer can appease for the wrong doing of the father. This shows that some other caregivers still link malnutrition to witchcraft and other beliefs especially in Africa as the study was done in Zambia which is a neighboring country with Malawi. This misconception about the causes of malnutrition can make caregivers to delay in seeking health services which can lead to complications of the condition.

Importantly, Arts et al (2011) in their study show that Cultural and biological factors are also some of the factors that influence mothers' knowledge. It was discovered that primary caregivers are not involved in decision making or they are not in the fore front in decision making process. For instance, a study done in Mozambique and Malawi revealed that fathers and grandmothers of the babies have a great influence on infant and young child feeding. This is as due to lack of autonomy and decision-making by mothers as decisions only involve extended families. In Malawi, for example, mixed feeding was found to start 48 hours after birth as advised by grandmothers who are perceived as the key decision makers when it comes to decision making (Arts et al, 2011). During this time, many women have not yet started producing breast milk, and grandmothers believe that the child is hungry hence give pre lacteal feeds to children. It is important to know that in most cases, grand mothers and fathers are not actively involved in Information Education

Communication (IEC) activities as this information is targeted at mothers only at the antenatal, postnatal and under five clinics. This lack of information by fathers and grandmothers acts as a barrier to a continuation of breastfeeding which predispose many children to malnutrition. This is in agreement with a study done by Abubakar, Holding, Mwangome and Maitland, (2013) in which mothers mentioned cultural norms and beliefs to have an impact on decision making and lead to under-nutrition of children. In this study, mothers perceived that their position in the family was one of the contributing factors to under nutrition of their children as they are not in control of resources and lacked the power to implement knowledge of nutrition needs. They further said that, though they receive nutrition counseling concerning their children, the core decision makers on what to buy and to be prepared were the husbands. This negatively affects the children's nutrition needs as these fathers do not have the adequate information that the mother received at the health facility concerning nutritional needs of the child.

Lack of funds which limit access to health foods was another factor that mothers mentioned contributing to malnutrition (Abubakar, et al 2013). Mothers suggested that if they could have a small business, they would be provided with an alternative income source but lacked the necessary capital to set up a business. This lack of funds hampers the mothers' ability to properly feed their children which in turn lead to under nutrition.

In summary, this section shows that though some caregivers have knowledge on causes of malnutrition, majority do not really know what causes malnutrition. This is evidenced by reduced practice of EBF, poor infant and young child feeding practices as well as misconception on the causes of malnutrition which are also influenced by cultural beliefs

and financial dependence of primary care givers. This lack of knowledge may contribute to poor treatment response of malnourished children as children may be brought to hospital while in critical condition where they are difficult to be stabilised. In addition, improper feeding may lead to readmissions as children who are not fed well after discharge are likely to relapse. However, no study has been done in Malawi on this topic. This is what has prompted the researcher to explore this knowledge among caregivers and how it influences treatment or response of malnourished children.

Challenges Experienced by Caregivers When Caring for Malnourished Children

Several factors may affect treatment response of children suffering from malnutrition. Mothers who are distressed or psychologically affected may not be able to provide quality care to their children while safe hospital environment and good relationship between caregivers and hospital staff promotes good treatment response. This section will present the challenges that the caregivers face at household level and in the hospital with other caregivers and health care workers.

Khunga et al, (2014) in a study in Zambia pointed out that mothers reported poor access to Primary Health Care (PHC), the stigma of caring for a ‘thin’ child in hospital, and fear of hospital admission (due to previous experience of long waiting times), as some of the reasons for the poor management of severe malnourishment in under-five children. Distance from home to the health facility affects the caregivers’ access to quality care as the caregivers are unable to reach to the health facility due to long distances and lack of transport. This may in turn lead to caregivers opting to stay at home with the child or go to access care from other sources like witchdoctors. As a result, children are brought to the

health facility very late when the condition has worsened. Additionally, stigma and fear of admission due to past experiences negatively affects the nutrition response of the child. For instance, when the caregiver feels ashamed to go to the health facility for fear of being stigmatized that she has a thin baby, or due to past experience of the hospitalization, they may stay at home with the child rather than taking them to the hospital. This makes the disease to progress further leading to complications. Furthermore, Khunga discovered that caregivers lacked confidence in facility-based care for malnourished children. These may have a great impact on the care rendered to children. This may be possibly because the child is very sick, the environment is strange and the child may need feeding tubes which the caregivers have no knowledge about.

Family support is one of the challenges caregivers face when caring for malnourished children. In an exploratory and descriptive study done in Bizana Eastern cape, South Africa, where 10 in-depth interviews were done on 10 mothers with children admitted at St. Patricks hospital, mothers reported that they lack family support and resources while in the hospital (Macabela, 2015). Caregivers depend on the family to provide them with their needs and resources. Lack of family and social support have an impact on the child's condition as mothers need to be supported at any angle so that they should provide the best care to children. This is because children who live in difficult times depend on the nurture of the caregiver to shield them.

Coherently, feeding problems was one of the difficult experiences that caregivers faced when caring for malnourished children. Saldan, Demario, Brecailo, Ferrian & Mello, (2015) in an observation study which aimed at looking at interaction during feeding times

between mothers and malnourished children in Brazil, it was observed that caregivers had difficulties to feed their children because much time was needed due to distractions like play and eating slowly. As a result, it needed mothers to be patient, kind and loving when feeding these children. However, other caregivers ended up slapping, scolding and shouting at their children due to lack of patience. Lack of patience, kindness and love during feeding times may negatively affect these malnourished children because caregivers may not give enough food to the children necessary for their growth and development because they may get tired feeding the child. As a result, children's nutritional status may worsen.

Stewart, et al (2010) in their study of maternal distress among mothers admitted to NRU at QECH found that maternal distress was one of the experiences found in caregivers caring for their children in NRU ward at QECH, Malawi. The study recruited 244 mothers who were given self-reporting questionnaires. The results revealed that there was increased maternal distress as evidenced by suicidal ideations during the previous 4 weeks in caregivers of children at NRU. The distress was primarily because they were caring for a severely ill child in the hospital, no good relationship with the spouse and past experience of the child dying due to the same condition. During admission, distress was associated with diarrhoea in the child which led to a high level of distress at recruitment perhaps because this is an additional major care burden on the mother e.g. maintaining child hydration, repeatedly washing clothing, and additional fear of the poor outcome. The severity of underweight, wasting or the presence of nutritional oedema, were not considered to be major causes of distress likely because all children were malnourished in the ward. This has a negative implication on the child as a distressed caregiver may not be

able to provide quality care to the child may not follow the feeding instructions and may not interact with the child properly.

In another study conducted by Chiwaula (2011), in Zomba it was discovered that one of the challenges that mothers face in the NRUs is the lack of enough skilled staff to treat the large numbers of children needing care. If the staff working in NRU are not enough, night feeds are not given to the children. As a result, children may die either in the early hours of the following day due to complications like hypoglycemia. In addition, the caregivers are not observed during feeding times as well as giving them adequate information on how to feed their children. According to Buerhaus, et al, (2007), inadequate hospital staffing leads to an increased risk of adverse patient outcomes, including mortality. Prolonged shortages also might reduce the quality of patient care, and decrease the efficiency and effectiveness of care provided resulting in poor outcome of the care.

In summary, it can be concluded that caregivers have face different challenges when caring for malnourished children which affect the care of these children. It is therefore imperative to conduct this study to explore these experiences and come up with recommendations on how to help these mothers so that outcome of these children is improved.

Activities at Household Level Influencing Poor Treatment Outcome Of Malnourished Children

In a study by Yebyo, Kendall, Nigusse & Lemma in Ethiopia it was discovered that the recovery rate from OTP was low (61.78%) compared to the normal standard level of >75%. The reason for this result was likely due to sharing of plumpy nuts (RUTF) with other family members or caregivers not encouraging the child to consume the right amount of

food. This negatively affect the child's health as the child does not get the recommended amount of nutrients to recover fully from the malnutrition hence may lead to readmissions. The study further revealed that some children had loss of appetite for plumpy nuts and poor weight gain. This also contributed to poor treatment response as loss of appetite means the child does not eat the right amount of plumpy nuts prescribed by the health worker for proper recovery from the malnutrition.

Similarly, Boltena (2008), who was looking at factors affecting the rehabilitation outcome of out-patient therapeutic program in Durame, Ethiopia, discovered that family size, higher level of absenteeism, plumpy nut refusal and chronic medical conditions were some of the factors that affected treatment outcomes of malnourished children. This implies that a large family size does not have adequate nutritious food for all members especially children who are at a higher risk of developing malnutrition and as such they share the plumpy nuts of the sick child. In addition, children who refuse plumpy nuts may not recover fully from their condition hence may go back to the condition leading to readmissions. Chronic conditions affect the treatment outcome of the malnourished children in a way that it causes the child to be on the treatment program for a longer period and also cause malabsorption of nutrients, loss of appetite as well as altered metabolism. Furthermore, high level of absenteeism to follow up clinics leads to low weight and poor treatment outcome as there is no consistency in the intake of the RUTF. In addition, Massa, Woldemichael, Tsehayneh, & Tesfay, (2016) in their study of determining treatment outcomes of severe acute malnutrition and determinants of survival in northern Ethiopia, discovered that distance of the house from the health facility, means of drinking water and storage at the

household level, food preparation methods and weight for height of children on admission were associated with treatment outcome of children. Distance of the household to the health facility affects treatment outcome of children because when the health facility is far from the home, caregivers lack access to health services such that the caregivers seek health services when the condition worsens. It also causes high absenteeism rate to the OTP program follow up visits.

In this study, it was found that out of 332 children included in the study, 178 children from the families which prepare adult food separate from children food had good treatment outcome while only 77 children recovered well from families who prepared adult food together with children food. 218 children from families who use hand pump protected water recovered compared to 37 children whose families use unprotected water. This clearly shows that the caregivers who prepared children food separate from that of the adult food made sure that this food specially prepared for the child is rich in all the nutrients required for normal growth that it's easy for the child to eat and digest. Safe drinking and well stored water prevent the child from acquiring infections like diarrhea and worms which affect children by having loss of appetite and increased losses causing malnutrition.

Poverty or economic constraints was another factor that affected the treatment outcome of malnourished children at the household level. A study by Chastre, Daffield, Kindness, Lejeanes & Taylor, (2007) revealed that the minimum cost of a healthy diet to meet all the nutrition requirements of household members was unaffordable for the large population in all four study locations; Myanmar, Tanzania, Bangladesh and Ethiopia. This implies that

the families are not able to have nutritious food especially to meet the nutrition requirement for the children hence the children are at risk of malnutrition relapse.

This section reviewed literature from other African countries as there are no published studies on factors that affect treatment outcomes of malnourished children at household level in Malawian setting. Thus there is need to conduct this study in order to address this problem.

Activities at Health Facility Level Influencing poor Treatment Outcome Of Malnourished Children

According to Griffiths & Rosso, (2007), the most cost- effective way of preventing malnutrition is proper growth monitoring because children whose anthropometry defines them with any degree of malnutrition are at greater risk for severe morbidities and higher mortality. As a result, programs aiming at identifying children as they are becoming malnourished not as they are already malnourished are in place through frequent measures to assess changes in growth routinely but they are not properly implemented. In a study done in Zambia by Khunga, Okop & Puoane, (2014), for instance, revealed the enormous challenges regarding the detection of severely malnourished under-fives in the community, and management of such children at Primary Health Care (PHC) level. The challenges of shortage of staff and equipment that are dysfunctional to screen children at PHCs were on rise such that treatment for children was compromised. This resulted in children being turned back and asked to return on another day. This may lead to complications of the malnutrition as children may become severely malnourished at home while waiting for the appointment date.

A similar study by Del & Miller, (2008) in Madagascar where they were evaluating community management of acute malnutrition, discovered that screening criteria was clear but was not well accepted which called for some issues to be addressed to ensure proper coverage and expansion of the program. The review further revealed that criteria for admitting children to the program (MUAC and WHT) caused confusion and resistance among health workers at all levels. Confusion on screening of children among health workers leads to poor or late identification and management of children with malnutrition which in turn may lead to complications.

In addition, there are few studies, and numerous inconsistent findings, on the effectiveness of MAM management. Lazzerini, Rubert & Pani, (2013) and Lenters et al, (2013) revealed the apparent lack of effectiveness of targeted Supplementary Feeding Programs (SFPs) aimed at treating MAM in emergencies, noting high rates of defaulting, low coverage and high associated costs. In addition management of MAM receives less attention than SAM despite its global caseload of mortality risk (Annan, Webb & Brown, 2014). When SFP and MAM, are not effectively implemented at primary level, children with mild or moderate malnutrition receives inadequate care or not adequately managed. This may result in these children coming back with severe complicated malnutrition later on which has a negative impact on their lives.

Annan, Webb & Brown, (2014) discovered that the challenge in the management of moderate malnutrition is that approaches to addressing MAM focus predominantly on targeted and blanket supplementary feeding without addressing the underlying causes of the malnutrition. Annan et al further state that the approaches pay inadequate attention to

institutional and system capacity. In addition, little attention is also paid to -building capacity for the professionals and caregivers of the malnourished children. Inadequate knowledge for both health care workers and caregivers on assessment, prevention, and management of malnutrition has a great impact on the children. Matilsky, Maleta, Castleman & Manary, (2009) found that poor assessment and management of children cause them to return to the same conditions which caused them to be malnourished on the first occasion, thus putting them at risk of relapse. Human resource development, professionalization of programs and adequate investment in raising the awareness and behaviour change are essential in dealing with this problem.

In the retrospective cohort study by Yebyo, Kendall, Nigusse& Lemma, (2013) in Ethiopia, it was found that children with medical conditions were managed under OTP. In addition, routine drugs like amoxicillin and de-worming drugs were partially administered to children. For instance, 21.1% of the eligible children did not receive the routine drugs as stipulated by the CMAM guidelines. This has a great impact on the treatment outcome of malnourished children. A study by Chimois (2008), revealed that taking amoxicillin and de-worming drugs together with plumpy nuts were positive predictors of recovery rate from SAM. Amoxicillin is administered to malnourished children because children with malnutrition have associated signs and symptoms of infection and hence are assumed to have infection and need to be treated with antibiotics. In addition, malnourished children are given albendazole which is used as a de-worming drug to treat parasitic worms. Parasitic worms are some of the causing organisms of malabsorption in the child and sometimes feed on the nutrients that are supposed to be used by the body which in turn cause malnutrition.

In an observation study done by Karaolis et al (2007) to look at the feasibility of WHO guidelines in rural African countries, it was revealed that health workers were failing to implement the guidelines due to understaffing, stress and low morale. These factors have a negative impact on the care outcomes of malnourished children as they lead to poor quality care. On the other hand, the study further revealed that some staff had reproachful attitude and failed to listen to caregivers' concerns which in turn discouraged caregivers from seeking help. This poor communication between staff and caregivers disrupt cooperation and hence prevent effective implementation of the guidelines.

From this section, it can be summarized that management of children at facility level meets a lot of challenges from primary level to tertiary level. For instance, it has been discovered that there is confusion on how to conduct assessments, inadequate staff, and improper implementation of the guidelines as well as underrating the importance of MAM management. This has a negative impact on the nutrition status of the children and treatment outcome of children. This study therefore, aims to explore some of the factors at facility level which hinder proper management of malnutrition which may in turn affect children and how best this problem may be solved.

In general, this chapter reviewed literature from different sources on knowledge of caregivers on causes of malnutrition, challenges faced by caregivers when caring for children, household and health management factors that affect treatment outcome of children. From this literature search, it has been discovered that there may be a lot of factors that can influence treatment outcome in malnourished children. However, a lot of studies have been done in other countries on this topic while very few have been done in Malawi.

It is for this reason that this study aims to explore these factors and come up with recommendations on how treatment outcome of malnourished children can be improved.

Chapter Three

Methodology

Introduction

The research methodology is a section that is describing the research design, sampling technique, data collection process and how data was analyzed, (Bem, 2008). It also

provides information on how the researcher critically evaluated the validity and reliability of the research.

Research Design

The research design is how the researcher intends to plan on how the research questions will be answered (LoBiondo-Wood & Haber, 2014). This research was a descriptive qualitative research. This was chosen because it provided complex textual descriptions of how people experience a given research issue as it sought to describe various aspects of the phenomenon through in-depth interviews, (Moule & Goodman, 2014). This design is suitable for this research because the goal of this research was to comprehensively summarize specific events that are perceived by both caregivers and Health care workers as factors contributing to poor treatment outcome of malnourished children (Lambert, 2012). It also provides a straight forward description of the phenomena desired. In this case, the researcher wanted to know the perceived factors causing high deaths and readmission rate of malnourished children. In addition, it provided a broader scope which ensured generation of useful data (Shuttleworth, 2008).

Furthermore, this approach was used to describe, explore and understand a problem being studied

Study Setting

Setting refers to the place where the participants were recruited and data collection took place (LoBiondo-Wood & Haber, 2014). This research was conducted at Queen Elizabeth central hospital (QECH), Paediatric Nutritional Rehabilitation Unit ward (NRU). QECH was selected because it was one of the referral hospitals, located in central Blantyre and serves a wider population for all the 13 districts in the southern region of Malawi. It

provides both secondary and tertiary services. QECH has 1300 bed capacity, of which 287 are in the pediatric department. In relation to this study, it was chosen because it provides both Nutrition Rehabilitation services as well as OTP services to children. NRU is where malnourished children are admitted for proper assessment and management of their conditions. They are provided with supplementary feeds such as F75, F100, Chiponde and Likuni phala while they are also treating the underlying cause. Recruitment of patients is done according weight and height, MUAC and Oedema. The ward has also HDU for very sick children. It also provides OTP services every week for children who were discharged and have come for follow up.

Study Population

According to LoBiondo-Wood & Haber (2014, p 232), a study population is the group of people that were interviewed or observed during the process of data collection. In this research, the study population consisted of caregivers of children who were admitted at the paediatric NRU at QECH. This is because these caregivers were the ones who provided direct care to these children and provided relevant answers to the research questions. In addition, it also included health care providers (nurses), working in the ward. Nurses are the ones who provide direct care to the malnourished children at QECH.

Sample Size

Though it may be possible to collect data from the whole community, the sample was used in order to get valid findings. A sample is a subset or a smaller representative of units of a target population (Houser, 2008). According to 2014-2015 data in Moyo NRU ward at QECH there were 614 admissions annually; thus an average of 51 patients per month

sample frame. Since qualitative research studies have no specific rules on sample size as sample size is based on need to obtain sufficient information that will address the research questions, (Moule & Goodman, 2014). Ten care givers were recruited because data reached saturation. Out of the available 6 health care providers in the same ward three nurses were selected because they were the ones that met inclusion criteria of the study. The total number of informants in the whole study therefore was 13. The researcher used a case mark whereby seven care givers who had stable children in main bay and three caregivers with very sick children in high dependency unit (HDU) were interviewed. This was because the researcher needed to capture experiences and knowledge from both mothers who had very sick children as well as stable children.

Sampling Technique

Purposive sampling was used in this research where participants were chosen based on their availability. Purposive sampling provides researchers with strong theoretical reasons for their choice of units (or cases) to be included in their sample. The researcher carefully and systematically selected participants in the ward which she thought were appropriate for the study and based on the pre-defined characteristics which are of interest to the researcher and those that they will provide rich information for analysis to the study. These were the caregivers who were admitted in the ward from main bay and High Dependency Unit. The researcher also chose these informants because they were able to provide most relevant information in relation to the aims of this study but choice was done in such a way as to minimize bias as much as possible, and to find subjects who reliably informed the research question.

Inclusion criteria.

All the caregivers/guardians with under- five malnourished children were eligible for recruitment in this study. This was because the under five children are the most vulnerable to malnutrition compared to other age groups. In addition, the caregivers were those who were 18 years and above, mentally stable and had consented to participate in the study. This is because these caregivers were the ones who were regarded to provide rich information relevant to the study as they are mature and their thinking capacity is logical. Furthermore, only health care providers who have worked at QECH (Moyo Nutritional Rehabilitation Unit ward) for a minimum of one year were considered in order to obtain accurate, precise and reliable information and experiences related to the research question.

Exclusion criteria.

All caregivers with children above five years of age were not eligible for recruitment in this study. This was because malnutrition rarely affects children above five years of age. Caregivers who were less than 18 years old and mentally unstable were also not included in the study. This was because those who are mentally unstable may not give correct information to the study questions. Furthermore, all health care providers who had worked at QECH (Moyo NRU ward) for less than 1 year were not considered as they could not explicitly provide information to the research question.

Data Collection Instruments

Data collection was done using semi-structured interview guide (appendix 7 and 8) and a voice recorder. Since the research used two groups of people, the researcher used two data collecting tools as their level of knowledge were different. These data collecting instruments were used to explore views and experiences of mothers and health care workers

who were taking care of malnourished children on their perceptions on reasons leading to poor treatment response of malnourished children at QECH. An interview guide was an instrument for the researcher to ensure that important issues were not left out. Semi-structured interviews contained key questions that helped to define areas to be explored (Gill, Stewart, Treasure & Chadwick, 2008). In addition, semi-structured interviews were flexible as they contained unstructured open-ended questions which allowed discovery and elaboration of information that was important to participant but was not previously thought by the researcher. The questions were developed from the study objectives and presented on an interview guide so that it addressed the study questions. Voice recorder was used by the researcher in order to make sure that no information responded by the participants was left out as the researcher was able hear the voices now and again to make sense of what was been said. The data collection tool was tested on both the healthcare workers and caregivers first before the actual study to determine if the information that was collected was really what the researcher wanted.

Pretesting of the tool was conducted at Zomba Nutritional Rehabilitation unit ward.

Zomba central hospital was chosen to gain an insight on the tertiary level information to see if the guide would produce the required information intended for the study. In addition, Zomba Central hospital shares similar characteristic with QECH.

Data Collection Process

Participants were identified in the ward; thus mothers caring for malnourished children in the ward. Before the interviews, participants were informed about the study details (appendix 1) and were given assurance about ethical priorities like anonymity and confidentiality. The interviews were then carried out in a private room using the interview

guide and a recorder. The interview guide was there to provide guidance to a dynamic conversation. It helped the researcher to focus on her study objectives, her attention on the participant and what the participants would be saying (De clerck, Willems, Timmerman & Carlings, 2011). The researcher was attentive to what the interviewee was saying and came up with follow up questions and probes. The researcher was recording the responses using the voice recorder.

Data Management

Data collected from the participants was put in an envelope and sealed. Then the data was kept in a lockable drawer to ensure that it was out of reach for other people who were not part of the study. This was done to ensure privacy and confidentiality.

Data analysis

Data analysis describes how raw data was handled which in this research were transcripts of recorded interviews (LoBiondo-Wood & Haber, 2014, pp114). The goal was to find commonalities and differences in the interviews. This data was analyzed using simple thematic analysis. According to Braun and Clarke, (2006), thematic analysis is a simple and widely used method of analyzing qualitative data. This method was chosen as it allowed for rich, detailed and complex description of the data. It focused on identifying themes (pattern of meaning) in the research. According to Braun and Clarke, this analysis used six steps which were used to analyse the data as described below.

familiarisation with data.

The researcher listened to the audio tape several times and used field notes in order to gain understanding of what was being said. The researcher immersed herself in the data to become familiar with it. The researcher listened to the audio tapes several times to make

sure that the transcriptions were accurate and reflected what the participant really experienced.

generating initial codes.

Once the interviews were transcribed verbatim, each transcript was read and notes made in the margins of words, theories or short phrases that summed up what was being said in the text during the interviews. The goal of this was to make a summary statement of the words for each element that had been discussed in the transcript (LoBiondo-Wood & Haber, 2014). Data was then classified into categories by converting it into smaller, more manageable units that can be reviewed.

searching for initial themes.

After, grouping the data into categories, it was then coded in their categories. Rereading was done in order to identify the appropriate code of the category until the researcher identified and grasped the code relevant to the category. Different codes were sorted into potential themes. The researcher used colours to identify themes. All categories with same colours were grouped into broader and more abstract categories of meaning called themes which were identified from the transcripts of the interviews. These themes were then verified by searching through the data and repeating the process in order to identify further themes and categories. These themes were made up of subset of codes. Subthemes and main themes were developed.

reviewing the themes.

Re-reading of the themes was done to make sure that the data was forming comprehensible pattern and it shows the relationship between the themes. Refinement of

the themes was made. Some themes which were broader were broken into smaller components. Other unnecessary categories were dropped. The researcher also made sure that the themes reflect the meaning of the research data.

defining and naming themes.

This was done by capturing essence of what each theme is all about and finding the aspect that each theme captured. The researcher also identified whether or not the themes contained subthemes. Naming was done in such a way that the reader should gain an understanding of what the theme is describing.

producing report.

Final report was then produced in a logical and comprehensive manner so that the reader should gain insight of what was found.

Trustworthiness of the Data

Since qualitative researcher perspective was biased due to the close association between the data sources and methods, various audit strategies were used in order to confirm the findings. Guba and Lincoln, (1985) suggested four criteria for developing trustworthiness of qualitative inquiry. These methods include: credibility, dependability, confirmability and transferability.

Credibility

This ensured that the data presented showed the true representation of the participants' view, experience or belief. The researcher had confidence that the interpretations were true and faithful to the insider viewer (Moule & Goodman. 2014). To ensure credibility, the researcher engaged more time with the participants to build trust. Same research questions

were asked to different study participants. Questions were clarified to them where they were not giving the correct answers. More probes, reviews, and interpretations were also made in order to get the intended information which was the true representation of the data.

Dependability

This was the ability of the qualitative data to stand the test of time (Moule & Goodman, 2014). This was achieved by carefully documenting the research process.

Confirmability

This was how data was measured in order to attain its objectivity (Moule & Goodman, 2014, pp192). The researcher brought the unique perspective to the study. It described the degree to which the results could be confirmed or collaborated. In this research, this was achieved by objectively discussing the evidence and processes that led to the conclusion.

Transferability

This was how the researcher demonstrated the extent to which the research data could be transferred from one context to another (Moule & Goodman, 2014, pp193). This was done by providing a thick description of the data. Detailed descriptions about the setting and the results assisted any reader to determine whether the results were helpful in other settings. Detailed descriptions were facilitated by recording the interviews.

Ethical Consideration

For this research to be accepted, Permission was sought from QECH administration and Paediatric department Head of Department to ensure that the research was accepted by the authorities in these institutions.

The proposal was then sent to College of Medicine Research Ethics Committee (COMREC) for ethical approval which aimed at safeguarding the welfare, dignity, and

safety of the participants. It also ensured that ethically approved research was conducted in line with the approved protocol, and promoted public confidence in the conduct of human research. COMREC play key roles in promoting ethical practices in biomedical research and in identifying solutions to ensure that the interests of researchers and society do not take precedence over the rights of the participants. In addition it also ensured that all the benefits and burdens of the study were distributed fairly (Martin-Arribaz, Rodriguez-Lozano & Arias-Diaz, 2012).

The participants were asked to sign an informed consent form. This was an ethical and legal doctrine where participants were informed and showed the understanding that all interventions, the purpose, nature, consequences, and risks of the intervention were been explained to them and that they freely consented to participate in the study.

Participants were told that although every study has potential risks, the risk for this study is minimal and they will be managed accordingly. They were told that they may undergo psychological stress as issues of caring for a malnourished child are stressful but since the researcher is a nurse; all stress will be handled accordingly by counseling.

Confidentiality which means the non-disclosure of certain information except to another authorized person was assured. Participants were assured that the information collected to them was private and had limits on how and when it can be disclosed to a third party. To ensure privacy, participants were secluded from the presence or view of others by conducting the interviews in a private and secured room.

Chapter 4

Findings of the Study

Introduction

This chapter presents the findings of the descriptive research study which investigated factors contributing to poor treatment outcome of malnourished children at Queen Elizabeth Central Hospital. Participants were both health care workers and caregivers. 13 participants were interviewed; ten caregivers and three nurses. These findings are presented in two categories, namely demographic and qualitative results.

Demographic data

This section presents demographic data of 13 participants: three nurses and ten caregivers. One nurse had worked with malnourished children for more than six years, while two nurses had worked for less than five years. Out of the three nurses, two were females while one was a male. Only one nurse was trained in the Community Management of Acute Malnutrition guidelines. From the demographic results out of the ten caregivers interviewed, it was reported that eight of the ten children were less than three years old while two were more than three years old. Six children out of ten were HIV reactive, three were non-reactive while one had unknown HIV status. Five children were admitted to the ward for the first time while five were readmissions.

Nine of the ten caregivers interviewed were biological mothers to the children. Eight out of the ten caregivers attained primary level education while only two attained secondary level education. Eight caregivers were housewives while two were doing some small scale businesses.

Work Experience	
1-2 years	1
3-5 years	2
Gender	
Female	2
Male	1
Training in CMAM	
Yes	1
No	2

Table 1: demographic data of Health care workers

Age	Number	HIV Status	
<3years	8	Reactive	6
3-5years	2	Non-reactive	3
Admission status		Unknown status	1
1st admission	5	Occupation	
Readmission	5	Housewives	8
Education status		Businesswomen	2
Primary level	8		
Secondary level	2		

**Table 2 Demographic data for caregivers and children
Qualitative results**

This section presents the findings from the interviews conducted. Based on the analysis of the interviews using thematic analysis method, six broad themes emerged which were further grouped into sub-themes. These broad themes were; caregiver's knowledge on malnutrition, practices influencing care of children in the ward, Conditions of the child, health management factors affecting care of children, challenges faced by caregivers when providing care to malnourished children, and health care workers and caregiver's perceptions on future care. These themes are discussed in the following paragraphs below.

Caregiver Knowledge on Malnutrition

Two sub-themes emerged from this theme namely; presenting symptoms and causes of malnutrition.

Sub-theme 1: Presenting symptoms

The caregivers said that their children presented with other symptoms and conditions such as diarrhoea, vomiting, pneumonia, cough, respiratory distress, mouth sores, fever, malaria, TB, and convulsions while two presented with malnutrition symptoms only; like oedema and wasting. Some participants also said that their children had congenital abnormalities like cerebral palsy. All the participants sought medical help by going to the hospital. However, most of the participants went to the hospital late. The reasons behind this were that they were thinking that the child will improve, due to lack of knowledge on the symptoms and they gave treatment at home such as ORS, panado, Amoxicilline and Bactrim which they bought from over the counter. One of the participants whose child had been admitted four times in the ward said...

“I did not know that my child had oedema; I was thinking she was recovering and gaining weight. I realized that it was oedema after a week had passed,”(Caregiver #9).

Some participants went to the hospital seeking other medical services not recognizing that their children are malnourished and will need nutrition support and were recognized while being assisted in other clinics. A caregiver whose child fall sick but did not take her to the hospital illustrates...

“He fell sick the past two weeks. I brought him here to physiotherapy department for physiotherapy. When they saw that he is losing weight, they referred him to under-five clinic,” (Caregiver #2)

Sub-theme 2: causes of malnutrition

The research findings revealed that Exclusive Breast feeding (EBF) was not practiced among the study participants. Although some knew some benefits of EBF, they gave reasons for not practicing EBF such as; not producing enough milk, children to learn eating other foods and children crying with hunger as illustrated by a caregiver...

“He was crying of hunger. The breast milk was not enough as I was not producing enough milk.” (Caregiver # 8)

On feeding the children, some caregivers said they were giving their children at least three to four meals of foods per day like porridge in the morning, nsima during lunch, porridge in the afternoon and nsima in the evening. However, some caregivers revealed giving their children porridge only. They said their children did not like nsima or they were young as illustrated by caregiver of an eleven months old child...

“He does not eat; he has not yet started eating other foods. I just give him porridge...” (Caregiver # 2).

This porridge was mostly not nutritious as it lacked necessary nutritional requirements because she further said that the porridge is usually prepared using mgaiwa flour without adding anything to it but she would add cooking oil and groundnuts flour when she had them.

When asked about the six food groups, it was found that all the caregivers failed to cite all the six food groups. The caregivers mentioned two to four groups of food saying they have forgotten the other ones while some said they do not know. When asked to mention the six food groups, one caregiver said...

“Fruits, vegetables, meat....I have forgotten the others,” (Caregiver #2) Another caregiver when asked the same question responded....

“Vegetables, fish, meat, eggs, fruits....I have forgotten others,”(Caregiver #7)

Theme 2: Practices Influencing Care Of Children in the Ward

Three sub-themes emerged from this theme namely relationship between health care workers and caregivers, challenge in care and treatment and lack of routine health education.

Sub-theme 1: Relationship between health care workers and caregivers

Caregivers revealed poor communication from health care workers as one of the factors which affected them as people who were taking care of children in the ward. They pointed out that nurses were not talking to them with respect and were shouting at them.

They further explained that the nurses were harsh and used abusive language on them. A caregiver said because she was readmitted four times in the ward, one nurse told her colleague never to put oxygen on her child saying she is a regular comer in the ward and she narrated;

“There is a certain nurse who told me that, ‘you are a regular patient here, you don’t want to stay at your home...’ and I asked myself this question, don’t I want to be home? Does it mean I don’t have anything to do at home? Because I have a lot of things to do at home and I come here just to save the life of my child,”(Caregiver #9).

Another caregiver expressed that the nurses shouted at them in public and without respect which made them feel like they are useless, and they cannot do anything...she explained;

“I remember a nurse who rebuked me in public when I was reading the doctors report in the child’s file that ‘do you know how to read, can you get anything from the report? If you were educated, could you be at that level...?’ Such kind of words can make one feel that you are nothing and you cannot do anything so it makes you to go home and do other things” (Caregiver #4).

In addition, she said that the way health care workers speak to caregivers can either make caregivers to show love to their children and take care of them or stop taking care of the child. When asked to differentiate between the night duty nurses and the day duty nurses, all the caregivers who have experienced poor communication from nurses mentioned that the night duty nurses are the ones who usually do not talk to them properly.

On their relationship with doctors, some caregivers said that some doctors could implement compulsory treatment on them without proper discussions and agreement with the caregiver and would just come, take the files and start reading and writing without greeting the caregivers. The caregivers said this made them to feel as if they are not involved in the care of their own children or they do not have the right to accept or deny the treatment for their children. As a result, they do not contribute anything to the care.

“Sometimes they just come, taking files, reading them without greeting us...how can we be open that way?...sometimes they give treatment by compulsory/force, for instance, my child is receiving TB treatment but he tested negative to TB. They intimidated me that they will not welcome me if I come again because I was resisting this TB treatment...”
(Caregiver # 4).

However, some caregivers backed up the nurses saying the problem is the caregivers themselves. They said that if you are polite to them, they are also polite to you. They further explained that sometimes nurses shout at them because they are not following what they have been taught or they are asked to do. One caregiver said; ...

“Some nurses have good behaviors and sometimes it is us who are wrong... because a certain day we were complaining that they did not talk to us well but I told my fellow women that they were the ones to blame. Because the nurse came to tell us that we should go and receive milk, we did not wake up. She came a second time, we did not go. So do you think she is to blame?” (Caregiver #6).

Subtheme 2: Challenge in care and treatment

Health care workers also revealed that they meet some challenges from caregivers as some resist oxygen therapy and NGT feeds. It takes some counseling and even effort from other caregivers encouraging them to accept the management. This may result in the improper management of the child or unnecessary death of the child which could not have happened. One nurse explained; ...

“We meet challenges when the child changes the condition, for example; respiratory distress and when we counsel the mother, some mothers still resist. They don’t want

oxygen, they think that oxygen kills or even NGT; when we talk about NGT some don't want..."(HCW, # 3).

This was confirmed in **some of the caregivers** who said they were afraid of oxygen and NGT because they heard it kills people. One caregiver narrated when asked what her worries were when nurses put her child on oxygen therapy:

I was not expecting it because I did not come here, I came to physiotherapy and so when they put him on oxygen, I was so worried because I heard that it kills.(Caregiver # 2).

Sub-theme 3: Lack of routine health education

Caregivers said that they receive health education on admission and discharge only. They said that there is no routine health education in the ward. They explained that they would love to have the additional routine education while in the ward on different topics concerning child care because for them to practice the right things at home, they needed to be told what things they are going to do when discharged home. This would in turn help to prevent them from coming again to the hospital due to relapse of the condition. One caregiver illustrated...

"Since I came here, I have never been educated on any things regarding care of my child..." (Caregiver # 10).

When asked if it was important to have routine health education in the ward, she narrated....

"Yes, because for someone to learn, you need to be educated; that I was doing this thing in a wrong way. You know when you are told, that here I was doing like this

not knowing that I was doing it in a wrong way. In that way, you have knowledge because someone has told you. It's good for sure," (caregiver #10)

This was also confirmed by caregivers' inability to answer questions on six food groups and how they will care for their children when discharged.

Theme 3: Condition of the Child

Condition of the children was one of the factors which were revealed to be contributing to poor outcome of care of children. Three subthemes emerged from this theme. The health care workers named critical conditions, HIV and AIDS as well as congenital abnormalities as factors which affected quick recovery of children in the ward and led to frequent admissions.

Sub-theme 1: Critical conditions

The research revealed that children who were critically ill were difficult to stabilize. All health care workers interviewed said that children who came to the ward in critical conditions with severe complications were difficult to stabilize and had high chances of dying. In addition health care workers said that other children removed NGT regularly which delayed recovery

"Ok, so far according to the clients I have seen, I think when the child has come in the ward late and in a very bad state in terms of severity of the condition, it becomes so hard to stabilize the child, so it takes a long period trying to stabilize the child; trying to do different kinds of things, trying to catch up with the child, but if you become unfortunate you find that you even lose the life of the child..."(HCW #2)

Sub-theme 2: HIV and AIDS

Health care workers said that a lot of children in the ward are HIV positive which is associated with complications such as infections, pneumonia and diarrhoea. These children take time to stabilize and spend a long period in the ward. When they are discharged and go home, they refuse to eat, develop diarrhoea and other complications again. As a result, they come again for readmissions. Furthermore, health care workers revealed that non-adherence to treatment also contribute to complications of the child's condition.

Another thing which keeps children for a longer period in our ward is the issue of HIV and AIDS. Children do not respond to the treatment easily. We struggle to stabilize them; and they are hospitalized for long period (HCW # 2).

Sub-theme 3: Congenital abnormalities

Congenital abnormalities like cerebral palsy and hydrocephalus made children to stay long in the ward as well as in OTP and SFP program. In addition, the health care workers said that these children have frequent admissions.

"I have seen that most of the times it is children with cerebral palsy, Most of the times they go in and out of the hospital. Some children with hydrocephalus are admitted here due to malnutrition. After malnutrition has resolved, they go back to their ward but you see after few months, they come back..." (HCW # 3).

Another health care worker said that children with cerebral palsy and other congenital abnormalities stay long in the ward because of the feeding problems and they are dependent on the NGT making them difficult to discharge. He narrated...

Children with; cerebral palsy (CP) have problems with feeding. They can be stable but you always find them very hard to discharge because they can't take the food orally, you still feed them through an NGT, and take a longer period trying to stabilize them and just trying to find a better way of discharging them. (HCW # 2)

Caregivers also found challenges at home when feeding children with congenital abnormalities. They illustrated that they fail to give the required different food types because the child cannot tolerate the feeds. One caregiver said that her child had difficulties in eating nsima but white flour porridge only and milk due to congenital abnormality...

At first, we were giving him mgaiwa porridge mixed with groundnuts but when we gave him, he was coughing a lot as if he has choked. Then we said maybe we should try gramil, it was the same. So, we just give him white flour porridge.

(Caregiver # 10).

Theme 4: Health Management Factors Affecting Care Of Children

On this theme, six sub-themes emerged as factors affecting care of children in the ward. Health care workers reported referral system, assessment and admission procedure, follow up of guidelines, disagreements between nurses and doctors, support system as well as lack of resources to be some of the factors affecting treatment outcome of malnourished children.

Sub-theme 1: Referral system

From the interviews conducted, it was discovered that participants were referred to the tertiary facility after several visits to the primary level facility. Caregivers were given

medications despite showing signs of malnutrition including oedema and wasting as illustrated by one of the caregivers whose child presented with oedema...

“She started with oedema of legs, hands and then followed by oedema of the belly. Eventually, we discovered she started developing oedema on the side where she slept, then the whole face. When I saw that she was oedematous, I took her to Zingwangwa health centre, they gave me panado and Amoxicillin. I went home. When I gave her nothing changed. I then went to gateway clinic and they gave us the very same panado... It was on Friday when I did not sleep with the child and then decided to take her back to Gate way for help but I found it locked. Looking at how I struggled with the child the previous day, I thought it was not good that I should take her home, and so, I took her to under five where they helped me and admitted me here... Caregiver #7).

This also agrees with the health workers who also said that children are referred to tertiary level in critical condition when the children are severely malnourished with severe complications as illustrated by one of the health workers...

“For example in the Health centres, you find there are cases which come here with severe complications like kwashiorkor, you find the child is very oedematous to the point that you wonder if the child received care outside there? Or maybe the child is very wasted mmm...so the issue of referring the child fast is very important so that the child can receive immediate care before the condition worsens” (HCW #2).

Sub-theme 2: Assessment and Admission procedure

Health care workers demonstrated knowledge on some areas on the management of malnourished children. They described activities that they do both at the tertiary and

primary level to manage children with malnutrition. Some of the activities mentioned were identification of the cases from under-five clinic, nutritional assessment, admission or referring children to the next level of care, orientation of caregivers, doing different investigations, initiating children on feeds, enrolling children in different programs at health centre, health education, giving routine antibiotics, and management of complications.

However, nurses said that there was no proper assessment at Accident and Emergency (A and E) department to identify children with malnutrition. As such children were sent from under-five to the ward for assessment and then sent back to the under-five clinic for admission. In addition there is a delay in the process of admission at A and E. This made children to take long time at the clinic before they reach the ward which led to complications like hypoglycaemia and hypothermia. One of the nurses said...

“Most of the times, we do the assessment but the delay is at A and E. We don’t know what happens there because we can assess a child in the morning but we see the child is being admitted in the evening say 10pm or even at mid night ” (HCW #3).

This was also revealed in the caregivers who spent a lot of time at A and E before being sent to the ward for admission. One of the caregivers arrived at A and E at 10:00 am but arrived in the ward at 7pm. She narrated...

“When I came here and showed them the passport book, they told me to go to the under-five. After they have helped you there, you will come back here. I went there. I arrived there at 10am, so since morning, I kept waiting because they tell you, wait for your friends here. We waited until 7:00pm...” (Caregiver # 10).

Sub-theme 3: Follow up of guidelines

The results revealed that some caregivers and health care workers were not following up the guidelines properly. For instance, some of the things or procedures were done contrary to what the CMAM guidelines recommend.

On the initiation of the first feed on admission, the caregivers said that children were not given the first feed immediately on admission. They explained that they waited for the routine feeding time for them to receive milk feed. A caregiver who arrived in the ward around 4pm but received the feed at 6:00pm illustrates...

“I received the milk at around past 6 or I should just say 6:00 o’clock. That is when we received the milk...” (Caregiver # 3).

Health care workers expressed that caregivers do not follow the protocols as explained to them. For instance, the health care workers said that caregivers do not accept that their children could live on Chiponde or milk only and think that their child was being starved. As a result they opt to giving their children other foods in their absence contradicting to the treatment protocol. A health worker narrated...

“We meet those challenges. Caregivers think their child is starved, so some hide, they get the milk then you see someone hiding to feed the child other foods...” (HCW # 3)

This was also agreed by the caregivers who said that they felt that the milk that the children received was inadequate. They further said that they felt that the children should be given additional foods other than the milk only. One caregiver illustrated...

“Some do not follow the instructions. They say no, my child is hungry, so they sneak out to feed their children outside, so you find the child is becoming weak with the treatment that he or she is receiving,” (Caregiver # 9).

Sub-theme 4: Disagreements between nurses and doctors

All the nurses revealed that sometimes there are disagreements between nurses and doctors on management of children. This is because doctors are not usually trained in the CMAM guidelines and they would order some things for the patients which are contrary to the guidelines.

“We face those situations and you find the doctors who are not quite aware of the guidelines and they cannot order the best thing to the client and maybe they have ordered something which the other nurse who has attended the training feels it is not good for the child ...” (HCW # 2).

Another nurse agreed with this but said they sometimes fail to do the right things when the doctor has ordered because the doctors felt they were knowledgeable than the nurses who had attended the training and she explained...

“The design of our job is what determines what to do, because those are the doctors who order, and though you say this is not right for the patient, you come to argue most of the times. So you as a nurse, you just leave it that the doctor has told me to do this” (HCW # 1).

However, another health care worker said other nurses fail to defend themselves to the doctors because they do not utilize the knowledge gained from the training into practice.

As a result, the knowledge phased away and they failed to tell the doctors that what they were ordering was not right because they were not confident that what they were saying was true. Due to this reason, they just follow what the doctor has ordered.

Subtheme 5: Support system

Health care workers said that there is a good support from colleagues in the ward or clinic. They said that they work together with colleagues and remind each other on the management of children and also work as a team in order to achieve good outcome of care. They also receive support from seniors and other people for example research people in Moyo ward provide resources for care in the ward and also knowledge from doctors helps them to be able to provide quality care to children.

“Mmm... the first support which I have received and which I really appreciate, I think is based on knowledge. Since I have never attended one of the training, but being surrounded with these people; doctors, consultants, I think it has given me an opportunity to learn more from them and even to explore more...apart from that, there are people who are there when you are trying to manage a child so you are always in touch, you are working together which is a very good thing and just makes a good team,” (HCW #2).

On the side of caregivers, they said that they did not completely receive support from relatives and friends while eight of the ten receive partial support from relatives and friends. For those who did not receive any support said that their relatives were not concerned with them and told them to mind their own business because they also had families to take care

of. To others who received partial support said long distances and lack of money hindered their relatives from coming to visit them in the hospital and provided them with basic needs.

Another caregiver who was in NRU also said that her relatives were not concerned with her and she spends some days without food; ...

“Like when I was admitted previously for a week, I stayed three days without food, day and night. I had to walk by foot going to Bangwe,” (Caregiver # 1).

The participants said that this affects them in different ways like causing stress, feels less important, feels people have forgotten them and reduces child care. They pointed out that family support reduced stress, made one feel loved, relieved them from other duties, made them forget about the condition of the child and saved the life of a child...

“When one is here in the hospital, it is like someone who is in prison or in a foreign country, when they come, they give you courage, and you remember that you have a home and relatives. ...they make you forget the condition of your child and bring joy to you...sometimes they tell you testimonies of someone’s child with the same condition but got healed, you do not get worried...” (HCW #4)

Sub-theme 6: Resources

Health care workers said that inadequate resources were some of the factors which contributed to poor treatment outcome of the children. They pointed out inadequate staff and material resources like oxygen concentrators, suction machine, glucometer, Continuous Positive Airway Pressure (CPAP) machines. They further revealed that this

lack of resources had an impact on the care of children as some lives are lost and children are managed poorly. A Health care worker illustrates...

“Yaaa...resources I think it’s one of the major challenges we always face, I think it is not only in our own ward, I hope even in other wards too, so they are not always available. There are things which are really scarce especially in High Dependency Unit (HDU)...”
(HCW # 2).

Another nurse elaborated that it is difficult to manage children accordingly due to lack of resources like routine check of blood sugar as she narrated;

“We are supposed to check blood sugar right away on admission but sometimes because of the resources, we just decide by the general condition of the child...” (HCW # 1).

Due to inadequate staff in the ward, the staff opted to use locum nurses who came to work on part- time basis and they were not even trained in CMAM guidelines. They said this also affected outcome of care for the children as these nurses most of the times rely on doctors’ orders instead of them making contribution to the care of the child.

“The locum nurses really depend much on doctors order ok, so when the doctor orders them to do something, it’s what they do but it’s one of the dangerous thing because it’s not everything which is ordered somehow is safe for the client so it needs someone who can think of it and can bring up the better ideas. So, it’s still not a good thing to have people who have never trained and who don’t work there as full time staff...”(HCW # 2).

Theme 5: Challenges Faced By Caregivers When Providing Care to Children

The collapse of income generating activities and projects, financial problems, reduced time to rest and reduced household care were some of the challenges they face because of the illness of the child.

Sub-theme 1: Collapse of income generating activities and projects

Caregivers said that they stopped doing small scale businesses like selling flitters and doughnuts because of the children's illnesses. Some said they were doing businesses like saloon but stopped due to the illness of the child. In addition, some said they stopped working because of the illness of the child. One caregiver illustrated;

“I really have been affected by the child's sickness but there is nothing I can do because she is my child, I cannot say much....because it is not possible for me to do business while my child is sick at home...” (Caregiver #7).

Caregivers said that they were unable to go to school, build a house and do farming activities in time because of the conditions of their children. A grandmother of a child in NRU said that her plans of doing her farming activities in time were disturbed. She said;

“The child's sickness has disturbed me in many ways because as of now, I would have finished one of my fields. But now, everything is at a standstill because I am the only one and a woman for that matter...” (Caregiver #10).

Financial problems

Financial problems were one of the challenges that caregivers faced when caring for malnourished children both at the hospital and after discharge. Caregivers reported lack of

transport money to the health facility as a challenge that led them to present late to the hospital.. When asked whether she follows all the routine checkups, one caregiver said,

'I do come. But if I fail then it's because of transport problems. I failed once because I did not have money for transport'(Caregiver #1).

The caregiver further said that even her relatives including her husband fail to come and visit her because of their financial status. She Narrated;

'...Like when I was admitted previously for a week, I stayed three days without food, day and night. When I was discharged from the hospital, I had to walk by foot to go to Bangwe.'(Caregiver # 1)

The caregivers also said that they fail to provide their children with the recommended food containing all the six food groups due to lack of money. One caregiver narrated when asked whether she managed to give her child six food groups;

'Let me be frank with you, I sometimes fail due to lack of money, but many times I try, especially on the child. For instance, when he was first admitted, I tried to give him all those types of food different from other children because he was sick, like milk, eggs, boiled Irish with oil or chips. However, sometimes I could fail and may be only manage to have fried vegetables with some K50 oil or add K50 groundnuts so that the food should contain at least a few vitamins. This is what I was doing. (Caregiver #4)'

Sub-theme 3: Reduced time to rest

Caregivers revealed that they had inadequate time to rest. They said that the ward schedule was tight and they were always busy especially during the night. They were always waking

up going to collect feeds for the child till morning the next day. When asked on whether time was adequate, a caregiver said...

“No. Because we wake up...when we received milk at 3 o’clock, we go again at 6 o’clock, then 9 o’clock, we go again at 12 o’clock, and then 3 o’clock we go again till morning, early in the morning the same thing, so there is no time to sleep” (caregiver # 9).

Sub-theme 4: Reduced household care

Caregivers said that there is a reduction of care at household level because they were in the hospital and left other children at home. others said they had left young children who were breast feeding but now they could no longer breastfeed them because they were in the hospital while others left small children who needed their care as they had no one to take care of them. A mother who left a two months old child at home illustrated;

“My business has fallen, in addition, I have a small child at home, and this time, she is missing my love...and I cannot bring him here for fear of infections...Furthermore, even my older children at home miss my support, their father cannot provide them with all the support they need as they go to school...I cannot breastfeed my child, I have been forced to buy Lactogen milk to feed him”

(Caregiver # 4).

Theme 6: Health Care Workers and Caregivers Perceptions on How to Improve Care

Two sub-themes emerged under this theme which include; provision of quality care and improving care at primary level.

Sub-theme 1: Provision of Quality care

Caregivers said that they wanted the health care workers to provide basic care to patients like provision of feeds in time, giving medications according to the condition of the child, provision of beddings and give them some time to rest during the day. Others just said that there was need to provide quality care. In addition, some caregivers said that the health care workers needed to openly explain to the caregivers the condition of the child, every procedure they have carried out and the results of the samples they collected from the children...

“I think it is important to give information openly to the caregiver explaining what her child is suffering from and the treatment the child is receiving. The doctors must be able to explain this information.... It is essential that, for instance, if they take blood sample to test the quantity of blood, they should tell us that the child has such amount of blood in the body and its implication or else we were testing blood sugar and sugar level is fine. This helps you to focus on the real problem, but in most cases they don't tell us and we are afraid to ask thinking that they will shout at us. They are supposed to tell us the result of the tests and the treatment we are receiving because this can help us explain to the doctors in case a certain treatment has failed...”(Caregiver #4)

Besides that, caregivers said that there was need to provide information to them in form of health education and counseling and encouragements as they were in the hospital or at home in order to reduce their stress. They pointed out that encouragement and counseling made them to be stress free and have faith that their child will be fine.

Other health care worker participants explained that caregivers needed to be counseled on how to take care of the children at home and how they should manage nutritional supplies at home so that children should be fed the right amount of feeds for them to recover quickly.

Health care workers mentioned trainings, refresher courses and in service trainings as some of the measures to provide knowledge to them in order to improve care of children in the ward and the clinic. They said that if they acquire knowledge, they can manage children properly. They further said that having well established and trained health care workers was one of the crucial parts in management of children. One health worker said;

“Knowledge is the best thing, knowledge is power and if people have knowledge; they can discuss the right things for the clients. If you don’t have knowledge, you don’t feel competent enough, I don’t think you can stand and talk about the client or on behalf of the client. So, knowledge is the key, so trainings, enough training will really need those things. Having adequate staff who are trained is one of the crucial part and very important thing and ...having doctors who are also well trained, well established in the ward; not doctors who just come in and the same week they go and someone comes in again” (HCW # 2).

Some caregivers said dealing with health care workers’ attitude was one of the measures to improve care. They said that health care workers needed to be disciplined, advised and counseled to communicate and treat caregivers with respect and to change their attitude....

“They should advise them so that they can change; that their behaviour is not good. Does anyone want to come to the hospital? Is there anyone who is happy staying here?” (Caregiver # 8).

Sub-theme 2: Improving care at primary level

Health care workers cited proper assessment, feed monitoring, early identification of cases, early referral and follow up by community nurses as some of the factors that influenced outcome of care at the facility.

They explained that if children were properly assessed and identified early, they could be referred early before they develop severe complications which could make it easier for health care workers to stabilize them.

“they should be able to identify the child in early stage before things get worse, they should be able to give the proper management...If they meet the cases which are severely ill, and they can't manage, on the primary level, it's good to refer the case in a good time, for early management” (HCW # 2).

Other health care workers also said follow up of children in their homes and proper counseling were some of the measures to improve outcome of care for children at home. They said that a lot of children did not attain good outcome because health care workers just focused on managing acute cases of malnutrition but do not care what happens after discharge. Follow up in the community is not done. As a result, children are readmitted because they received inadequate care at home.

Chapter 5

Discussion of Results, Recommendations and Conclusion

Introduction

This section presents the discussion of the research findings as guided by the study objectives. The study used a descriptive approach for data collection and analysis. The

discussion is presented according to the emerged themes namely; caregivers knowledge on malnutrition, practices influencing care of children in the ward, conditions of children, health management factors affecting care of children, challenges faced by caregivers when caring for malnourished children, and health care worker/caregivers perceptions on how to improve care.

Caregivers Knowledge on Malnutrition

This study revealed that caregivers were not able to recognize the signs of malnutrition on their children as evidenced by late presentation to the hospital. This could have been due to the fact that the majority of the caregivers spent time at home buying over the counter drugs to treat conditions such as diarrhoea, coughs, pneumonia, vomiting, loss of appetite and congenital abnormalities. This is in line with a qualitative study done by Khunga (2012) in Zambia which revealed inadequate knowledge among community members who were associating malnutrition signs to those of HIV/AIDS and, bewitchment. In addition, some caregivers identified a malnourished child as a child who is getting fat. This led to late presentation to the hospital by the caregivers as they could not recognize that the child is malnourished. Caregivers need to have knowledge on signs and symptoms of malnutrition and its impact on the child if prompt management is delayed. They need to be educated on the importance of going to the hospital early when the child has early signs of malnutrition so that the condition is treated before the complications occur. Furthermore, Rose, (2015) in her study conducted in a small city in sub-Saharan Africa also found that many children presented late at the hospital and this led to a mortality rate of 22% of the children on the admission day.

According to this study, caregivers did not practice exclusive breastfeeding which can be one of the leading causes to malnutrition (WHO, 2010-2014). They reported that they did not have enough milk from the breast, children were crying with hunger and they wanted their children to learn to eat other foods as reasons for not practicing EBF. Other studies have reported that there is still reduction in the practice of EBF despite documented benefits of it (WHO, 2010-2014). Breastfeeding remains the most cost effective way of reducing childhood illnesses and ensuring proper growth and development of the infants especially in the developing countries where the HIV pandemic is at its peak (WHO, 2011). HIV is one of the factors that increase chances of under-five child deaths if EBF is not properly followed. EBF is very important especially in Africa where there is no proper replacement feeding for HIV positive women (WHO, 2011). EBF is acceptable, feasible, affordable, sustainable and safe (AFASS), (WHO, 2013, and Black, et al, 2013). Kafulafula, Hutchnson, Gennaro, Guttmacher & Chirwa (2013) in Malawi found that baby-mother proximity, health workers attitude were some of the factors that hindered good environment for exclusive breastfeeding for HIV breastfeeding mothers. The authors noted that appropriate breastfeeding advice and support from health care workers and family members helped HIV positive mothers to practice exclusive breastfeeding. Mothers are therefore encouraged to breastfeed their infants for the first six months for them to achieve optimum growth, development and health of their children and hence reducing malnutrition in children.

In relation to study findings done by Cherop, Keverengettyang & Mbagaya (2009), Agunbiade & Ogunleye (2012) Setegn et al, (2012) and Udoh, & Amodu, (2016) in Kenya, Nigeria, and Ethiopia respectively it was found that the majority of the women interviewed

did not practice exclusive breastfeeding due to breast milk being unsatisfying to the infant, infant to learn to feed on other foods, fear that the baby will be addicted to the breast milk and to resume work. According to Motee & Jeewon (2014), most of the mothers produce adequate milk according to the needs of the baby. However, several factors may contribute to the mothers' complaint about insufficient milk production. These factors may include; lack of confidence, wrong perceptions by the mother, ineffective suckling, infrequent feeding routines, abnormal conditions of the baby and conditions of the mother such as stress, fatigue, and psychological inhibition as well as some medications, (Motee & Jeewon, 2014) Mothers need to be educated on the importance of breastfeeding for them to adhere to the EBF practice. In Zimbabwe, Muchacha & Mtetwa, (2015) established that cultural factor influenced women not to practice EBF. The authors noted that although the women had increased knowledge on EBF, only few practiced it. This clearly showed that knowledge did not translate into practice of EBF. They further found that culture negatively influenced EBF practice because the culture demanded women to give newly born babies solid food and failure to do so was translated to infidelity in a family as giving solid food was regarded as the sign of genetic connection of the baby and its ancestors.

The findings in this study revealed that all the caregivers were not able to mention all the six food groups and their 24 hour meal recall for the child did not comprise of all the food groups. They explained failure to provide six food groups as a result of poverty. Furthermore, some mentioned some beliefs like unfaithfulness of the partner, lack of blood, wrong ART given to the child as causes of malnutrition. Malnutrition might come in due to caregivers' failure to follow proper child care practices that help in prevention of malnutrition. This poor knowledge on child care practices in this study may also be

contributed by low education level of the caregivers. Similar studies, Saaka (2014) and Puett, Hauenstein Swan & Guerrero, (2013) in Ghana, Pakistan and Ethiopia discovered that majority of the women had low knowledge on child care practices, malnutrition and the treatment services available because they linked the onset of the condition with other causes. This low knowledge in child care practices was high in mothers with lower education level than in mothers with high education level.

Knowledge on nutrition is very important to the caregivers because those who have high nutritional knowledge are able to provide good care practices and feed their children nutritious foods despite their socioeconomic status. Yue, et al (2016), in China, found that few caregivers practiced good complementary feeding practices not necessarily due to the cost of the foods but due to good understanding on child nutrition practices. This was due to absence of nutrition information. This may be similar to this study where nutrition topics are sometimes not incorporated in the topics of health education in health facilities. When caregivers are equipped with nutritional information, they are able to prepare nutritious foods for their children using the locally available food in their communities. However, sometimes the information is given but the caregivers do not grasp the information due to low education status which makes the understanding difficult.

This study also found that the majority of the mothers mentioned that they failed to give their children the six food groups due to lack of money. This may be due to low socioeconomic status of the caregivers as only two had small scale businesses while the rest were jobless. This may mean that some women may have the knowledge on the

recommended foods to give their children but may fail provide to children due to low financial status. This finding is similar to a study conducted by (Katepa-Bwalya, et al 2016) in Zambia which found that there was increased knowledge on recommended feeding practices among caregivers but could not translate their knowledge into good feeding practices. Caregivers usually gave porridge to the children but what to give in between the porridge was determined by the socioeconomic status of the caregivers

Practices Influencing Care Of Children in the Ward

There were reports of poor relationship between the caregivers and the health care providers. Some caregivers reported that nurses and doctors were not communicating to them properly. They reported that nurses could shout at them or use bad language or call them with bad names while other caregivers said the caregivers also had problems as they were not abiding to the rules of the ward which made the health care workers to shout at them. Furthermore, caregivers complained that nurses could rebuke them in public without privacy. The researcher observed that this is common in most hospitals in

Malawi where people attribute this to workload as a result of shortage of staff and other material resources. Similar studies by Kumbani et al (2013) and Kambala, Morse, Masangwi, & Mitunda (2011) confirmed poor care perception, shouts, rudeness of staff, threats of beating and delay in receiving care by participants in Malawian hospitals due to shortage of staff, lack of resources and heavy workload. However, this is not only happening in Malawi, Campbell, (2011) and Borland (2011) in the United States of America and United Kingdom respectively also found that health care workers were not competent and were neglecting basic patients care. Staff were rude, had negative attitude, lacked care and compassion, kept patients not informed and were not paying adequate

responses to requests of patients. This led to poor outcome of care. A systematic review by Reader & Gillespie (2013) showed that patients are neglected due to heavy workloads, burnout syndrome and problems in multidisciplinary team work. Due to heavy workload and mental exhaustion, health care workers do not have time to engage themselves into caring activities and also end up shouting at patients. In addition, caregivers mentioned that mostly, these poor attitudes were coming from part-time nurses (locum nurses).

The findings also revealed that caregivers were not well informed and were not included in patients' care. These findings are consistent with findings from other studies in Malawi by Hoffman et al, (2012) and O'Donnell, Utz, Khonje & Van Den Broek (2014) which found that caregivers felt that they should also be taken as very important in the care of their patients. They reported that they wished to be included in the discussion of their patient's condition, treatment plan and all care rendered to their patients. They further mentioned poor communication, poor attitude as one of the factors which led to misunderstanding between them and the health care workers and acted as a barrier to quality care.

Caregivers' participation in the care of their children is very vital and it is their legal right. When caregivers are involved in the care, they feel unique and important. Caregivers who are caring for children experience traumatic effects like anxiety, stress and lack of support from other family members. (Saleeba, 2008). Nurses and all other caregivers need to understand that these caregivers are different since they also come from different families influenced by different aspects like social, economic, cultural and religious aspects. They need to honour these diversities (Saleeba, 2008). It is the duty of every nurse to protect and improve the health of their patients. In addition, there is need that health care workers

provide technical, medical and emotional aspects of care which include monitoring of vital signs, drug administration, supporting the family in decision making, empowering caregivers to learn new roles and skills, establishing good rapport with caregivers as well as maintaining good communication skills with the caregivers and patients (Singh, 2017). When health care workers provide the best care to families and communities in the right way and at the right time, it helps in improving the health outcomes of the patients. It is therefore imperative that health care workers should keep caregivers informed of every procedure and discuss with them before initiating any care on their children (Hockenberry & Wilson, 2006). Both healthcare workers and the caregivers need to exchange unbiased information. This in turn helps the caregiver to feel encouraged and supported and help in coping with child's condition hence lead to quality care to children.

The findings also revealed that there is no routine health education in the ward. Caregivers are given health education only on admission and discharge. Health education needs to be continuous to the caregivers because on admission, the caregivers may not internalize the education since they are more concerned and anxious about the condition of the child. Similarly, on discharge, the caregivers become more excited to go home and may not necessarily pay attention to the health education. Similar studies by Carvalho, Rodrigues and Braz (2013 and Mushaphi et al 2017) found that routine education improved feeding pattern among caregivers and caregivers perceived that education provided by the hospital staff during hospitalization facilitates understanding of the content being taught to them.

Health education is an essential element of care to caregivers of malnourished children. It needs to be incorporated throughout the care of these children if high quality care and good

treatment outcome is to be achieved. Health education should start from the admission, throughout hospitalization and on discharge. Kulwa et al (2014) emphasized that if routine health education is implemented in a health care system, it could result in large impact on dietary adequacy, growth and health. He further states that health education package will help in imparting knowledge, skills, behavior and attitude that will motivate caregivers' ability to adopt optimal infant and young child feeding and health care if implemented successfully. It is therefore very important that routine health education be provided to caregivers in Moyo ward from admission, throughout hospitalization and discharge if good treatment outcome is to be achieved.

Condition of the Child

Almost all the healthcare workers and half of the caregivers cited conditions of the child like HIV and AIDS as well as congenital abnormalities as some of the factors that affect treatment outcome of the malnourished children. This was also confirmed by the demographic data which showed majority of the participants' children to be HIV positive indicating a huge link between malnutrition and HIV and AIDS. This is the case because HIV infected children present with different complications such as decreased appetite. This is influenced by infections like oral thrush or oesophagitis, common opportunistic infection in HIV infected people and fever as well as medication side effects. Furthermore, a child may experience poor absorption of nutrients due to diarrhoea caused by bacterial infections like salmonella. Other studies (Jesson, et al, 2015 and Weigel, et al, 2010) have also found the that majority of the children who are HIV positive are likely to be malnourished. Weigel et al, (2010) found that half of the children in their study who were initiated on

ART therapy were underweight and two thirds were stunted .These conditions either contributes to long stay of children on the OTP program or frequent admissions to the NRU and outcome of the children are most of the times poor. This agrees with other studies which found that there is a great interaction between malnutrition and conditions like congenital abnormalities and HIV/AIDS (Katona & Katona-Apte, 2008; Okoromah, et al, 2011; Suttajit, 2008, Johnson et al, 2017, and Kuperminc & Stevenson, 2008).

HIV and AIDS causes disorders of food intake, poor absorption of nutrients and intermediary metabolism whereas congenital anomalies like cerebral palsy affects children's neurological status which affect their motor skills including muscles which are used for chewing and swallowing as well as eating. This affects their food intake as they cannot eat anything (cerebral palsy guidance 2017). This implies that these children do not get enough macro and micro nutrients as they have choices on what to eat. This eventually affects their nutritional status for instance they develop vitamin deficiencies, poor growth as well as delayed growth.

It is therefore imperative that children with some conditions like congenital abnormalities and HIV/AIDS be properly assessed and monitored closely for their nutritional status as they are the top most conditions contributing to malnutrition in children. In addition, many readmissions reported were from children with these conditions. Literature recommends that children with cerebral palsy should be assessed including their family and should be included in non-nutritive oral stimulation in order to improve the development of their oral skills and for pleasure(Kuperminc et al 2013). They also need to be included in the family

meals. Kuperminc et al (2013) further suggested that caregivers of children with cerebral palsy need to be educated on proper positioning of the child to ensure comfort and to adjust the texture and thickness of the food to ensure safety of the airway, maximize eating efficiency and reduce fatigue during eating.

Health Management Factors Affecting Care Of Children

According to study findings, there was late referral of children to the next level of care and children were sent home without nutrition treatment. This led to the worsening of condition as children came in critical condition with severe complicated malnutrition and were then referred to tertiary level. Health care workers at tertiary level agreed with this saying most of the times, children came at NRU in critical condition which made it difficult to stabilize them. This late referral may be due to improper assessment at the primary level to identify malnutrition at its early stage. Similar studies conducted in Zambia and Tanzania (Khunga, 2012, and Samuelsen, Tersbol & Mbuyita, 2013) showed that children with other conditions like malaria, malnutrition and other infections were not referred to the tertiary level of care. Children with malnutrition were sent back home without any treatment because health workers regarded malnutrition as laziness of the caregiver and not as a disease.

When children are sent back home without proper assessment at the under-five clinic, the condition progresses to a severe condition which needs inpatient care (NRU) which is costly and difficult to manage. However, when malnutrition is identified early, it is treated early at primary and community level which is cheap and cost effective. Delay in referring

children to the next level, lead to delayed treatment which contributes to long treatment time and negative outcome (Rogers, Myatt, Woodheads, Guerrerros & Alvarez, 2015).

Tekeste, Wondafrash, Azene & Delibe, (2012) further found that facility level feeding program is highly costly than community based management as caregivers receiving care at the facility level spend a lot of money for transport and other necessities compared to those receiving home treatment. Additionally, Collins, et al, (2006) found that inpatient care has a risk of acquiring nosocomial infections (hospital acquired) and is also associated with high cost of treatment supplies to treat complications which is three times higher than that of community management. This because in inpatient care, patients spend a lot of time in the hospital and it uses more resources like medications, advanced equipment and transportation for the family members compared to community management whereby the patient is cared for within the home environment. In patients, it also becomes expensive in such a way that the caregiver becomes unproductive as they cannot do anything to bring income and this leads to opportunity costs such as finding other people to take care of children they live at home.

This implies that if the health workers are well trained to do proper assessment and treatment of malnutrition at the primary level, the cost of treatment at the tertiary level will be reduced because there will be reduced number of patients admitted at tertiary level hence reducing usage of other expensive materials.. In addition, children will be treated early which will prevent complications and improve the treatment outcome of the children.

Almost all the health care workers mentioned that there was no assessment at the underfive clinic which led to delay in admission and treatment of malnourished children. This

eventually caused complications like hypoglycaemia and hypothermia as children with malnutrition are at high risk of developing these complications. Similar studies by Maitland et al, (2006), Van den Broek, et al, (2005), Roy et al (2011) and Tette et al, (2016) found that children under the age of five died on admission or within 48hours due to complications like hypoglycaemia, hypothermia and diarrhoea.

When children are delayed at the under-five clinic without being admitted and initiated on treatment program in time, they are likely to have severe complications and treatment outcome is unfavorable most of the times. Malnutrition requires priority treatment. According to WHO (2013), all children with malnutrition require prompt assessment and treatment in order to prevent these children from developing complications like hypoglycaemia and hypothermia which might not be available on the time of arrival. Health care workers should make sure to follow guidelines and protocols available in the ward for the management of malnourished children.

However, other studies suggested that although the guidelines and protocols are available to direct people on management of children, there is need for knowledgeable, motivated and skilled health care workers for achievement of good quality care (Collins et al, 2006). Collins found that there was high fatality rate among poor resourced health centres despite availability of guidelines and protocols for management of malnourished children. This implies that health care workers need to have adequate knowledge, skills and attitude when managing malnourished children while using appropriate guidelines and protocols (Mogre et al, 2017). Guidelines recommend that when a child has been assessed and identified as having malnutrition, he or she should be immediately enrolled in the appropriate program

namely; Nutrition rehabilitation unit for those with severe malnutrition and complications, Outpatient therapeutic program for those with severe malnutrition without complication and SFP for those with moderate malnutrition, (MOH, 2012).

Based on the findings of the study, it was revealed that some health care workers do not follow the guidelines properly. These include the doctors as well as the nurses especially part-time nurses as they are usually not trained in the guidelines. For instance, doctors would order some things for the child contrary to the guidelines and nurses would not administer first feeds to the child on arrival as stipulated in the guidelines. Interestingly, some of the caregivers who complained not to have received feeds immediately on admission also arrived during the day of which majority of the nurses were the owners of the ward not part-time nurses. Other studies also reported similar findings (Puoane, Cuming, Sanders & Ashworth, 2008; Bassichetto & Rea, 2008; Sunguya et al 2013; Tefese & Shele, 2015; and Hammond, 2014). Puoane found that newly employed doctors were not equipped with knowledge on management of malnourished children. In addition, in poorly performed hospitals, health care workers were failing to perform other tasks when managing children which put children at risk of dying from complications like hypoglycaemia, fluid overload, dehydration and cardiac failure.

Health care workers need to have knowledge on management of malnourished children. In this case, doctors were having rotations in the paediatric wards which mean there were always new doctors coming after some months exchanging with other ones. There is no permanent doctor for Moyo ward. These doctors and part-time nurses do not receive special training in malnutrition management guidelines as such they do not provide appropriate

nutrition care to malnourished children.. Leslie & Thomas (2009) reported that lack of knowledge and counseling skills acts as a barrier to effective management of malnourished children.

The study findings revealed that caregivers were also not following the guidelines while taking care of the children in the ward which resulted into poor outcome of children. For instance, both caregivers and health care workers reported that caregivers were sneaking out of the ward with sick children and gave them food other than the routine feeds recommended for the children. This could be as a result of knowledge deficit or inadequate counseling by health care workers. This agrees with other studies which found that there were negative outcomes of patients due to untrained caregivers despite the caregivers good intention and hard work to provide good care to their children(Silver, Welman & Anold, 2004; Feinberg, Wolkwitz, & Goldstein, 2006; Daba & Ersado, 2015). Caregivers lacked knowledge, and skills to help them perform their work effectively which brought unintentional harm to their loved ones.

Health care workers are supposed to give proper and comprehensive counseling to the caregivers in NRU because these caregivers are mostly illiterate and need much emphasis on reasons for restricting foods for their children. This is the case because this is a new and stressful guideline to them and so they need to have a good understanding on this matter. Silver et al,(2004) emphasized that health care workers need to do a proper assessment of caregivers' needs and capacities as well as hazards they may face as they are taking the role of taking care of their children. In addition, caregivers are most of the times not prepared to take the role of caregiving and they lack knowledge for them to provide the

best and quality care to their patients as such they require guidance from health care workers.

Although some caregivers reported being supported by family and friends, the findings discovered that caregivers received partial and no support from friends and family. This was contributed by long distances from families' homes and low financial status. They reported that this resulted in stress, depressions, anxiety and frustrations. Similar studies also reported that caregivers are at the highest risk of experiencing anxiety, distress, weakness, and depression which eventually result in physical and emotional exhaustion due to little or no support (Belloup & Gerogianni, 2007 and Family caregiver Alliance, 2007). They further said that any intervention that decreases these effects brings benefit to the caregiver.

Hospitalization of a child is a stressful situation to the caregiver especially a mother of a child. The caregiver becomes doubtful and uncertain about the condition of the child which brings psychological distress to the caregiver (Mollina, Higarashi & Marcon, 2014). In this situation, a family acts as a supervisor, tutor, fellow and actor which provide psychological and emotional support to the caregiver (Belloup & Gerogianni, 2007). It is therefore imperative that caregivers are fully supported in order that they should not have emotional and psychological problems. This in turn may make them to provide quality care to their children.

The findings also revealed that inadequate resources were some of the factors which contributed to poor treatment outcome of the children. Health care workers pointed out inadequate staff and material resources like oxygen concentrators, suction machine,

glucometer, CPAP machines. They further revealed that this lack of resources had a negative impact on the care of children. Due to inadequate staff in the ward, they opted to use locum nurses who came to work as part-time and they were not even trained in CMAM guidelines. Similarly, Manyisa, Aswegen, (2017), Mosadeghrad, (2014), Luther et al, (2007) and Tubbs-Cooley et al, (2013) found that inadequate resources and shortage of staff has a negative impact on the care of patients. They further reported that working in an environment with limited resources reduces the productivity of the workers. A study by Tubbs-Cooley et al (2013) revealed that shortage of nurses in a health care facility caused nurses to have less time with patients to engage in meaningful teaching and proper discharge planning due to high workload. This implies that limited staff causes nurses to do basic things and not concentrating on the real care of patients and important issues like health education which is very vital to caregivers of malnourished children. Inadequate resources like glucometers also limited staff to do other important assessments like blood sugar check which is an important test in malnourished children. This led the staff to miss some children with hypoglycaemia and mismanaged them leading to poor outcome of the condition.

Evidence from this study indicates that caregivers do not adequately care for their children at home after discharge. There are reports that caregivers were either selling the food supplies for the child received from the hospital or sharing the supplies with other children at home. This could be as a result of poverty and large family size as majority of the participants had large family sizes of more than 5 people in a family which meant that other children could also be consuming the same food supplies for the sick child. Others also reported that caregivers would use the supplies for betting games instead of giving them to

the child. Similar studies also found that large family size and misuse of RUTF affected treatment outcome of malnourished children, (Tadesse et al, 2015 and Boltelna, 2008). They found that although health care workers provided RUTF to caregivers as treatment for malnutrition to their children, caregivers misused the RUTF and used it for other reasons like for the whole household consumption. This posed a danger in the effectiveness of CMAM as children were not recovering well. In addition, other caregivers sold the supplies and used the money to buy food for the whole family so that everyone in the household benefited.

It is the culture of Malawi that food must be shared to children so that other children must also benefit especially the porridge. It becomes difficult for the caregivers to prepare porridge or RUTF which they received for the sick child from the hospital for the sick child only and neglecting the siblings. It takes proper education and counseling so that the caregiver should understand the reasons for the provision of the nutritional supplies. Khattak, Iqbal & Ghazanfar (2017) explained that illiteracy of the caregivers results in poor understanding of the health problems of the child. They further narrated that uneducated parents are less likely to adhere to the health education given by their physician which result in poor care to their children whereas educated parents better understands health education given to them and adhere to all instructions given. However, Hampshire et al (2009) argues that program recommendations should focus on all household occupants. All programs that focus on an individual in a household should be opposed due to the perspective of the community that available resources should preserve the livelihoods of the whole family.

In this study, the nutritional supplies were meant for the sick child only because In Malawi, there is short supply of resources to cater for the whole family hence health care workers should emphasize and give clear information on the importance of using the supplies for the better outcome of the sick child. They should make sure that caregivers should be giving the child the recommended amount of the nutrition supplies so that the child should improve quickly and achieve a better outcome.

Long distance to the health facilities was one of the reported factors that affected treatment outcome. Health care workers failed to follow up children to their homes while caregivers found it difficult to go for follow up clinics at the facility. QECH operates an OTP clinic for children who are HIV positive and other special cases which required to be seen at the tertiary hospital for follow up. Long distances from the caregivers' homes ended up in absenteeism by the caregivers which would affect treatment process of the child. This is in consistency with studies by Schoeps et al (2011); Kadobera, et al, (2012);

Bilinski, et al (2017); Halwindi, Siziya, Magnussen & Olsen, (2013) and Kiwanuka, et al, (2008) who also discovered that travel distance to the health facility acted as a barrier to utilization of health services and hindered health care workers from conducting community outreach. These studies found that this posed a great risk to the mortality of under-five children as it affected initiation and adherence to treatment.

Long distances and lack of transport money for caregivers has a great influence on the care of the under- five children especially malnourished children in this case. Caregivers travel long distances by foot from faraway places like Manyowe, Baluti, Nancholi, manase, Limbe, Bangwe, Mpemba Lunzu and other places, to access health care services including

OTP. As a result other caregivers would opt to miss the visit when they are tired to walk that long distance. In addition, the findings revealed poor communication between the tertiary health care workers and primary level health care workers. When children have been discharged but are been followed up at QECH OTP, there is no communication to the primary level care to be following up these children their homes. Poor communication between these health care workers also affected follow up of children to their homes which might also affect adherence and negligence of caregivers in caring for children at home. Dofourny, et al (2006) discovered that caregivers were adhering to plumpy nut feeding because health care workers were following them up every day in their homes which in turn improved the treatment outcome of the children.

However, lack of follow up results in poor treatment outcome. Kerac, et al (2014) found high mortality rate among children discharged from the hospital after successful treatment of SAM. This means that children discharged from NRU are still at risk of mortality even after successful treatment and need close monitoring and follow up. It is very essential that health care workers visits the caregivers in their homes as they can assess the home environment, identify risk factors and provide health education to the caregivers where necessary.

Challenges Faced By Caregivers When Caring For Malnourished Children

Caregivers reported that they face a lot of problems while providing care to malnourished children. They reported collapse of income generating activities, disturbed future projects, reduced time to rest and reduced household care as some of the problems that they face because of the illness of the child. Almost half of the caregivers said that they were unable

to do small scale businesses like selling flitters and doughnuts because of the children's illnesses. Some said they were doing businesses like running a saloon but stopped due to the illness of the child. In addition, some said they stopped working because of the illness of the child. This is similar with other studies which found that caregivers experienced physical and emotional problems like sleep disturbances, and suicidal ideas as a result of stress, anxiety and tension from the illness (Nimbalkar, Raithatha, Shah & Panchal 2014 and Day, Has-Bakri, Lubchansky & Mehta, 2013).

Caregivers are important people who need to be protected from physical and emotional harm as they can easily become sick (Reinhard, Given, Petlick, & Bemis 2008). They experience a lot of disturbances as they try to balance caregiving activities with other activities like work, family, and leisure. Due to this reason, other activities at home suffer as the family is looking after the sick child at the hospital. When discharged, proper information is also not given and caregivers are not referred to any community based organization for emotional support which makes caregiving at home more challenging as well (Reinhard, Given, Petlick & Bemis, 2008). This results to the caregivers to neglect their own health as they concentrate more on the sick child. As a result, there is reduction in the caregivers' physical and emotional health. It is very important that caregivers should be supported at every angle so that they should experience less stress as they balance caregiving and household activities.

The results also revealed that almost all caregivers faced financial problems. Caregivers failed to provide adequate care like proper feeds, transport money to the health facility and all household care activities. This is a common problem in Malawi which is likely due to

low education level and unemployment as evidenced by the results of this study. According to findings from this study, all caregivers did not finish their secondary level education except for two caregivers and no one was on permanent employment. Dapaah (2016) also found that caregivers had financial constraints to access health facilities. Women are at the high risk of poverty as they are engaged in more household responsibilities, and mostly spend their time in caring activities (UNDP, 2012).

Inadequate health care facilities also cause women's time spent on wage work to be reduced which further increases the poverty trend (UNDP, 2012). It is very vital that caregivers have stable financial sources especially female caregivers because they are the ones who provide primary care to children. They are the ones who know what to provide for the children because they learn the things from the hospital. It is important they are advised on measures to improve their financial status like doing business to provide for their families.

Health Care Worker-Caregivers Perceptions on How to Improve Care

Caregivers suggested on how care can be improved at both tertiary and primary level. They reported that only if healthcare workers can provide high quality care, outcome of the children can be improved. They cited close observation of the children, provision of feeds, drug administration according to condition of the child, bed making to prevent infections and provision of time to caregivers to sleep as some of the ways that can improve treatment outcome of the children. They further suggested that health care workers need to provide and explain all necessary information to the caregivers on all procedures done on their children and the management that the child is receiving.

A similar study by WHO (2011); Papadopoulou,-Alatak, Hassan & Davies, (2012) and Bernard et al, (2009) found that preparations for feeding, inadequate feeding, poor follow up of protocols for management of children and poor documentation as well as poor infection prevention were some of the factors that led to poor quality care among children.

This implies that when health care workers in nutrition rehabilitation unit do not follow proper infection prevention measures, do not monitor feeding pattern of children, and do not follow proper protocols of management for the children, the outcome of children might be poor. Koutlakis-Barron & Hyden, (2016) found that improper follow up of infection prevention measures by the health care workers may lead to high morbidity and mortality. This can be attributed by understaffing, overcrowding or lack of knowledge. However, Papadopoulou,-Alatak, Hassan & Davies, (2012), found that caregivers are also the most people in the hospital who are at risk of transmitting infections to children in the ward. This is because they are the one who are always with the children but they have inadequate knowledge on infection prevention.

Malnourished children are already at risk of infection due to reduced immunity. If proper infection prevention measures like bed making, hand washing and other protocols are not observed, they can pose a great threat to their lives. It is very important that both health care workers and caregivers work together to promote quality of these children's life. Caregivers need to be provided with proper information on the guidelines and all protocols that are to be observed while taking care of malnourished children.

Health care workers suggested, early identification of cases, early referral, home visiting and economic empowerment as some of the activities that may improve treatment outcome

of the children. Early identification of cases and referral may hasten the treatment of the children in its early stages.

This is in consistent with a study by Dapaah (2016) and WHO, (2011) which found that warm welcome by health care workers, proper assessment by nurses and doctors, proper referral system and prompt treatment at the under-five clinic might improve outcome of care of children. Dapaah (2016) discovered that nurses, doctors and counselors were hugging and smiling to the clients coming to the clinics to access HIV/AIDS care. This made the clients to adhere to the treatment and motivated the defaulters. This can be applicable to this research as well. If caregivers are warmly welcomed by the health care workers, treatment adherence can be enhanced and the outcome of children can be improved. Poor attitude and communication between caregivers and health care workers can lead to absenteeism of caregivers as they feel they are not important and neglected by the health care workers. As such children are left with no proper treatment like nutritional supplies which make their recovery time to be long. Although some health care workers had good attitudes at the study site, caregivers reported harsh talking by some health care workers. This probably depended on the personality of the person.

Recommendations

The findings of the study revealed that caregivers lacked knowledge on different things for example; recognition of malnutrition symptoms, preparation of nutrient rich foods and six food groups. Participants communicated lack of health education on these topics because most of the times these topics are not provided to them by health care workers. This lack of education by caregivers who are at the centre of care for children has a negative impact

on children as they are not cared for adequately. It is therefore important that health education should be promoted at all levels of care from primary to secondary level. Health care workers should incorporate different topics including nutrition topics when providing health education to caregivers. Health education is seen as learning process which aim at promoting health of individuals, families and the community as a whole. Health education to lay caregivers is regarded as an appropriate strategy to achieve the holistic health care paradigm, de Souza, Wegner, & Gorini, (2007).

The study findings further revealed lack of trainings, refresher courses or in-service trainings to the health workers. This was reported by the health workers that they have not undergone any training concerning management of malnourished children including CMAM which affected delivery of care to children. For instance, other health care workers were not managing children according to the guidelines. According to McDonnell & Sheard, (2012), Initial and refresher trainings as well as continued professional development (CPD) courses are both important because they help in improving inefficiencies and reduce costs. To address this problem, Health care workers need to be trained and continually participate in refresher courses for them to have increased knowledge and skills on the area they are practicing. In- service trainings should also be fostered at facility level. This does not only increase knowledge but also helps in increasing morale and productivity and change of workplace behaviour.

Caregivers expressed need for early identification of malnutrition cases and referral from primary level to tertiary level for prompt initiation of management. They said there should also be a proper communication between the primary and tertiary level when referring

patients from primary level to tertiary level and vice versa. Managers should make sure that there is a good collaboration and communication linking the two parties. There is also need for good referral system to monitor flow of patients from primary to tertiary level and vice versa.

Other conditions like HIV and AIDS were found to have a great influence on treatment outcome of malnourished children. This is because these conditions led to prolonged stay in the hospital and sometimes had poor outcome. There is need for policy makers and other stakeholders to have a proper and clear policy on how these children should be managed especially at household and primary level to avoid complications to severe malnutrition.

Inadequacy of resources was also one of the factors that contributed to poor care of children leading to poor treatment outcome. Health care managers and Ministry of Health need to make sure that malnourished children are considered a priority in resource allocation so that they should receive quality care.

There is also need for employment of nutrition trained health care workers, and enough staff in NRU's so that children and caregivers receive quality care while in the ward. Nurses should also be present at the underfive clinics in primary care settings and HSA's, should be guided and empowered with knowledge and skills for them to be able to analyze nutrition anthropometrics for early identification of malnutrition.

Limitations of the Study

The study tried to explore perceptions of factors that might contribute to treatment outcome of malnourished children from tertiary level. In addition, it covered adequate sample to represent the entire population. However, the limitation of this study is that it cannot be

generalized to all settings. Experiences of these mothers could be different from others in another setting. However, the findings provided useful insight regarding experience of caregivers and the factors influencing treatment outcome of malnutrition at all levels. In addition, the study could have been helpful if it covered both the tertiary and primary level. This could have helped to explore more perceptions on factors at primary level could also contribute to treatment outcome of these malnourished children. However, this was not done because it was for academic purpose and finances were limited.

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APPENDICES

Appendix 1: Information for caregivers

Study title: Exploring perceptions of Health care workers and caregivers on causes of poor treatment response of malnourished children at QECH, Blantyre, Malawi.

Investigators: *Sakina Gloria Ilepere* (Kamuzu College of Nursing), *Jane Chimango* (Kamuzu College of Nursing) and *Maureen Daisy Majamanda* (Kamuzu college of Nursing).

Contact details of principal investigator: 0999295326/0888886335.

Email: ilepere2016sakina@kcn.unima.mw.

Sponsor of the study: Professor Elizabeth Molyneux (FRCP, FRCPC, FRCPC (Hons), FCEM, Professor of Paediatrics and Child Health)

Dear participant,

My name is Sakina Ilepere, a student at Kamuzu College of Nursing pursuing master's degree in Child Health Nursing. One of the requirements of the program is to conduct a research. Therefore, I am conducting a research on the title; *Exploring perceptions of Health care workers and caregivers on causes of poor treatment response of malnourished children at QECH, Blantyre, Malawi*. The aim of this study is to explore the causes of poor treatment response of malnourished children at QECH.

You are asked to give information on your experiences as a primary caregiver on the management of malnourished child and how you are being supported while in the hospital to promote good response of your child. The interview will take an approximate time of 30-40 minutes. If you feel uncomfortable at any time of the interview, you are free to raise your concerns to the researcher. This research is for academic purpose only, hence the results from these interviews will not be used for other purposes.

The results from this study will help the managers and policy makers to improve quality of care rendered to children and their caregivers to promote good treatment outcome for the children.

You are not required to give your name during this study; instead numbers will be used to ensure confidentiality. The interviews will be conducted in a private room to ensure privacy and confidentiality. Be assured that any information you give during this research will be treated with confidentiality as no other people who are not involved in this study will have access to it.

Although all studies have some degree of risk, the potential risk for this study is minimal. You will not be given any reward for participating in this study. Your participation is voluntary and you can withdraw at any time you do not feel comfortable.

For any questions, you are free to ask the researcher or the supervisor. You can also refer your concerns to COMREC where the study was approved through the address:

COMREC secretariat, P/Bag 360, Chichiri, Blantyre 3, Telephone number 01 989 766.

Thank you for your time to read this information.

Appendix 2: Information Sheet for Health Care workers

Study title: Exploring perceptions of Health care workers and caregivers on causes of poor treatment response of malnourished children at QECH, Blantyre, Malawi.

Investigators: *Sakina Gloria Ilepere* (Kamuzu College of Nursing), Associate Prof. *Jane Chimango* (Kamuzu College of Nursing) and *Maureen Daisy Majamanda* (Kamuzu college of Nursing).

Principal investigator: *Sakina Gloria Ilepere*. Contact details of principal investigator: 0999295326/0888886335. Email: ilepere2016sakina@kcn.unima.mw.

Sponsor of the study: Professor Elizabeth Molyneux (FRCP, FRCPC, FRCPC (Hons), FCEM, Professor of Paediatrics and Child Health)

Dear participant,

My name is Sakina Ilepere, a student at Kamuzu College of Nursing pursuing master's degree in Child Health Nursing. One of the requirements of the program is to conduct a research. Therefore, I am conducting a research on the title; Exploring perceptions of Health care workers and caregivers on causes of poor treatment response of malnourished children at QECH, Blantyre, Malawi. The aim of this study is to explore the causes of poor treatment response of malnourished children at both household and management level.

You are asked to give information on your experiences as a health care provider on the management of malnourished child and how you are being supported by management and colleagues while in the hospital to promote good outcome of malnourished children. The interview will take an approximate time of 30-45 minutes. If you feel uncomfortable at any time of the interview, you are free to raise your concerns to the researcher. This research is for academic purpose only, hence the results from these interviews will not be used for other purposes.

The results from this study will help the health care workers and policy makers to improve quality of care rendered to children and their caregivers to promote good treatment response for the children.

You are not required to give your name during this study; instead numbers will be used to ensure confidentiality. The interviews will be conducted in a private room to ensure privacy and confidentiality. Be assured that any information you give during this research will be treated with confidentiality as no other people who are not involved in this study will have access to it.

Although all studies have some degree of risk, the potential risk for this study is minimal. You will not be given any reward for participating in this study. Your participation is voluntary and you can withdraw at any time you feel not comfortable.

For any questions, you are free to ask the researcher or the supervisor. You can also refer your concerns to COMREC where the study was approved through the address:

COMREC secretariat, P/Bag 360, Chichiri, Blantyre 3, Telephone number 01 989 766.

Thank you for your time to read this information.

Appendix 3: Chichewa version information sheet for caregivers

Mutuwa kafukufuku: *kufufuza maganizo a ogwira ntchito komanso oyang`anira odwala pa zifukwa zomwe zimapangitsa thandizo la ana odwala matenda akuchepekedwa kwa zakudya mthupi kukhala lovuta mu chipinda chogona ana kuchipatala cha QECH.*

Opangitsa kafukufuku: Sakina Gloria Ilepere (Kamuzu College of Nursing), Associate Professor Jane Chimango (Kamuzu College of Nursing) and Maureen Daisy Majamanda (Kamuzu college of Nursing).

Mwinikafukufuku: Sakina Gloria Ilepere, keyala: Kamuzu College of Nursing P.O Box 415, Blantyre, lamy: +265 999 295 326/888 886 335, email: ilepere2016@kcn.unima.mw.

Operekathandizolopangirakafukufuku: Professor Molyneux (FRCP, FRCPC, FRCPC (Hons) FCEM, Professor of Paediatrics and Child Health).

Okondedwa amayi/abambo,

Dzina langa ndine Sakina Gloria Ilepere, ophunzira ku sukulu ya ukachenjede ya anamwino ya Kamuzu. Ndikupanga maphunziro aukadaulo wokhudzana ndi ana. Pofuna kukwanilitsa zofunikira za maphunzirowa ndikupanga kafukufuku pa mutu oti *“kufufuza maganizo a ogwira ntchito komanso oyang’anira odwala pa zifukwa zomwe zimapangitsa thandizo la ana odwala matenda akuchepekedwa kwa zakudya mthupi kukhala lovuta mu chipinda chogona ana kuchipatala cha QECH.”*.Cholinga chenicheni cha kafukufukuyi ndikufuna kupeza zifukwa za zomwe zimasokoneza kachilidwe ka ana ochepekedwa zakudya mthupi.

Mufunsidwa mafunso kuti mutiuze zomwe mukukumana nazo pamene mukuyang’anira mwana wanu yemwe ali ndi vuto lakuchepekedwa chakudya mthupi. Komanso mutiuza mosabisa za chithandizo chomwe mumalandira muchipatala muno chothandizira kuti mwana wanu achire.

Zokambirana zathu zitenga pafupifupi mphindi makumi atatu kapena anayi.

Ngatimulindimavutoalionseokhudzanandikafukufukuyindinuomasukakunena.

Kafukufukuyi cholinga chake ndi chamaphunziro chokha.

Ngakhale kafukufukuyi sangakupindulireni mwachindunji, zotsatira zake zidzathandiza adindo ndi atsogolerio gwira Ntchito zaumoyo kukonza ndondomeko zabwino zothandizira kupititsa patsogolo chisamaliro cha ana ndi owayang’anira awo. Simukuyenera kupereka dzina lanu pamene mukutengapo mbali pa kafukufuku ameneyu. Mukhale otsimikizika kuti chili chonse mutiuzepano chikhala cha chinsinsi ndipo palibe wina aliyense omwe adzauzidwe zimenezi kupatula omwe akukhudzidwa ndi kafukufukuyi.

Palibe chiopsezo chili chonse pakafukufuku ameneyu, ndipo aliyense yemwe atenge pombali pa kafukufuku ameneyu salandila malipiro alionse. Mukaona kuti simukufuna kutengapo mbali ndinu ovomelezedwa kutero ndipo palibe chilango chilichonse chomwe chidzapatsidwe pa inu.

Ngati muli ndi mafunso ndinu olandilidwa kufunsa. Mukhozanso kupereka nkhawa zanu kukeyala iyi: COMREC secretariat, P/Bag 360, Chichiri, Blantyre 3. Lamy: 01989766
Zikomo kwambiri powering authenga onsewu.

Appendix 4: Informed Consent for Caregivers

Study title: Exploring perceptions of Health care workers and caregivers on causes of poor treatment response of malnourished children at QECH, Blantyre, Malawi.

Investigators: *Sakina Gloria Ilepere* (Kamuzu College of Nursing), *Jane Chimango*(Kamuzu College of Nursing) and *Maureen Daisy Majamanda*(Kamuzu college of Nursing).

Contact details of principal investigator: 0999295326/0888886335. Email:

ilepere2016sakina@kcn.unima.mw. **Sponsor of the study:** Professor Elizabeth

Molyneux (FRCP, FRCPCH, FRCPCH (Hons), FCEM, Professor of Paediatrics and Child Health)

I have read (or someone has read for me) and understood the information contained in this letter. The aim and all procedures of this study have been understood. I have also understood the duration that is needed to complete this interview. I have been given an opportunity to withdraw from the interview if I feel uncomfortable at any time of the

interview, and that I am free to raise my concerns to the researcher if I have any concerns. The information that the research is for academic purpose only, hence the results from this interview will not be used for other purposes has been understood.

I have understood that this study may not directly benefit me but the results from this study will help the health care workers and policy makers to improve quality of care rendered to children and their caregivers to promote good treatment outcome for the children malnutrition.

I know that my privacy and confidentiality will be assured and that my rights will not be violated. I understand that the potential risk for this study one is minimal and that I will not be given any reward for participating in this study.

I therefore, voluntarily give consent to participate in this study.

Participant's

signature.....Date.....

Participant's thumbprint

(if illiterate).....Date.....

Signature of witness (if illiterate).....Date.....

Researcher's signature.....

Date.....

Appendix 5. Informed Consent for Health Care Workers

Study title: Investigators: *Sakina Gloria Ilepere* (Kamuzu College of Nursing), *Jane Chimango*(Kamuzu College of Nursing) and *Maureen Daisy Majamanda*(Kamuzu college of Nursing). Contact details of principal investigator: 0999295326/0888886335. Email: ilepere2016sakina@kcn.unima.mw.

Sponsor of the study: Professor Elizabeth Molyneux (FRCP, FRCPCH, FRCPCH (Hons), FCEM, Professor of Paediatrics and Child Health)

I have read and understand the information contained in this letter. The aim and all procedures of this study have been understood. I have also understood the duration that is needed to complete this interview. I have been given an opportunity to withdraw from the interview if I feel uncomfortable at any time of the interview, and that I am free to raise my concerns to the researcher if I have any concerns. The information that the research is for academic purpose only, hence the results from this interview will not be used for other purposes has been understood.

I have understood that this study may not directly benefit me but the results from this study will help the health care workers and policy makers to improve quality of care rendered to children and their caregivers to promote good treatment outcome for the children.

I know that my privacy and confidentiality will be assured and that my rights will not be violated. I understand that the potential risk for this study one is minimal and that I will not be given any reward for participating in this study.

I therefore, voluntarily give consent to participate in this study.

Participant's signature.....Date.....

Participant's thumbprint (if illiterate)..... Date.....

Signature of witness (if illiterate).....Date.....

Researcher's signature..... Date.....

Appendix 6: Consent Form for Caregivers Translated in Chichewa

Chivomerezo chotenganawo mbali pa kafukufuku kwaoyang'anira ana odwala kamba kochepa kwazakudya mthupi.

Mutuwakafukufuku: *kufufuza maganizo a ogwira ntchito komanso oyang'anira odwala pa zifukwa zomwe zimapangitsa thandizo la ana odwala matenda akuchepekedwa kwa zakudya mthupi kukhala lovuta mu chipinda chogona ana kuchipatala cha QECH.*

Opangitsakafukufuku: Sakina Gloria Ilepere (Kamuzu College of Nursing), Associate Professor Jane Chimango (Kamuzu College of Nursing) and Maureen Daisy Majamanda (Kamuzu college of Nursing).

Mwinikafukufuku: Sakina Gloria Ilepere, keyala: Kamuzu College of Nursing P.O Box 415, Blantyre, lamyā: +265 999 295 326/888 886 335, email: ilepere2016@kcn.unima.mw.

Operekathandizolopangirakafukufuku: Professor Molyneux (FRCP, FRCPC, FRCPC (Hons) FCEM, Professor of Paediatrics and Child Health).

Ndawerenga (kapena wina wandiwengerera) ndipo ndamvetsetsa uthenga onse omwe uli mu kalatayi. Cholinga chakafukufukuyi ndi dongosolo lonse zafotokozeredwa momveka

bwino kwaine. Ndamvetsetsa bwinobwino zanthawi yomwe zokambirana zathu idzatenge komanso kuti ndine omasuka kunena nkhwawa zanga nthawi ina iliyonse yomwe ndiri ndi dandaulo. Ndamvetsetsanso kuticholinga cha kafukufukuyi ndi cha maphunziro basi ndipo mayankho onse adzagwiritsidwa ntchito pa cholinga chokhachi basi.

Ndamvetsetsa kuti ngakhale kafukufukuyi sangandipindulire mwachindunji, zotsatira zake zidzathandiza adindo ndi atsogoler iogwirantchito zaumoyo kukonza ndondomeko zabwino zothandizira kupititsa patsogolo chisamaliro cha ana ndi owayang'anira awo. Ndatsimikiziridwa kuti Sindikuyenera kupereka dzina langa pamene ndikutengapo mbali pa kafukufuku ameneyu. Ndine otsimikizika kuti chilichonse chimene ndinene pano ndi cha chinsinsi ndipo palibe wina aliyense omwe adzauzidwe zimenezi kupatula omwe akukhudzidwa ndi kafukufukuyi.

Ndamvetsetsa kuti palibe chiopsezo chilichonse pakafukufuku ameneyu, koma nditapeza vuto lililonse ndine omasuka kunena. Ndikudziwa kuti aliyense yemwe atengepo mbali pa kafukufuku ameneyu salandila malipiro alionse. Komanso ndikudziwa kuti ngati ngati ngati sindikufuna kutengapo mbali ndine ovomelezedwa kutero ndipo palibe chilango chilichonse chomwe chidzapatsidwe pa ine.

Ndauzidwa kuti ngati ndiri ndi mafunso ndikhozanso kupereka nkhwawa zanga ku keyalayi: COMREC secretariat, P/Bag 360, Chichiri, Blantyre 3. Lanya: 01989766 Sayini ya otenga nawo mbali pakafukufuku.....tsiku.....

Chidindo cha chala (kwaosadziwakulemba).....tsiku.....

Sayiniyamboni (kwaosadziwakulemba).....tsiku.....

Sayiniyaopangitsakafukufuku.....tsiku.....

Appendix 7: Interview Guide for Caregivers

Biographic data

Source of income

Household composition

New/readmission

HIV status

Caregivers' knowledge on malnutrition Investigate:

Explain what signs you saw in the child to come to the hospital What other services did you seek before coming to hospital?

What made you seek health services?

Explain what you think caused your child's condition?

What are the feeding practices of your children at home?

CMAM guidelines implementation

Explore

What time did you receive the first feed for your child from the time of admission?

challenges faced by caregivers in the ward

What are the good things you experienced in this ward?

How do you think the condition of the child disturbed your sleeping pattern or normal duties?

What do you think should be done to improve care to other children and caregivers who will be admitted here?

Explain how you are going to care for your child at home to prevent readmission.

What support do you receive at home to help quick recovery of your child?

Appendix 8: Interview Guide for Health Care Workers

Work experience

Position

Sex

Trained in CMAM guidelines? When?

How do you manage children with malnutrition?

What are the challenges you face when caring for malnourished children?

What support do you receive from your (seniors and colleagues) when managing malnourished children?

What would you suggest to improve outcome of care of children with malnutrition?

Appendix 9: Interview Guide for Caregivers Translated in Chichewa

Mbiri

Njira zopezera ndalama

Chiwerengero cha anthumnyumba

Kugonekedwa koyamba/ kuposeraapo

HIV

a. Chidziwitso cha oyang'aniramwana pa zomwezimayambitsavuto la kuchepakwachakudyamthupi

- 1.Ndi zizindikiro zANJI zomwe munaona kuti mubwere ndi mwanayu kuchipatala?
- 2.Ndi chithandizo chanji chomwe munapeza kapena munamupatsa mwana musanabwere kuchipatala kuno?
- 3.Ndi chani chomwe chinakupangitsani kuti mumutengere mwana wanu kuchipatala kuno?
4. Mukuganiza kuti chinayambitsa vuto la mwana wanu ndi chani?
5. fotokozani momwe mumamudyetsera mwana wanu kunyumba.

b. kagwiritsidwe ntchito ka dongosolo losamalilira ana avuto lochepa zakudya mthupi ka CMAM.

- 1.Kodi mumalandira chakudya nthawi yanji kuchokera nthawi yomwe mwagonekedwa mu chipatala?
- 2.Ndi mankhwala anji omwe mwapatsidwa muchipatala muno kuchokera nthawi yomwe mwagonekedwa?
3. Mukuona kuti ana akulandira chithandizo chokwanira mu chipinda muno?

c. zomwe oyang'anira odwala amakumana nazo pomwe akuyang'anira ana mu chipatala

1. Ndi zinthu zabwino ziti zomwe mwazona zikukuchitikirani mu ward muno

2. Kodi kudwala kwa mwana wanu kwasokoneza bwanji kugona kwanu komanso Ntchito zanu za tsiku ndi tsiku?
3. Kodi mungakonde kuti anthu ena omwe angadzagonekedwenso kuchipatala kuno adzapatsidwe thandizo lotani?
4. mwana wanu mukamusamalira bwanji kunyumba kuti mupewe vutoli kuyambiranso?
5. mumalandira thandizo lanji kunyumba kuchokera kwa achibale komanso anthu ammudzi mwanu pothandizira mwanayu kuti achire mwamsanga?

Zikomo kwambiri chifukwa cha nthawi yanu!!!!

Appendix 10: Letter to QECH Director

Nursing

Malawi.

Kamuzu College of

P.O Box 415,

Blantyre

The Hospital Director,
Queen Elizabeth Central Hospital,
P.O. Box 95,
Blantyre, Malawi.

**REQUEST FOR PERMISSION TO CARRY OUT A RESEARCH STUDY AT QUEEN
ELIZABETH CENTRAL HOSPITAL**

My name is Sakina Ilepere pursuing Master of Science in Child Health Nursing. I write to seek permission to carry out a research study at your hospital. **The title of the study is ‘Exploring perceptions of Health care workers and caregivers on causes poor treatment response of malnourished children at QECH, Blantyre, Malawi.** The study will help the health care workers and managers to improve care rendered to children with malnutrition at different levels.

The study is the partial fulfillment of Master Degree in Child Health Nursing at Kamuzu College of Nursing

Looking forward to hearing from you.

Yours faithfully,



Sakina Ilepere.

Appendix 11: Letter to QECH Head of Paediatric Department

Kamuzu College of
Nursing

P.O Box 415,

Blantyre

Malawi.

The Head of Department,

Paediatric department

Queen Elizabeth Central Hospital,

P.O. Box 95,

Blantyre, Malawi.

**REQUEST FOR PERMISSION TO CARRY OUT A RESEARCH STUDY AT QUEEN
ELIZABETH CENTRAL HOSPITAL**

My name is Sakina Ilepere pursuing Master of Science in Child Health Nursing. I write to seek permission to carry out a research study at paediatric department. The title of the study is **‘Exploring perceptions of Health care workers and caregivers on causes of poor response of malnourished children at QECH, Blantyre, Malawi.** The study will help the health care workers and managers to improve care rendered to children with malnutrition at different levels.

The study is the partial fulfillment of Master Degree in Child Health Nursing at Kamuzu
College of Nursing

Looking forward to hearing from you.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Ilepere', written in a cursive style.

Sakina Ilepere

Appendix 12: letter to Zomba Central Hospital Director for Pre-testing tool

Kamuzu College of Nursing,

P.O Box 415,

Blantyre, Malawi.

The Director,

Zomba central Hospital

P.O box 21,

Zomba,

Malawi.

REQUEST FOR PERMISSION TO PRETEST STUDY TOOL AT ZOMBA CENTRAL HOSPITAL

My name is Sakina Ilepere pursuing Master of Science in Child Health Nursing. I write to seek permission to pre-test a study data collection tool at your hospital which will be conducted at QECH. The title of the study is **‘Exploring perceptions of Health care workers and caregivers on causes of poor treatment response of malnourished children at QECH, Blantyre, Malawi.’**

The study will help the health care workers and managers to improve care rendered to children with malnutrition at different levels

The study is the partial fulfillment of Master Degree in Child Health Nursing at Kamuzu College of Nursing

Looking forward to hearing from you.

Yours faithfully,

A handwritten signature in black ink, appearing to read 'Ilepere', with a stylized flourish at the end.

Sakina Ilepere.

Appendix: 13: Support letter from postgraduate dean



KAMUZU COLLEGE OF NURSING

ACTING PRINCIPAL
Prof. E. Chirwa, Dip Nurs, MRM, B.Sc., MN, PhD

PO BOX 415, BLANTYRE, MALAWI

TELEPHONE: 01 873 623

FAX: 01 875 341

TELEGRAM: NURSING

EMAIL:

viceprincipal@kcn.unima.mw
23rd March 2017

The Chairperson
COMREC
P/Bag 360
Chichiri
BLANTYRE 3

Dear Sir/Madam,

SUBMISSION OF RESEARCH PROPOSAL FOR REVIEW FOR SAKINA ILEPERE

I write in support of Sakina Ilepere's submission of her research proposal "**Household and Health Management Factors Contributing to Treatment Outcome of Malnourished Children at Queen Elizabeth Central Hospital and Zingwangwa Health Centre**" in partial fulfilment for the award of a Masters degree in Child Health and Nursing.

The results of the study will help to identify gaps and come up with proper strategies on how to manage children with malnutrition at household and health facility level.

I, therefore, strongly support the submission.

Yours faithfully,

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

Belinda Gombachika, PhD
DEAN, POSTGRADUATE STUDIES

Appendix 14: Permission letter from hospital Director

Telephone: (265) 01 874 333 /877 333
Facsimile: (265) 01 8/6928
Email: queenshosp@globemw.net

All communications should be addressed to:
The Hospital Director



In reply please quote No. QEC/GEN/2

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

3rd April, 2017

Sakina Ilepere
Kamuzu College of Medicine
P.O. Box 415
BLANTYRE

Dear Sir/Madam

**RE: PERMISSION TO CONDUCT A RESEARCH STUDY AT QUEEN ELIZABETH
CENTRAL HOSPITAL**

Reference is made to your letter dated 27th March, 2017 requesting to conduct study titled "**explore household and health system management factors that contribute to treatment outcome of malnourished children**" at Queen Elizabeth Central Hospital, NRU ward and Zingwangwa Health Centre.

This letter serves to inform you that Management has no objection for you to conduct the said study. Please remember to provide us with a copy of the results after the study.

Yours faithfully,


Linly Chewere
DEPUTY HOSPITAL DIRECTOR

Appendix 15: Permission letter from Paediatric Head of department

Telephone: (265) 01 874 333 /877 In
333 Facsimile: (265) 01 876928

[Email: ouenshosp@globemw.net](mailto:ouenshosp@globemw.net)



reply please quote **No. QEC/PAT/4**

QUEEN ELIZABETH CENTRAL

HOSPITAL

P.O. BOX 95

BLANTYRE

The chairman,

COMREC,
P/Bag 360, Chichiri,

Blantyre 3.

**RE: HOUSEHOLD AND HEALTH MANAGEMENT FACTORS CONTRIBUTING TO TREATMENT
OUTCOMES OF
MALNOURISHED CHILDREN AT QECH AND ZINGWANGWA HEALTH CENTRE BY SAKINA ILEPERE**

We are writing in support of the above mentioned study that will be led by Sakina Ilepere in partial fulfillment of her masters in child health course. Malnutrition remains a major disease burden in Malawi and is one of the contributors to childhood morbidity and mortality in this country. The mortality rates in children admitted with malnutrition at QECH remains high at 20% this is double the WHO cut off point. It is therefore important that factors contributing to such high mortality rates are explored so as to better manage these cases ultimately reducing the morbidities and mortalities associated with malnutrition at QECH.

We therefore fully support the study

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Queen Dube'.

Dr Queen Dube
CLINICAL HEAD PAEDIATRICS AND CHILD HEALTH

Appendix 16: COMREC Approval letter

