

ASSESSING THE KNOWLEDGE AND PRACTICES OF MOTHERS OF UNDER FIVES
REGARDING MALNUTRITION IN KOMBEWA SUB-COUNTY HOSPITAL - SEME SUB-
COUNTY

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DECLARATION AND APPROVAL

This proposal is my original work and has not been presented for an award of a diploma or conferment of degree in any other university or institution

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Name:

DEDICATION

This research has been lovingly dedicated to mothers of Seme Sub- County.

ACKNOWLEDGEMENTS

I would like to express my special thanks of gratitude to my supervisors Mr. Ratemo for his immense support and guidance while doing this wonderful work on the topic ; Knowledge and Practices of Mothers of under- five Children in Seme sub- county, he has continually and convincingly conveyed a spirit of adventure in regard to research and an excitement in regard to teaching, he demonstrated to me that concern for global affairs supported by an “engagement” in comparative literature and modern technology, should always transcend academia and provide a quest for our times

Lastly, special thanks goes to my dear husband Dr Stephen Okelo who has been a pillar of strength , he constantly supported me throughout the course work without his guidance and persistent help this project would not have been possible.

ABSTRACT

Malnutrition is a major health problem, especially in developing countries. Water supply, sanitation and hygiene, given their direct impact on infectious disease, especially diarrhea, are important for preventing malnutrition. Both malnutrition and inadequate water supply and sanitation are linked to poverty (IMAM, 2009). In Seme sub-County of Kisumu County, a total of 820 under-fives visited the hospital between January to June 2016 and out of this group, 577 were referred to malnutrition clinic as suffering severe and moderate malnutrition (KWDHSS, 2016).

This study employed a cross sectional study where a total of 126 mothers will be purposively sampled using Cochrane method. Mothers will be given structured questionnaire. Descriptive statistics were used to explain the sample variables as well as explain the relationship between the variables. SPSS software version 21 will be used to analyze the data.

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What about the findings as well as the recommendations of the study?

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LIST OF ABBREVIATIONS AND ACRONYMS

KWHDSS	-	Kisumu West Health Demographic Surveillance System
KNBS	-	Kenya National Bureau of Statistics
MOMS	-	Ministry of Medical Services
MOPHS	-	Ministry of Public Health and Sanitation
ACPM	-	Africa Centre for Program management
FAO	-	Food Agricultural Organization
WHO	-	World Health Organization
PWD	-	People with disabilities
HIV	-	Human Immunodeficiency virus
AIDS	-	Acquired Immune Deficiency Syndrome
NHS	-	National Health Services

OPERATIONAL DEFINITION OF TERMS

Mothers- Women in the reproductive age of 15-49 who will be the target population in the study.

Malnutrition-A condition resulting from lack of right kind of nutrients that the body needs for growth and development.

Kwashiorkor -A condition resulting from insufficient protein that the body needs for growth and development

Marasmus- A form of malnutrition presenting with gradual wasting of the tissues and muscles following insufficient food intake needed for body growth and development especially in children.

Under-weight - Mild form of protein energy malnutrition which is detected only by checking the weight of the child and plotting it on the road to health chart.

Under five- These are children below five years of age.

Knowledge- refers to the level of understanding of mothers regarding malnutrition.

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CHAPTER ONE

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1.0 Overview

[This chapter will present background information to the study and the problem of statement. It will further present the objectives of the study, the significance of the study as well as the scope. The limitations which might be encountered are also presented.]

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1.1 Introduction

[Malnutrition can be defined as insufficient, excessive or imbalanced consumption of nutrients. (Joellifs. 2016) Malnutrition can also be defined as a condition that arises in the event of either excess or less intake of nutrients that are required by the body (Whitney and Rolfes, 2002).

Historically factors attributed to malnutrition have been seen to be multi-faceted, multi sectoral and include interrelated biological, social, cultural and economic factors. It remains one of the major global threats and yet it can be managed with ease, most so the childhood malnutrition, the burden paints a grim picture in the developing nations especially Kenya where it accounts for the top five childhood conditions in terms of mortality rate, based on this, it is seen that knowledge and practices of mothers of the under -fives contributes significantly to malnutrition (Chea et al...2009).

Malnutrition is a major health problem, especially in developing countries. Water supply, sanitation and hygiene, given their direct impact on infectious disease, especially diarrhea, are important for preventing malnutrition. Both malnutrition and inadequate water supply and sanitation are linked to poverty (IMAM.2009).

The impact of repeated or persistent diarrhea on nutrition-related poverty and the effect of malnutrition on susceptibility to infectious diarrhea are reinforcing elements of the same vicious circle, especially amongst children in developing countries (American College Health Association, 2014).

According to FAO (2009), clinically, malnutrition is characterized by inadequate or excess intake of protein, energy, and micronutrients such as vitamins, and the frequent infections and

disorders that result. People are malnourished if they are unable to utilize fully the food they eat, for example due to diarrhea or other illnesses (secondary malnutrition), if they consume too many calories (over-nutrition), or if their diet does not provide adequate calories and protein for growth and maintenance (under-nutrition or protein-energy malnutrition)

Globally, malnutrition continues to affect many populations with adverse effects on health, mortality, and productivity. Malnutrition is a potentiating factor in about half of the 10 million deaths among under-five each year, and improved nutrition is considered essential to the achievement of the millennium sustainable goals (UNHCR 2016).

A number of different nutrition disorders may arise, depending on which nutrients are under or overabundant in the diet. The World Health Organization (2008), regards malnutrition as the greatest single threat to the world's public health, and improving nutrition as the most effective form of aid. World Health Organization estimates that malnutrition is a contributing factor to 54% of deaths in under-five children and so incidences of respiratory and diarrheal diseases and their mortality rates can be limited by controlling malnutrition (WHO, 2012).

Lack of essential nutrients causes malnutrition: growth will falter and a child's susceptibility to common diseases increases. The critical age for malnutrition is from six months – when mothers generally start supplementing breast milk – to 24 months. However, children under five, adolescents, pregnant or breastfeeding women, the elderly and the chronically ill are also vulnerable (MSF, 2010).

Malnutrition in children can be diagnosed in two ways: it can be calculated from measurements of weight and height, or by measurement of the mid-upper arm circumference. According to these measurements, undernourished children are diagnosed with moderate or severe acute malnutrition. There are various methods used to gauge the degree of malnutrition, including the Gomez Classification, which classifies as first, second or third degree malnutrition according to the percentage of normal body weight a person has (MSF 2010).

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1.2 Background of the study

The disease burden of a population, and how that burden is distributed across different subpopulations (e.g. infants, women), are important pieces of information for defining strategies to improve population health. For policy-makers, disease burden estimates provide an indication

of the health gains that could be achieved by targeted action against specific risk factors. The measures also allow policy-makers to prioritize actions and direct them to the population groups at highest risk. To help provide a reliable source of information for policy-makers, WHO did analyze 26 risk factors worldwide in the World Health Report (WHO, 2002)

Malnutrition is a global concern. It affects about 792 million people in the world (FAO, 2010), 20% of which are from developing countries (The World Bank, 2010). It affects one in three people worldwide and each of its major forms suppresses most other diseases globally (WHO, 2010). Malnutrition affects all age groups, but it is especially common among the poor and those with inadequate access to health education and to clean water and good sanitation.

More than 70% of children with protein-energy malnutrition live in Asia, 26% live in Africa, and 4% in Latin America and the Caribbean (WHO 2010). Childhood malnutrition has been generally thought of as being limited to developing countries, but although most malnutrition occurs there, it is also an ongoing presence in developed nations.

Malnutrition in all its forms increases the risk of disease and early death. Protein-energy malnutrition, for example, plays a major role in half of all under-five deaths each year in developing countries (WHO 2010). Severe forms of malnutrition include:

- (i) Marasmus (chronic wasting of fat, muscle and other tissues);
- (ii) Cretinism and irreversible brain damage due to iodine deficiency
- (iii) Blindness and increased risk of infection and death from vitamin A deficiency.

Nutritional status is compromised where people are exposed to high levels of infection due to unsafe and insufficient water supply and inadequate sanitation.

In secondary malnutrition, people suffering from diarrhea will not benefit fully from food because frequent stools prevent adequate absorption of nutrients. Moreover, those who are already experiencing protein-energy malnutrition are more susceptible to, and less able to recover from, infectious diseases (Ziegler, 2007).

In the United States of America, one out of every six children is at risk of hunger (Schaible & Kaufmann, 2007). An estimated 3.5 million children under the age of five are at risk of hunger in the United States (American College Health Association, 2007). However only 1 out of 200

U.S. households with children became so severely food insecure that any of the children went hungry even once during the year. A substantially larger proportion of these same households (3.8%) had adult members who were hungry at least one day during the year because of their households' inability to afford enough food (Tatum, 2009).

According to Jean (2008), mortality due to malnutrition accounts for 58% of the total mortality which stands at approximately 62 million people, all causes of death combined, each year. One in twelve people worldwide is malnourished and in 2006, more than 36 million died of hunger or diseases due to deficiencies in micronutrients.

According to the WHO (2008), malnutrition is by far the biggest contributor to child mortality, present in half of all cases. Six million children die of hunger every year, while underweight births and inter-uterine growth restrictions cause 2.2 million child deaths a year. Malnutrition in the first two years is irreversible. Malnourished children grow up with worse health and lower educational achievements. Their own children also tend to be smaller. Malnutrition was previously seen as something that exacerbates the problems of diseases as measles, pneumonia and diarrhea, but it is now known that malnutrition actually causes diseases as well, and can be fatal in its own right (Dugger, 2007).

Approximately 27% of children under 5 in Africa are malnourished, and malnutrition claims about half of the 10 million deaths each year of children under 5 in Africa. Hunger and malnutrition in Africa have been on the increase since the 1960s. During the 1970s, it is estimated that 30 million people were directly affected by famine and malnutrition. About 5 million children died in 1984 alone.

In Mozambique during the 1983-84 famine, about 100,000 people perished. In Ethiopia, Sudan, Somalia, Liberia, and Angola armed conflicts compound the problem. Ethiopia alone had 9 million famine victims in 1983. The most common form of malnutrition in Africa is protein energy deficiency affecting over 100 million people, especially 30-50 million children under 5 years of age. Almost another 200 million are at risk.

In Kenya, about 9.7 million people suffered malnutrition in 2000-2003, but this increased to 11.2 million in 2007-2009 which indicates that malnutrition is on the rise (FAO, 2010). These figures represent the number of people consuming (on average for years 2001 to 2003) less than

the minimum amount of food energy (measured in kilocalories per capita per day) necessary for the average person to stay in good health while performing light physical activity. It is a conservative indicator that does not take into account the extra needs of people performing extraneous physical activity, nor seasonal variations in food consumption or other sources of variability such as inter-individual differences in energy requirements (FAO, 2010).

The most pressing form of malnutrition in Kenya is protein-energy malnutrition, which largely affects infants, preschool, and school children. Regional disparities in malnutrition exists, with a low malnutrition rate in Kiambu (22.6%) and a high malnutrition rate in Kwale (56.5%) districts, making an average of 39.55%. even though the prevalence of malnutrition decreased from 29.2% in 1995 to 20.5% in 2008, the figures are still very high, and the decrease largely insignificant as it only reflects a decrease of 8.7% in 15 years, which is just 0.38% decrease per year (FAO, 2008). This confirms the seriousness of malnutrition in Kenya.

In Nyanza province, one of the administrative regions of Kenya, 29.3% of children are stunted, 13.2% are underweight, and 3.4% are wasted (Michelle, Clarie, Cade, Gigochi, 2011). But as Michelle et al. (2011) point out, these figures do not provide the general prevalence of malnutrition in this population which stands at 33.5%. In addition, of the 29.2% stunted, 18.4% are stunted only, 10.3% are both stunted and underweight, and 0.6% are stunted, underweight and wasted.

In Seme sub- County of Kisumu County, a total of 8200 under-fives visited the hospital between January to June 2016 and out of this group, 577 were referred to malnutrition clinic as suffering severe and moderate malnutrition (KWDHSS. 2016).

One study conducted in Ethiopia realized that there is association of severe acute malnutrition with inappropriate child feeding practices and maternal knowledge. As confirmed by scholars (Amsalu & Tigabu.2008) in order to reduce childhood malnutrition there is a need of improving the knowledge and practice of parents on appropriate infant and young child feeding practices. Given this background this study seeks to identify maternal knowledge and practices regarding malnutrition in Seme sub- County of, Kisumu County.

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1.3 Statement of the problem.

A prospective study to assess the Knowledge and Practices of Mothers of under- five Children Regarding Malnutrition in Kombewa Sub-county hospital. The general health and overall wellbeing of children makes sense for a number of reasons beyond the pain and suffering caused by the death of one child. Thus depriving infants and children of basic health care and provision of nutrients needed for optimum growth and development sets them to fail in life (UNICEF, 2016).

Reducing malnutrition among children under the age of five remains a huge challenge in developing countries of the World. An estimated 230 million under-five children are believed to be chronically malnourished in developing countries (Van de Poel et. al., 2008). Similarly, about 54% of deaths among children of this age group are believed to be associated with malnutrition in developing countries (FAO, 2010). In Sub-Saharan Africa, 41% of under-five children are malnourished and deaths from malnutrition are increasing on daily basis in the region (FAO, 2010).

Prevalence of malnutrition among under-five children is very high in many developing countries of the World. As a step towards reducing the prevalence, there is need to identify the important determinants of malnutrition in the specific context. A study was conducted to examine the prevalence and determinants of malnutrition among under-five children of farming households in Kwara State, Nigeria. Descriptive and regression analyses were used to analyze anthropometrics data collected from 127 children selected randomly from 40 rural villages in the State. Descriptive results indicated that 23.6%, 22.0% and 14.2% of the sample children were stunted, underweight and wasted respectively.

There is high prevalence of malnutrition among children of under-five in Kenya. On average, 39.55% of the children suffer from malnutrition. And even though the prevalence of malnutrition decreased from 29.2% in 1995 to 20.5% in 2008, the figures are still very high, and the decrease largely insignificant as it only reflects a decrease of 8.7% in 15 years, which is just 0.38% decrease per year (FAO, 2016).

In former greater Nyanza province, one of the administrative regions of Kenya, 29.3% of children are stunted, 13.2% are underweight, and 3.4% are wasted, excluding the general

prevalence of malnutrition which stands at 33.5%. In addition, of the 29.2% stunted, 18.4% are stunted only, 10.3% are both stunted and underweight, and 0.6% are stunted, underweight and wasted (Michelle, Clarie, Cade, Gigochi, 2014).

Most children presenting at the Kombewa Clinical Research Centre and Kombewa sub-county hospital normally score poorly in terms of nutritional assessment. These children normally have low weight for age, have low mid-upper arm circumference and appear to be having stunted growth. This forces the children to be put on long term nutritional support.

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1.4 Broad Objective

Assess knowledge and practices of mothers in assessing malnutrition in under-fives in Kombewa Sub-county hospital, Seme Sub-County.

1.4.1 Specific objective

1. To assess the knowledge of mothers on the causes of stunting, wasting and underweight amongst under five children.
2. To determine the practices of mothers of under five children that determine the nutritional status of the under-fives in the household.
3. To assess the practices used by mothers of under five in managing malnutrition at home.

1.5 Research questions

1. What are the levels of knowledge of mothers on the causes of stunting, wasting and underweight amongst under-five children attending Kombewa Sub-county Hospital?
2. What are the practices of mothers of under-five children that determine the nutritional status of under five in the household?
3. What are the practices used by mothers of under five children in managing malnutrition at home?

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1.6 Justification

Malnutrition remains to be an issue of public health concern despite the efforts being made to improve provision of health care to children aged less than five years. Factors such as economic, socio-cultural as well as the level of education of the mother have been implicated to be influencing the decision of mothers on weaning and feeding practices of their children at home. Poor decision making on weaning and feeding practices impact on the growth and development of the child.

Developing understanding on home based practices used by mothers is necessary so that these practices can be integrated into the national policies on managing malnutrition among children. Therefore it is imperative that there is a need to identify which practices are used by the mothers on managing malnutrition with the aim of improving the care provided to infants and children under five years of age so as to promote their growth and development in an effort to combat malnutrition associated with child mortality as part of the Millennium Development Goals of reducing by half the rate of child mortality come 2015.]

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1.7 Purpose of the Study

The purpose of this study seeks to assess the level of knowledge and their corresponding practices in regards to malnutrition among the children who are below five years of age at Seme Sub-County

1.8 Significance of study

“Teach a mother to be healthy and she will teach the rest of the mankind” a child is the most important segment of our population and intend to receive attention from family, society, government as well as planned education, health and nutrition policies as well as address needs of a child (Indian journal on nutrition, Diets 2007).

Research indicates that improving the awareness of nutritious meal choices and establishing long-term habits of healthy eating has a positive effect on a cognitive and spatial memory capacity, potentially increasing a student's potential to process and retain academic information (American College Health Association, 2007). Better nutrition has been shown to have an impact on both cognitive and spatial memory performance; while nutritional deficiencies

have been shown to have a negative effect on learning behavior as far back as 1951 (Benton & Sargent, 1992).

Better learning performance is associated with diet induced effects on learning and memory ability. The nutrition-learning nexus demonstrates the correlation between diet and learning and has application in a higher education setting. But this nexus cannot be exploited if malnutrition is high. Hence the need to examine the awareness of mothers of under-five on the major causes of malnutrition amongst the vulnerable population. This study is aimed at assessing the Knowledge and Practices of Mothers of under- five Children Regarding Malnutrition.

The study will provide new information both to the researcher and the institution where the research is going to be carried out hence produce available knowledge to give room for bridging the gaps.

The findings of the study might be significant since;

1. The findings generated can be used by researchers interested in conducting future related studies.
2. The researcher will be able to understand which factors influence or contribute to malnutrition in Some sub-county hence as a health worker be able to attend to the mothers and their children from an informed position.
3. The generated data would be helpful to policy makers

1.9 Assumptions

The study will be based on the following assumptions

1. Maternal knowledge affects management of child malnutrition.
2. Prevention of child malnutrition at home can only be improved by increasing maternal knowledge on stunting wasting and underweight.
3. Women with higher education know how to prevent malnutrition.

1.10 Study limitations

The study might be affected by the following uncontrollable variables.

1. The study is a longitudinal study hence it might not be possible to identify the relationship between the variables. Correct statistical method will be used to show relationship between variables
2. A smaller number of the study population might limit the representation. This will be addressed by means of choosing the right sample size determination

Comment [R6]: This brilliant

CHAPTER TWO

2.0 LITERATURE REVIEW

Historical data have shown that the factors contributing to underlying malnutrition is diverse, multi sectoral and include interrelated biological socio- cultural and economic factors. Malnutrition can be defined as insufficient, excessive or imbalanced consumption of nutrients. (Cheah et al 2009).

Malnutrition also means lack of taking the right kind of nutrients that the body needs for growth and development. It is also defined as underweight, it is a serious public-health problem that has been linked to a substantial increase in the risk of mortality and morbidity. Women and young children bear the brunt of the disease burden associated with malnutrition. In Africa and south Asia, 27–51% of women of reproductive age are underweight (ACC/SCN, 2000).

Malnutrition is a broad term which refers to both under-nutrition (sub-nutrition) and over-nutrition. Individuals are malnourished, or suffer from under-nutrition if their diet does not provide them with adequate calories and protein for maintenance and growth, or they cannot fully utilize the food they eat due to illness. People are also malnourished, or suffer from over-nutrition if they consume too many calories.

Malnutrition can also be defined as the insufficient, excessive or imbalanced consumption of nutrients. Several different nutrition disorders may develop, depending on which nutrients are lacking or consumed in excess. According to the WHO (2010), malnutrition is the gravest single threat to global public health. Sub-nutrition occurs when an individual does not consume enough food. It may exist if the person has a poor diet that gives them the wrong balance of basic food groups.

Child malnutrition has determinants which include poor maternal health during pregnancy, poorly resourced health systems, food insecurity, inadequate and inappropriate feeding practices and lack of access to safe water. (Essendi et al., 2008)

At a distal level, these determinants may be influenced by a range of factors such as female literacy, early marriage hence early childbearing, food taboos and proximity to essential health and social services and yet little research has been done to determine the impact of these issues on child malnutrition.

Malnutrition is one of the factors contributing to child mortality and a leading cause of the global burden of disease in developing countries. The magnitude of the health loss associated with childhood malnutrition is such that everyday more than 26,000 children under the age of five die mostly from preventable cause. The majority of these deaths occur in developing countries where over half of the deaths are attributed to under nutrition and its complications. Indeed malnutrition is seen as a major neglected epidemic since the scale of the problem has not changed since 1990.

In sub-Saharan Africa alone the prevalence has been reducing but at a very slow pace. (Essendi et al., 2008)

In developing world an estimated 230 million (39 %) children under the age of five are chronically malnourished and about 54% of deaths among children of this age is associated with malnutrition.

In sub-Saharan Africa the prevalence of malnutrition among this age group is estimated to be at 41%. It is the only region in the world where the number of child deaths is increasing and in which food insecurity and absolute poverty are expected to increase. (Ellen et al., 2007).

The nutritional status of under-five children is a sensitive indicator of a country's health status and economic condition. (Rayhan et al., 2006).

According to Abdulkadir (2009), Kenya can be considered a relatively better developed country when compared to other Sub-Saharan African Countries in terms of social services and yet malnutrition is still persistent and on the increase as indicated in all nutrition. Obese people, who consume more calories than they need, may suffer from the sub-nutrition aspect of malnutrition if their diet lacks the nutrients their body needs for good health.

Poor diet may lead to a vitamin or mineral deficiency, among other essential substances, sometimes resulting in scurvy - a condition where an individual has a vitamin C (ascorbic acid) deficiency. Though scurvy is a very rare disease, it still occurs in some patients - usually elderly people, alcoholics, or those that live on a diet devoid of fresh fruits and vegetables.

Similarly, infants or children who are on special or poor diets for any number of economic or social reasons may be prone to scurvy. According to the National Health Service (NHS), UK, it is estimated that over two million people are affected by malnutrition (sub-nutrition).

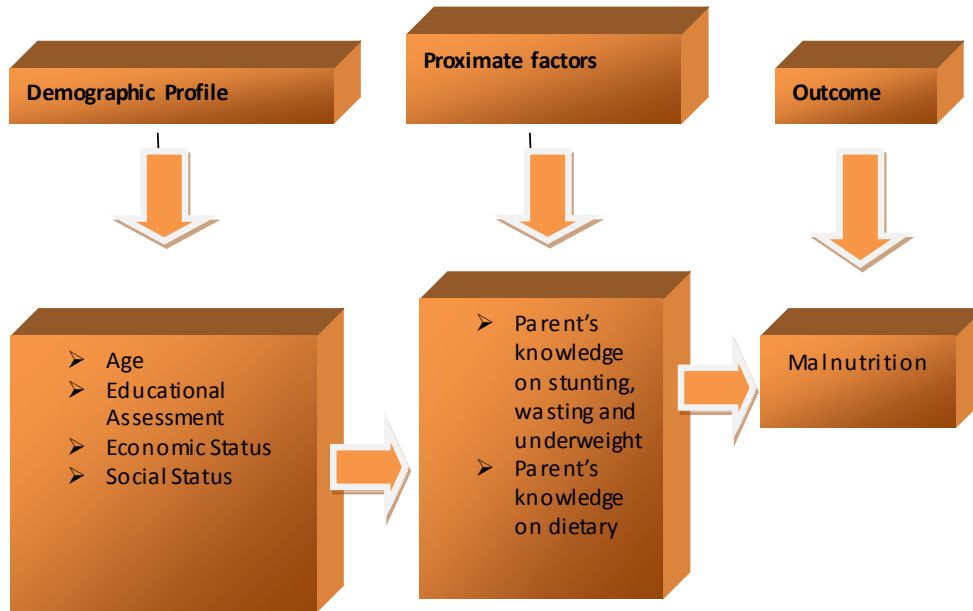
According to the FAO (2010), the number of people globally who were malnourished stood at 923 million in 2007, an increase of over 80 million since the 1990-92 base periods. The WHO (2008) says that malnutrition is by far the largest contributor to child mortality globally, currently present in half of all cases. Underweight births and inter-uterine growth restrictions are responsible for about 2.2 million child deaths annually in the world.

Deficiencies in vitamin A or zinc cause 1 million deaths each year. WHO adds that malnutrition during childhood usually results in worse health and lower educational achievements during adulthood. Malnourished children tend to become adults who have smaller babies. While malnutrition used to be seen as something which complicated such diseases as measles, pneumonia, and diarrhea, it often works the other way round - malnutrition can cause diseases to occur.

Children who are severely malnourished typically experience slow behavioral development, even mental retardation may occur. Even when treated, malnutrition cases may have long-term effects in children, with impairments in mental function and digestive problems persisting; in some cases this can run for the rest of their lives.

Adults, whose severe undernourishment started during adulthood, usually make a full recovery when treated.

1.11 CONCEPTUAL FRAMEWORK



The frameworks above shows that the proximate factors i.e. parent's knowledge on stunting ,wasting and underweight and parent's knowledge on dietary are highly influenced by the parent's demographic factors with which the end result will affect malnutrition positively or negatively (Joellifs, 2014).

Source Researcher (2019)

2.1 General Causes of Malnutrition

Malnutrition, the result of a lack of essential nutrients, resulting in poorer health, may be caused by a number of conditions or circumstances.

In many developing countries long-term (chronic) malnutrition is widespread - simply because people do not have enough food to eat (American College Health Association, 2007). But as Dugger (2007) notes, in more wealthy industrialized nations, malnutrition is usually caused by poor diet. If a person does not eat enough food, or if what they eat does not provide them with the nutrients they require for good health, they suffer from malnutrition. Poor diet may be caused by several different factors.

(i) If a patient develops dysphasia (swallowing difficulties) because of an illness, or when recovering from an illness, they may not be able to consume enough of the right nutrients.

(ii) Some patients with mental impairment, such as depression, may develop eating habits which can lead to malnutrition.

(iii) Patients with anorexia nervosa or bulimia may develop malnutrition because they are ingesting too little food.

(iv) At the same time, people with mobility problems may suffer from malnutrition, simply because they either cannot get out enough to buy foods, or find preparing them too arduous (Schaible & Kaufmann, 2007).

(v) Tatum (2009) points out that some people may eat properly, but their bodies cannot absorb the nutrients they need for good health; such as patients with Crohn's disease or ulcerative colitis. Such patients may need to have part of the small intestine removed (ileostomy).

(vi) Individuals who suffer from Celiac disease have a genetic disorder that makes them intolerant to gluten. Patients with Celiac disease have a higher risk of damage to the lining of their intestines, resulting in poorer food absorption.

(vii) Patients who experience serious bouts of diarrhea and/or vomiting may lose vital nutrients and are at higher risk of suffering from malnutrition.

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(viii) But alcoholism is another common cause of malnutrition (Ziegler, 2007, 2008). Alcoholism is a chronic (long-term) disease. Individuals who suffer from alcoholism can develop gastritis, or pancreas damage. These problems also seriously undermine the body's ability to digest food, absorb certain vitamins, and produce hormones which regulate metabolism. Alcohol contains calories, reducing the patient's feeling of hunger, so he/she consequently may not eat enough proper food to supply the body with essential nutrients.

In poorer, developing nations malnutrition is commonly caused by Food shortages. In poorer developing nations food shortages are mainly caused by a lack of technology needed for higher yields found in modern agriculture, such as nitrogen fertilizers, pesticides and irrigation.

Food shortages are a significant cause of malnutrition in many parts of the world (WHO, 2008, 2010). According to FAO (2008), the other cause has to do with food prices and food distribution - it is ironic that approximately 80% of malnourished children live in developing nations that actually produce food surpluses.

But equally important is lack of breastfeeding (World Bank, 2010). According to the World Bank (2010), lack of breastfeeding, especially in the developing world, leads to malnutrition in infants and children. In some parts of the world mothers still believe that bottle feeding is better for the child. Another reason for lack of breastfeeding, mainly in the developing world, is that mothers abandon it because they do not know how to get their baby to latch on properly, or suffer pain and discomfort.

2.2 Management of Malnutrition

Like all other diseases or health problems, malnutrition needs to be managed. The type of malnutrition treatment recommended depends mainly on its severity, and whether the patient has an underlying condition/illness which is a contributory factor. If so, that underlying illness/condition needs to be treated or addressed (Tatum, 2009). NICE (National Institute for Health and Clinical Excellence), UK, has guidelines for malnutrition treatment. They state that the needs and preferences of the patient need to be taken into account. The patient, along with healthcare professionals, should be able to make informed decisions about care and treatment (WHO, 2009, 2010).

NICE guidelines state that individuals who are receiving nutritional support, as well as their caregivers should be,

- (i) fully informed about their treatment;
- (ii) given tailored information;
- (iii) given the opportunity to discuss diagnosis, treatment options and relevant physical, psychological and social issues; and
- (iv) given contact details of relevant support groups, charities and voluntary organizations (WHO, 2010).

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The care plan aims for treatment set out should include the treatment for any underlying conditions/illnesses which are contributory factors to the malnutrition. Typically, treatment includes a feeding program with a specially planned diet, and possibly some additional nutritional supplements (American College Health Association, 2007).

Severely malnourished patients or individuals who cannot get sufficient nutrition by eating or drinking may need and should receive artificial nutritional support. The patient should be closely monitored for progress, and their treatment regularly reviewed to make sure their nutritional needs are being met.

The other management option is diet (Foley et al., 2011). A good healthcare professional should discuss eating and drinking with the patient and provide advice regarding healthy food choices. The aim is to make sure the patient is receiving a healthy, nutritious diet. The doctor or dietitian should work with the patient to make sure enough calories are being consumed from carbohydrates, proteins, fats and dairy, as well as vitamins and minerals. If the patient cannot get their nutritional requirements from the food they eat, oral supplements may be needed. An additional 250kcal to 600kcal is advised by FAO (2016).

But there are also artificial nutritional support of which there are two main types, mainly for patients with severe malnutrition (Schaible & Kaufmann, 2011). The enteral nutrition (tube feeding) is a tube is placed in the nose, the stomach or small intestine. If it goes through the nose it is called a nasogastric tube or nasoenteral tube. If the tube goes through the skin into the stomach it is called a gastrostomy or percutaneous endoscopic gastrostomy (PEG) tube. One that

goes into the small intestine is called a jejunostomy or percutaneous endoscopic jejunostomy (PEJ) tube. The parenteral feeding is a sterile liquid fed directly into the bloodstream (intravenously). Some patients may not be able to take nourishment directly into their stomach or small intestine. Patients should be regularly monitored to check that they are receiving the right amount of calories and nutritional needs. This may be adjusted as the patient's requirements change. Patients receiving artificial nutritional support will be switched over to normal eating as soon as they are able to.

But the best tool, like in all medical cases, is prevention. Malnutrition is caused mainly by not consuming the right balance of nutrients from major food groups of carbohydrates, fruit and vegetables, protein, dairy - vegans are able to find abundant nutrients from non-animal sources, and fats. These should always be provided in the right quantities. Ulcerative colitis is a fairly common chronic (long-term) disease that causes inflammation of the colon (the large intestine). It is a form of inflammatory bowel disease. When inflammation is only in the rectum the disease is called ulcerative proctitis.

The inflammation may extend into the upper parts of the colon. Universal colitis or pan colitis is when the whole colon is involved (World bank, 2015). Patients with ulcerative colitis commonly lose weight because their body is unable to absorb nutrients properly. Consuming plenty fluids, and eating regularly (five or six small meals daily), as well as taking food supplements may help to prevent ulcerative colitis (Schaible & Kaufmann, 2011).

Crohn's disease is an ongoing condition that causes inflammation of the digestive tract, or the GI (gastrointestinal) tract (the gut). Crohn's disease may also be called ileitis or enteritis. Crohn's disease can affect any part of the gut, from the mouth all the way down to the anus. In the majority of cases the lower part of the small intestine - the ileum - is affected. Patients with Crohn's disease can feel pain; the condition makes the intestines empty frequently, resulting in diarrhea. Although preventing Crohn's disease is unlikely, following treatment carefully helps prevent malnutrition considerably (Tatum, 2009).

Celiac disease also known as gluten intolerance is a condition where a person has a genetic disorder that makes him or her intolerant to gluten. It is caused by a reaction to gliadin (a gluten protein found in wheat). It can affect all types of people. However, it seems to be more prevalent among people of Northern European descent. Patients who follow a well-balanced, healthy,

gluten-free diet are less likely to suffer from malnutrition (Laus et al., 2011). People who are addicted to alcohol and abuse alcohol may sometimes suffer from malnutrition. The only effective way to address this is to treat the alcoholism. There are several ways of treating alcoholism. The first step for the alcoholic is to acknowledge that there is an alcohol dependency problem (World Bank, 2010).

Interventions that contribute to preventing malnutrition include:-

Improved water supply, sanitation and hygiene; health education for a healthy diet. It also includes improved access, by the poor, to adequate amounts of healthy food; and ensuring that industrial and agricultural developments do not result in increased malnutrition. Malnutrition increases the risk of infection and infectious disease: it is a major risk factor in the onset of active tuberculosis (Foley et al., 2015). Foley et al. (2015) add that in communities or areas that lack access to safe drinking water, these additional health risks present a critical problem. Lower energy and impaired function of the brain also represent the downward spiral of malnutrition as victims are less able to perform the tasks they need to in order to acquire food, earn an income, or gain an education.

This is great as it shows the correlation of the variables that are brought out from your research objectives

Where is your theoretical framework now that your work is world class?

Include a knowledge gap, to ensure that what you are doing is very peculiar

[This is ok, you inserted the conceptual framework, however where is your knowledge gaps part?](#)

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Overview

This chapter describes the research design, the study population, sampling methods and sample size, both inclusion and exclusion criteria for the study. It also describes the data collection instruments to be used, selection of enumerators, training and pre-testing of instruments, and data quality control methods are also described here.

3.1.1 Background of the study Area

Seme sub-county which is part of the greater former Kisumu west District is one of the 6 sub-counties in Kisumu County. It has a rugged topography mostly on the northern part with hilly rock tors dotting most parts of the area. The study will be carried in Kombewa sub-county hospital of Seme Sub-County of Kisumu County. The Sub-county is located on the North Eastern shores of Lake Victoria. The area covers an area of 369 km² with a monitored population of 120, 436 persons having a ratio of Male to Female at 1:1.3 The sub-county has about 29,069 households with a population Density of about 331 per sq km (Kombewa Health Demographic and Surveillance System-KHDSS, 2014).

Comment [R7]: Well explained

3.1.2 Socio-Economic status.

There are various activities undertaken by various households in the sub-county in order to generate income. These include peasant farming in maize, millet, sorghum and beans as well as small-scale business and employment in salaried jobs. Fishing is a major preoccupation of the people who border the shores of Lake Victoria. A segment of the population is also engaged in jua kali sector especially in urban centers.

3.1.3 Infrastructure.

Most parts of the county is served by earth and gravel roads, there are only two major highways passing through the District which have tarmac. Rural access roads in the divisions where farming and fishing are the main economic activities are poor

3.1.4 Health.

The County Health Management Team (CHMT) coordinates health services in the district under the leadership of the District Medical Officer of Health (CMOH). Other than other

members, the CMOH on the day to day administrative functions is assisted by the County Health Administrative Officer (CHAO), the County Public Health Nurse (CPHN), the County Clinical Officer (CCO), and the County Public Health Officer (DPHO).

There are a total of 27 health facilities which offer basic health services. Generally, utilization of health facilities by the community is affected by poor infrastructure, distance and inadequate distribution. Average distance to health facility is approximately 5-6 kilometers. Approximately 80% of households have access to health service delivery which clearly shows that about 20% of the households are situated in pockets of the sub-county which are so disadvantaged in terms of access to health services.

The sub-county has 37 Community Units (CUs) with trained Community Health Workers implementing Community Strategy. This is 100% coverage and efforts are being made to strengthen community health services in the county through partners' support.

3.2 Poverty analysis and Agriculture.

Seme sub-county is the largest in size but with relatively sparse population having a density of 357 persons per sq. km. this is because half of the Division is dry therefore of low agricultural potential. The infrastructure is also quite dilapidated, hindering development of the fishing industry which is the main economic activity for the people of the area.

These are the major factors contributing to high incidences of poverty in the Division. Other economic activities undertaken include small-scale farming in maize, millet, sorghum, beans and cotton especially on the lower parts of the division. Fishing is also undertaken along the beaches on the shores of Lake Victoria.

The study will focus on identifying how mothers prevent malnutrition in children under the age of five in Kombewa sub-county hospital, of seme -sub county. A descriptive survey will be done to assess how mothers who have children under five years old prevent the incidence of malnutrition in their children. A questionnaire will be designed, pretested and issued to these mothers who will be attending the outpatient clinic.]

Comment [R8]: This should be in chapter two, they have relevance here but would have been instrumental in chapter two

3.3 Population.

A population is an aggregate or totality of all subjects that possess a set of specification [Domyei \(2007\)](#). The target population is the group of population that the researcher aims to study and to whom the study findings will be generalized [Mugenda & Mugenda \(2006\)](#).

The accessible population is the group of population that the researcher finds in the study area. The accessible population of the study will be comprised of Mothers of children below the age of five years attending out-patient clinic at Kombewa sub-county hospital.

All mothers of children below five years [presented](#) at the clinic and have consented will be approached to participate in the study.

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3.4 Research Design

This facilitates the smooth sailing of various research operations thereby making research as efficient as possible yielding maximal information with minimal expenditure (Kothari (2004) The study will adopt non- experimental design because it describes the relationship which exists between the selected socio demographic variables and knowledge of mothers of under five children regarding malnutrition. It will be a prospective descriptive study design

Comment [R9]: Ok

3.5 Sample and sampling technique

Sampling is the process of selecting a portion of the population that has been selected to represent the population of the interest. In this study Prospective Purposive sampling method be applied to identify the required sample size at the outpatient clinic of Kombewa sub-county hospital.

3.6 Sample size determination.

Cochrane method of sample size determination for descriptive studies will be applied.

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

e²

n =desired sample size

Z_2 = critical value for a 95% level of significance = 1.96

p = proportion with outcome of interest

q = proportion without outcome of interest = 1- p

e = margin of error.

Proportion of children with malnutrition in the period of June 2014 / July 2015 were 960 cases of malnutrition out of 11000 children of under-five at Kombewa sub-county Hospital.

Prevalence of malnutrition at hospital = $(960/11000 \times 100) = 8.7\% = 9\% = 0.09$.

$n = 1.96 \times 1.96 \times 0.09 \times (1 - 0.09)$

$(0.05)^2$

$n = 125.85 = 126$

Assume 15% non-response rate so the final sample size would be

$(15/100 \times 126) + 126$

$n = 145$

Comment [R10]: Is this practical, because you have stated above that your sample will come from those who will visit Kombewa and will consent to divulge information to you? So this is not in any way relevant

3.7 Inclusion Criteria

All mothers attending outpatient clinic with children under five years of age who will consent to participate in the study at Kombewa Sub -county.

3.8 Exclusion Criteria

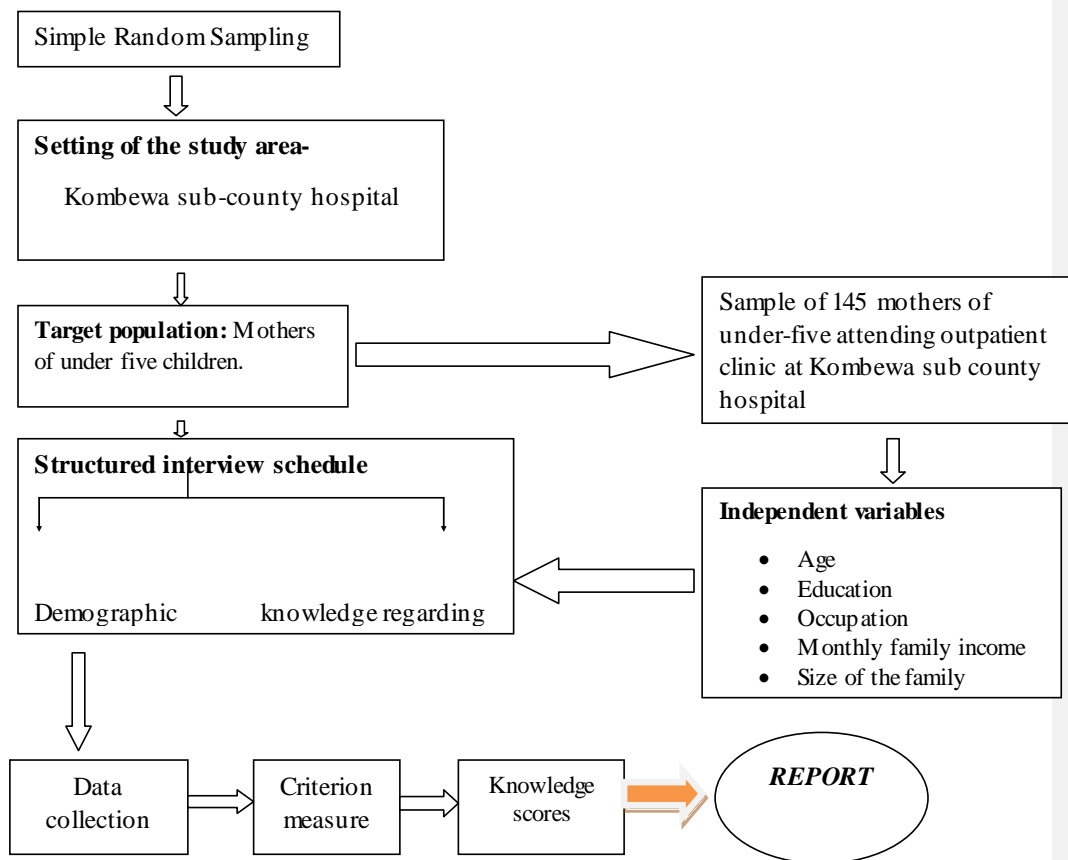
All mothers attending outpatient clinic with children under five years of age who will not consent to participate in the study at Kombewa Sub- county hospital.

Mothers who will be having children under five years of age with chronic illnesses or illnesses which require emergency response at the outpatient clinic of Kombewa Sub-County hospital.

3.8.1 Development of the tool

To assess the knowledge and practices of mothers of under-five at Kisumu west district hospital a structured questionnaire prepared to collect data from the respondent in accordance with the objectives and research questions.

The schematic design of the study.



Comment [R11]: Satisfactory

3.8.2 Description of the tool

The format of the structured questionnaire comprises of two sections or parts,

Section 1- consists of items describing characteristics such as

- a) Age
- b) Education
- c) Occupation
- d) Family monthly income
- e) Family size

Section 2- consists of items related to knowledge of mothers regarding malnutrition,

- a) Meaning
- b) Types
- c) Causes
- d) Signs and symptoms
- e) Diagnosis
- f) Management and prevention

Each item has one correct response and coded with one mark. For the study purpose the knowledge score will be corded as:-

- ☐ Low knowledge - < 50%
- ☐ Average knowledge - 50% - 75%
- ☐ High knowledge - >75%

3.9 Data analysis

Data collected will be sorted and checked for incompleteness before being entered onto the computer database for analysis. Descriptive statistics will be used to explain the sample variables as well as explain the relationship between the variables. SPSS software version 21 will be used to analyze the data

3.10 Data Presentation.

Data analyzed will be presented by use of tables, graphs as well as discussion on the findings. A final report will be compiled for submission.

3.11 Pilot Study

A pilot study will be conducted during the course of the study. The pilot study will help in determining the validity and reliability of the research instrument (questionnaire). Equally the pilot study will help in determining the appropriate data analysis procedure to be used. (Burns and Grove 2003)

3.12 Ethical Considerations

The study will ensure that all participating mothers sign a consent form after the purpose of the study has been explained to them. The researcher will also ensure that data collected is analyzed professionally and that it is not fudged to conform to a predetermined opinion. Further, to protect the respondents' identities, data will be reported as a block instead of highlighting individual cases. The researcher will obtain all the necessary permits from the university, the district health officers as well as from the hospital administration to ensure that the study does not contravene any ethical requirement. Further, the researcher will ensure that all information provided is treated with utmost privacy and confidentiality, and that no information is released to a third party without a written permission from the source. This being a descriptive survey in which a questionnaire will be used to collect data, there will be no potential harm to the respondents and as such they will not be entitled to benefits.

This chapter is Well presented except for the few issues pointed out

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CHAPTER FOUR:

PRESENTATION OF THE STUDY FINDINGS.

4.0 Introduction

This section discusses the findings of the study. 126 women were approached to participate in this study and 126 accepted to provide response using the questionnaire; thus achieving a 100% response rate. The findings have been presented using tables and figures where applicable followed by discussion of findings.

Table 1: Demographic characteristics of Respondents

Characteristics'	Categories	No' of Respondents
<u>Age Group (in years)</u>	15-25	32
	26-35	44
	36-45	36
	>46	14
<u>Marital Status</u>	Married	59
	Single	38
	Widowed/Separated	29
<u>Level of Education</u>	None	1
	Primary	73
	Secondary	41
	Tertiary	11
<u>Occupation</u>	Housewife	48
	Employed	25
	Self-Employed (Business)	53
<u>Average monthly Income</u>	<KSH 5000	19
	KSH 5000-10000	58
	KSH > 11000	49

Field CodeChanged

126 adult women took part in this study, their demographic characteristics is as shown above. Those aged between 26-35 years old represented the majority group. Many of the respondents were married and have achieved primary level of education. Those in informal employment formed the majority group in terms of occupation. In terms of average monthly income those earning between Kshs 5000-10000 formed the majority group compared to the rest of the income categories.

4.1 Knowledge on Malnutrition.

Table 2: Knowledge on malnutrition

	No of Respondent	Percentage
When their legs and face are swollen	82	65.1
Breast milk is not enough	19	15.1
Child was breastfeeding a lot	11	8.7
Due to HIV/AIDS	7	5.5
I had to go and look for food to feed other children	6	4.8
Total	126	100.0

Field CodeChanged

Results on knowledge on malnutrition are as shown in table 2 above.

65.1% of the respondents stated that malnutrition presents with swollen legs and face in children. 19 % of the respondents stated that children get malnutrition when breast milk is not enough. 5.5 % (n=7) stated that malnutrition is due to HIV/AIDS. 4.8 % stated that their child got malnutrition when they had to go out to look food to feed other children in the family as well.

Knowledge on malnutrition was also explored by looking at what mothers/caregivers do at home when the child is having malnutrition.

Table 3: Response on the kinds of foods used during weaning

Field CodeChanged

Action taken	No' of Respondents
Plain porridge/ Porridge with cow's milk	49
Mashed potatoes	48
Ugali and vegetables	19
Others	12
Total	126

Table 3 shows the response on foods most caregivers/mothers give during weaning. 49 of the respondents indicated that they wean their children plain porridge and or porridge enriched with cow's milk. A significant number of the respondents (n=12) weaned their children on other foods such as fruits e.g bananas, avocados and gave eggs, fish, rice and meat. 48 and 19 respondents indicated that they weaned their babies on mashed potatoes and Ugali and vegetables respectively.

Figure 1: Challenges faced when managing malnutrition at home

Of the 126 caregivers and mothers who were approached, most (n=102) tried to give challenges that they face when encountered with the aspect of malnutrition at home while 24 did not give any response in this questions, the pie chart below shows how they responded on the challenges they face.

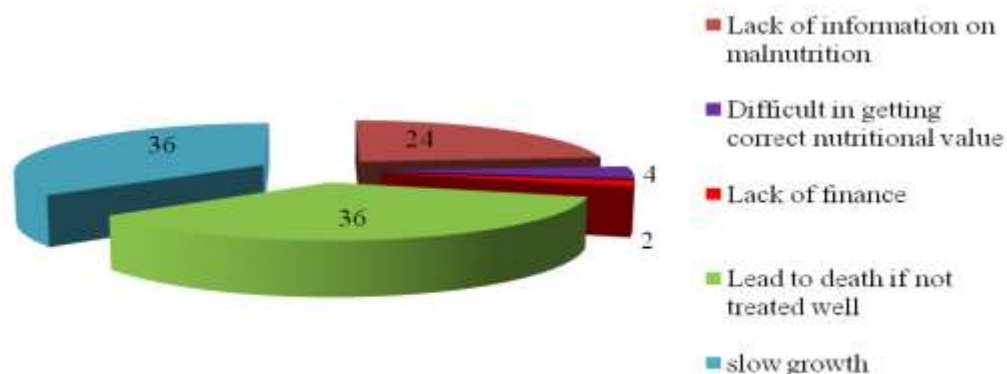


Fig 1: Challenges faced when managing malnutrition at home

Failure to manage malnutrition well at home leading to death is the leading challenge faced by caregivers/mothers while managing malnutrition at home. Poor response to care provided as evidenced by slow growth in children with malnutrition is another challenge faced by caregivers/mothers when managing malnutrition at home. Lack of information on malnutrition was among the top three challenges faced by caregivers/mothers when managing malnutrition at home.

Table 4: Opinions towards malnutrition in children

Field CodeChanged

Opinion	Strongly Agree	Agree	Disagree	I do not know	Mean	SD
Malnutrition can kill a child	64	21	11	7	25.75	26.17
Family members are able to identify malnutrition	44	24	3	30	25.25	17.04
Malnutrition is common in this area	24	5	12	60	25.25	24.46

Opinions towards malnutrition were explored by asking caregivers/mothers if they perceived malnutrition can kill a child, if family members are able to identify malnutrition and if malnutrition is common in the area. On a scale of 1-4 many respondents strongly agreed that malnutrition can kill with the highest mean of 25.75. On the other hand many respondents stated that they are not sure if malnutrition is common in the area with a lowest mean of 25.25.

4.2 Beliefs and Practices on Malnutrition

Beliefs and practices on malnutrition was explored by looking at how the community viewed children with malnutrition, what role the church should play in curbing malnutrition and what would be the best thing to do when child is suspected to be having malnutrition.

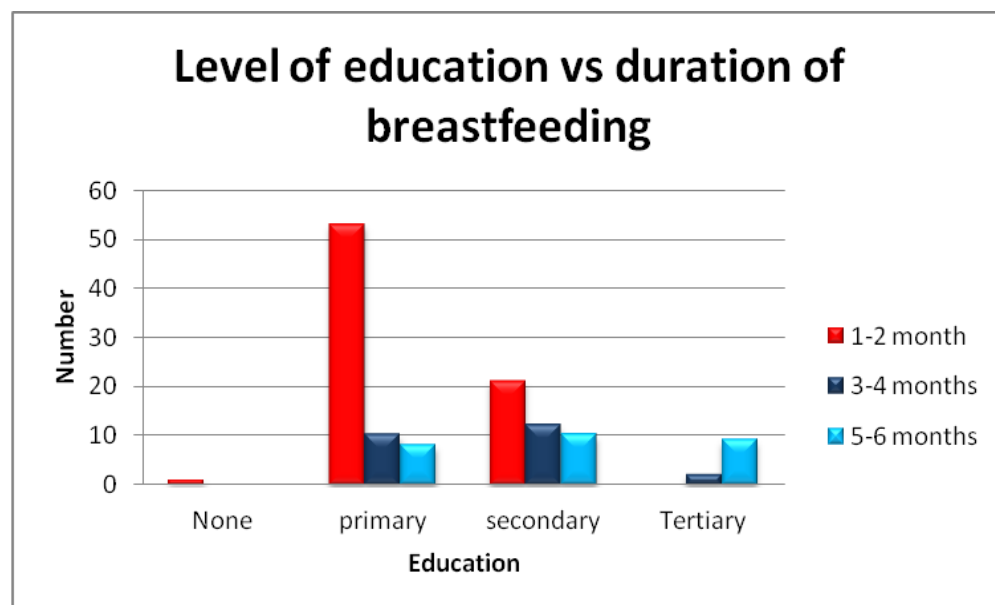
Table 5: Level of education versus how are children with malnutrition viewed

		Children with malnutrition are considered to be;		
		Sick like any other kid	Bewitched	Total
Level of education	None	0	1	1
	Primary	21	70	91
	Secondary	21	18	39
	Tertiary	3	1	4
Total		81	45	126

$$\chi^2=20.218 \text{ df}=3 \text{ p}=0.000*(\text{significant at } p<0.005)$$

Table 6 above shows the relationship between level of education and how malnourished children are viewed in the community. Majority of the respondents (n=91) viewed malnourished children as sick like any other child while n=39 of the respondents argued that children with malnutrition are bewitched. The Pearson Chi-Square showed a p-value of 0.000 ($\chi^2=20.218$ df3) which shows the level education and views on malnourished children are related. Hence it can be concluded that level of education had influence on how respondents perceived malnourished children with malnutrition, those having high level of education perceiving children with malnutrition as being sick compared to being bewitched.

Figure 2: Level of Education versus duration of breast feeding



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$\chi^2=9.492$, $df=6$ $p=0.146$ *(significant at $p<0.005$)

Figure 2 above shows the relationship between level of education and duration of exclusive breastfeeding among respondents who took part in this study. 38 of the respondents had breastfed for a period of 3-4 months, 34 had breastfed for a period of 1 to 2 months while its only 31 caregivers/months who had breastfed exclusively for the recommended period of up to 6 months. The Pearson Chi-Square test showed a p value of 0.1460 ($\chi^2=9.49$, $df=6$) which indicates that there is a no significant relationship between level of education and duration of exclusive breastfeeding among caregiver who took part in this study.

Table 6: Level of education versus age at weaning

		At what age did you start weaning your lastborn			Total
		1-2 months	3-4 months	5-6 months	
Level of education	None	0	1	0	1
	Primary	38	28	8	74

	Secondary	10	20	12	42
	Tertiary	1	2	6	9
Total		49	51	26	126

$\chi^2=13.82$, $df=6$ $p=0.032$ *(significant at $p<0.005$)

Table 6 shows the relationship between level of education of respondents and age at which they weaned their infants. Majority of the respondents($n=60$) indicated that they started weaning their infants at 3-4 months, 38 of the respondents started weaning their infants at 5-6 months while a paltry few began weaning while their infants are less than 3 months. The Pearson Chi-Square test showed a p value of 0.032($\chi^2=13.82$, $df=6$) which indicates that there is a statistical significant relationship between level of education of mothers/caregivers and the weaning age of infants among respondents who took part in this study. This means that level of education had influence on age of infant at which mothers began weaning their children.

Figure 2: Food used for Weaning

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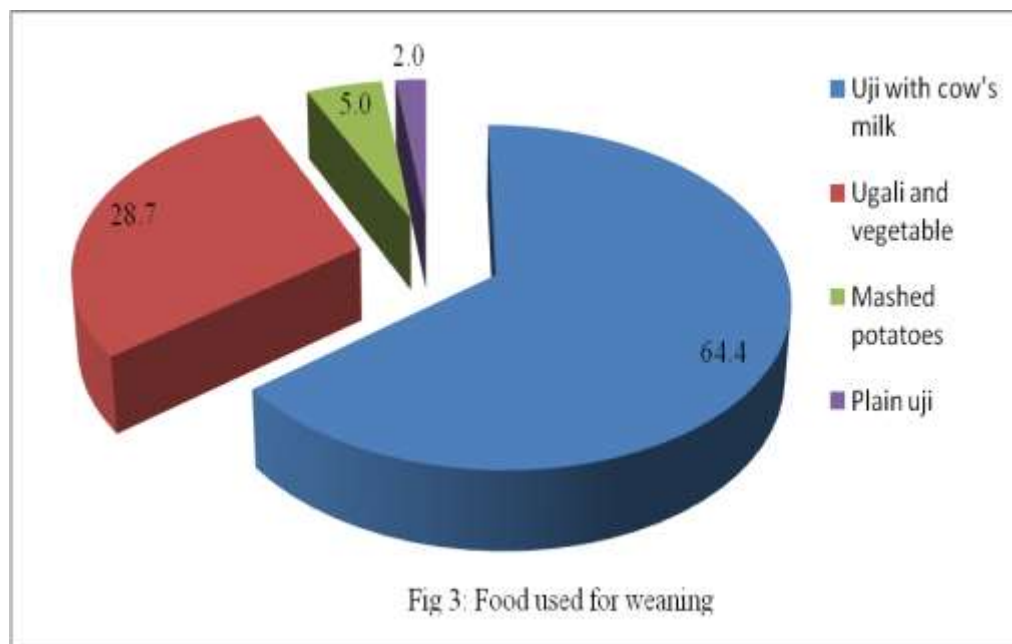


Figure 3: shows that porridge mixed with cow's milk was the preferred weaning food among mothers who participated in this study. This was followed by use of ugali and vegetable, mashed potatoes and plain uji respectively.

| [This is brilliant](#)

CHAPTER FIVE:

SUMMARY, DISCUSSION, CONCLUSIONS AND RECOMMENDATION.

5.0 Introduction

This chapter discusses the summary of the findings in section 5.1. The discussion of findings is in section 5.2. The conclusions are outlined in section 5.3 while section 5.4 gives the recommendations of this study.

5.1 Summary of the findings

126 mothers/caregivers took part in this study with most of them aged between 25-34 years old. Many of the respondents were married and have achieved secondary level of education. Those in formal employment formed the majority group in terms of occupation. The average monthly income was above Kshs 11000.

Malnutrition was associated with children having swollen legs and face while some respondents attributed malnutrition to lack of adequate breast milk and HIV/AIDS respectively. Malnutrition was basically managed at home using locally available food as opposed to taking malnourished children to the hospital for treatment. Inability to get adequate nutritional value from the food as well as inadequate response from food therapy being given to children at home was cited as some of the challenges that mothers/caregivers faced while managing malnutrition at home. Knowledge on what constitutes a balanced diet for a child was high among the respondents who took part in this study and this knowledge was significantly related with the level of education of respondents.

Children with malnutrition were perceived to be sick just like any other sick child as opposed having been bewitched. Most respondents argued that the church has to educate the community on the dangers of malnutrition. In terms of management of malnourished children, most respondent across all levels of education agreed that malnourished children should be taken to the hospital for care.

There were poor weaning practices among respondents who took part in this study. Most caregiver/mothers indicated that they had breastfed exclusively for a period of less than 4 months which increases the risk of malnutrition among infants. The weaning age was determined to be

every low in this study with many infants being weaned as early as of 2 months of age. Porridge mixed with milk was the preferred food for weaning infants which in essence is of low nutritional value hence it explains why the prevalence of malnutrition is high in this population. Most families bought food from the market as opposed to producing their own from the farm. This is a significant factor in managing malnutrition since when there is no money in the family it means that family members may have to do without meals.

5.2: Discussion of findings

5.2.1: Knowledge on malnutrition

Malnutrition was associated with children having swollen legs and face while some respondents attributed malnutrition to lack of adequate breast milk and HIV/AIDS respectively. Malnutrition was basically managed at home using locally available food as opposed to taking malnourished children to the hospital for treatment. Malnutrition can well be managed at home using the available resources as realized that most mothers after identifying that their children had malnutrition proceeded to manage them at home using the family food. According to Ashworth (2006) home based management of malnutrition is associated with benefits such as being cost effective since most mothers are able to integrate the family food into the child diet thus forming a good basis for weaning. However, there are several disadvantages of home based management of malnutrition which includes; inadequate food supply in the family is likely to compromise the success of the care because a family must have adequate food resources to be able to feed itself well. Adequate advice on kind of foods to be grown at times it is not feasible since a formative inquiry may be required so as to develop appropriate solutions that will suit a particular family.

One of the significant finding from this study is that HIV/AIDS was associated with malnutrition. It makes a lot of sense since HIV/AIDS affects the health of many children; equally it is common to find malnutrition in many children who are living with HIV/AIDS (Hilda et al. 2006). Inability to get adequate nutritional value from the food as well as inadequate response from food therapy being given to children at home was cited as some of the challenges that mothers/caregivers faced while managing malnutrition at home. Access to information on good dietary practices was one of the main challenges raised by the respondents. They believed that there is a need to educate the community on how to manage malnutrition using balanced diet. In many cases malnutrition in children is caused by lack of nutritional awareness in the community

as such community health workers should provide health education to mothers on the best nutritional practices to prevent malnutrition at home.

Knowledge on what constitutes a balanced diet for a child was high among the respondents who took part in this study and this knowledge was significantly related with the level of education of respondents. Level of education of caregivers and the parents is critical in preventing malnutrition. It was realized that most of the respondents who had weaned their children at the age of less than four months had primary level of education. Parental level of awareness on good nutritional practices is a significant factor in determining whether a child in the family will be malnourished or not. Amsalu and Tigabu (2008) argue that parental illiteracy is a risk factor associated with severe acute malnutrition in children with the risk increasing to a significant level in cases of low maternal literacy level.

5.2.2: Beliefs and Practices towards malnutrition

Children with malnutrition were perceived to be sick just like any other sick child as opposed having been bewitched. Most respondents argued that the church has to educate the community on the dangers of malnutrition. In terms of management of malnourished children, most respondent across all levels of education agreed that malnourished children should be taken to the hospital for care. Misconceptions on what malnutrition is also affects the ability of the family to tackle it, this is evident that a number of respondents identified children with malnutrition to have been bewitched. These beliefs according to Scherbaum and Furst (2000) should be taken into account when tackling malnutrition in a community.

Cultural beliefs and communities' perception also affect management of malnutrition. Among these are factors that stigmatize children with malnutrition. It was realized that most respondents perceived malnourished children as being sick. It is important to recognize the role of cultural beliefs on management of malnutrition. More emphasis should be given on beliefs and practices that enhance management of malnutrition at home or in the community.

5.2.3 Feeding/Weaning practices and source of food

Age of weaning is a determinant of how well a child will grow and develop since it is at this time that they are introduced to other foods apart from the breast milk. It was realized that most mothers weaned their children at around the age of four months and this can later lead to malnutrition in children. This correlates to the findings of Amsalu and Tigabu (2008) in which

they realized that most children had been weaned before the age of six months hence exposing them to malnutrition. Sunguya et al (2006) also argue that most children are affected with malnutrition due to weaning. The common type of food used in children was porridge containing milk which hardly meets the dietary requirements of a child. Savva et al (2005) also argues that during weaning the food given to a child should contain all the required nutrients to supply their needs for growth and development. Cohen and Atieno (1989) argues that most infants are weaned on a monotonous diet that relies heavily on maize as staple food with little or no nutritious accompaniment. Scherbaum and Furst (2000) asserts this finding that in rural Africa food used during weaning is most likely to be comprised mainly of cereals with too much water and a higher fiber diet can compromise the nutritional and health status of a child.

On breastfeeding it was realized that most children were not exclusively breastfed for six months. This can be attributed to high prevalence of HIV/AIDS in this area which makes most mothers to stop breastfeeding early. Lack of time on the part of the mother in which she had to go and look for food for the rest of the family members can also be blamed for poor breastfeeding practices noticed in this study. Poor breastfeeding practices in the first six months of age grossly contributes to malnutrition among infants as they are weaned so early and in way that is not appropriate. According to the World Health Organization recommendations on breastfeeding, infants should be breastfed exclusively for the first six months of life for them to achieve optimal growth, development and health which means that the practice should be encouraged in an effort of reducing childhood malnutrition (Hilda et al., 2006).

Food security is useful in managing malnutrition at home. In this study it was realized that most families were buying food from the market as opposed to producing food crops from their farms. A number of respondents obtained their food from their farms. These practices can be used at home to provide basic food, increase self-sufficiency as well as provide a variety of food sources to the family (Macintyre et al in Ashworth, 2006). The importance of locally produced food in managing malnutrition is well explained by Sandige et al.,(2004) who argued that locally grown foods are efficient as compared to imported food in managing childhood malnutrition hence more emphasis should be put in encouraging families to make good use of the food resources available locally.

5.3: Conclusion

5.3.1: Knowledge on malnutrition

Improving knowledge on child care practices including prevention of malnutrition in infants should start during pregnancy. Poor maternal access to ante natal and post natal care during and after pregnancy affects the kind of feeding practices that will be adopted by the mother in feeding the newborn. In most cases when mothers miss the post natal care they also miss to attend immunization. The effect is that the child grows up without adequate protection from childhood diseases hence one is exposed to a myriad of health problems including malnutrition. Therefore there is a need to integrate management of malnourished children into the mother and child healthcare program to help reduce mortality associated with malnutrition.

5.3.2: Beliefs and practices on malnutrition

Beliefs and practices toward malnutrition affect its management in rural areas. While this study realized that mothers are able to associated malnutrition with ill health in children it is important to address beliefs that associate malnutrition with bewitching of a child. Apparently many healthcare providers need to avoid making wrong assumptions on when a child is malnourished.

5.3.3: Feeding/weaning and sources of food

There is clear relationship between malnutrition and a host of factors that can be modified to prevent its occurrence in the community. It is important to realize from the findings that raising the level of education of many women will significantly help adoption of better infant feeding practices. Utilizing the available avenues such as maternal child health clinics to educate the mothers on good weaning practices will also help prevent malnutrition in many families. There is a need to empower the community to increase agricultural activities so as to be self sufficient in food since was a problem cited by many that they could not get adequate food.]

Comment [R12]: This is well presented in line with the research objectives as well as the literature that has been reviewed has been used here good work

5.4 Recommendations.

5.4.1 Policy Recommendations

Health care workers in maternal child health clinics should strive to educate the mothers on feeding practices such as exclusive breastfeeding and weaning as these two significantly affects a child as well as exposing the same child to malnutrition. This awareness will help the mothers by increasing their knowledge on how to tackle problem of malnutrition in their homes.

Health education programs that focus on breastfeeding and complementary feeding practices could be critical and practical strategies for preventing anemia and malnutrition in young

children. These findings suggest the urgent need for a more effective infant nutritional policy and a comprehensive program that includes maternal and child health care delivery and nutrition education, as well as the necessity to pay more attention to improving the health of these infants that have already been affected

Government and non-governmental organizations should scale up efforts in promoting farming activities so that many families can afford to get a variety of food to use during weaning of their infants. The mothers and the families also need to be educated on the need to practice subsistence farming so as to be able to get food for their families' right at home without having to go out and buy from the market.

5.4.2: Suggestions for further research

There is need to conduct further studies on effects of malnutrition on child growth and development in the community. There is also need to explore on cultural practices that can be used to fight malnutrition in children.

Comment [R13]: Well presented

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SECTION	COMMENTS
Moderator's comments	<ul style="list-style-type: none">• This is well articulated, and the arguments are well presented• Arguments have scholarly back-up at the same time there is flow of ideas according to the guidelines provided• The work is well presented in APA format• Other comments are made in-text• We do wish you all the best with the knowledge garnered as well as the skills mastered from this module
Total score	90/100