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COMMUNITY PERCEPTIONS AND MANAGEMENT OF MALNUTRITION IN CHILDREN UNDER FIVE YEARS IN THE CENTRAL TONGU DISTRICT

BY

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DECLARATION

I, Precious Mensah declare that except for other people's investigation which have been duly acknowledged by means of referencing, this work is the result of my own original research, and that this dissertation, either in whole or in part has not been presented elsewhere for another degree.

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(Academic Supervisor)

DEDICATION

For their support, encouragement and prayers, this work is dedicated to:

Madam Bernice Adorsu

Noble Arden Kuadey

Kwame Agbeshie

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My deepest thanks goes to the almighty God for his protection and guidance throughout the study. I also express my sincere thanks to my supervisor Dr. Mercy M. Ackumey for her support, to Shelter Kuadey for his immerse contribution, the department of Social and Behavioral Science Department and to my family and friends for their support in diverse ways, and to Asesewa RCH staffs.

ABSTRACT

Introduction: Malnutrition remains one of the major problems confronting children in Sub - Saharan Africa (SSA). The nutritional status of children influences their health status, which is a key determinant of child survival. Therefore improvement of children's nutritional status increases the chances of child survival and is considered as a precondition for their contribution to community as well as human development. The study was carried out to examine community perception and management of malnutrition in children under five years.

Methods: Mixed methods approach was used. A semi structured questionnaire and a vignette was used to elicit information from 133 caregivers of children under five years. For qualitative one focus group discussion was also carried out with 12 caregivers.

Results: From the study majority of respondents were able to mention causes of malnutrition. Causes cited included, poor feeding practices, which 85.7% caregivers agreed to, 85.7% also mentioned poor environmental and personal hygiene, 85.7% mentioned poor child care, and 86.9% mentioned poor birth spacing as a cause of malnutrition. Eighty seven percent of respondents agreed that cases of malnutrition can be managed by taking the child to the health centre, and majority (74.4%) of caregivers also disagreed that malnutrition was as a result of spiritual illness/curse and it can be prevented.

Conclusion: Although, caregivers did exhibit some knowledge on malnutrition, it would be beneficial to reinforce their education with regards to the three categories of malnutrition. Especially stunting, explaining the consequences of long term malnutrition. This is very important given the fact that many cases of stunting go unnoticed to the untrained eye. Good nutrition in the first 1,000 days of a child lays the foundation for health.

Key words: malnutrition, children under five, community perception, community management.

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LIST OF ACRONYMS

FSAU	-	FOOD SECURITY ANALYSIT UNIT
GAIN	-	GLOBAL ALLIANCE FOR IMPROVED NUTRITION
GHS	-	GHANA HEALTH SERVICE
GNA	-	GHANA NEWS AGENCY
MDGs	-	MILLENNIUM DEVELOPMENT GOALS
MIC	-	MULTIPLE INDICATOR CLUSTER SURVEY
UNICEF	-	UNITED NATIONS CHILDRENS FUND
USAID	-	UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
WHO	-	WORLD HEALTH ORGANIZATION

DEFINITION OF TERMS

MALNUTRITION- Is all forms of bad nutrition which includes both under nutrition and over nutrition

STUNTING- Occurs when a child suffers from a long term nutrient deficiency and or chronic illness, so there is only weight gain but height is affected

UNDER NUTRITION- Insufficient food intake, inadequate care and infectious diseases or a combination of both factor

UNDER WEIGHT- Is an effect of both wasting and stunting and is therefore a composite indicator of general malnutrition

WASTING- Reflects a recent loss as highlighted by a small weight

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

One of the most important potential resources of a community are the children in it and hence their survival and wellbeing is an essential prerequisite for sustainable community development. The early years of life of a child are crucial and when well nurtured, nourished and cared for, children are more likely to survive, to grow healthily, to have fewer illness, and to fully develop cognition, language, emotional, and social skills. Healthy child development sets the foundation for the resulting adult who has a greater chance of becoming creative and productive in society (UNICEF, 1998).

Nutrition has increasingly been recognized as a pillar for social and economic development. The reduction of infant and young child malnutrition is essential to the achievement of the Millennium Development Goals (MDGs) particularly those related to the eradication of extreme poverty and hunger (MDG 1) and child survival (MDG 4) (WHO, WORLD BANK, UNICEF, 2012).

The term malnutrition refers to both under nutrition and over nutrition. Under nutrition indicates lack of the necessary energy, proteins, and other micronutrients. (**GAIN,**2013). Under nutrition persist as a major threat to both physical development and health of millions of children below five years of age in developing countries (Pelletier, Frongillo, Schrveder, & Habicht, 1995, world health organization (WHO), 2005; **UNICEF,**2009). According to UNICEF (2009), failure to grow is easily observed through three forms of malnutrition. First, acute malnutrition or wasting, in which children remain thin with low weight for their height, second, chronic malnutrition or stunting, results in children remaining too short for their age and the third is either or both acute and chronic

malnutrition cause a condition of underweight. Assessment of underweight through weight for age analysis is a widely practiced method in evaluating growth patterns and body proportions because it reflects both acute and chronic malnutrition (De Onis, Monteiro, Akre &Glugston, 1993; Shetty, 2003; Nube, & Sonneveld, 2005; UNICEF, 2009; Zavosshy, Noroozi, Jahanihashemi, & Kiamiri, 2012).

The factors that contribute to under nutrition among the children under the age of five in developing countries are complex. Immediate causes include diseases, inadequate intake of diet and substitute food in terms of quality, quantities, and frequency (Mahgoub, Nnyebi & Bandeke, UNICEF, 2009, 2012; Sungua et al, 2011). The underlying causes include, maternal education, household food insecurity, inadequate child care, inadequate social services (Black et al 2008, UNICEF, 2009, WHO, 2010).

In 2011, stunting and wasting affected more than one hundred and sixty five million and fifty two million children under five respectively. 90% of stunted children were concentrated in 34 countries located mainly in Sub Saharan Africa and South Asia (Black et al, 2008). In Sub Saharan Africa, however, high malnutrition rates are often the outcomes of high child mortality and morbidity, and the low proportion of the population unable to meet their energy needs (Von Grebmer, 2008).

Available statistics in Ghana, by the multiple indicator survey (MICS), 2011, indicates that almost one in seven children (13%), under the age of five years is moderately or severely underweight and 3% are classified as severely underweight. The results also reveal that nearly 1 in 4 children (23%) is moderately or severely stunted, and 7% are severely stunted. Six percent of the children are moderately or severely wasted and 1% can be considered severely wasted. Children in the Northern and Upper East regions are more likely to be underweight and stunted than children in other regions. In contrast the

percentage of wasting is highest in Upper West and Volta region 9% for each region (MICS, 2011).

Individuals exposed to childhood under nutrition have been reported to face permanent socioeconomic and health consequences that have a potential to contribute to adverse impacts on their environment in the future. These consequences include prevalence of metabolic and cardiovascular diseases, reduced learning ability, lowered years of schooling, and intellectual performance in adulthood, reduced working ability, productivity and income, poor quality of life and overall poverty that mostly transferred to the future generations (Mc Gregor et al, 2007, Black et al, 2008, Walton & Allen, 2011, UNICEF, 2012, Zavoshy et al, 2012).

Under nutrition has also been associated with impaired cognitive development, poor social and emotional functioning, behavioral problems, reduced school achievement and low economic productivity (Abubakar, Hokling, Mwangome, Maitland, 2011).

Studies have shown that community perceptions of malnutrition and of its causes influences health seeking behavior in terms of prevention and treatment (GFH, 2014). In order to reduce the cases of malnutrition in the community, it is imperative to understand caregiver's comprehension of the illness (Kamara, Kimberly, 2013). And also to make a sustainable impact, interventions need to address direct causes and also the context of under nutrition. In any nutritional intervention, beliefs and behaviors of mothers is an important consideration (Abubakar, .Hokling, Mwangome, Maitland, 2011).

1.2 PROBLEM STATEMENT

Malnutrition is a major global public health problem and a contributing factor to mortality and morbidity. Its close association with perceptions has been observed in some studies carried out in Pakistan, Rwanda, and Ghana (UNICEF, 2013, Akparibo,

2013, Elsevier,2014). Globally an estimated one hundred and one million children constituting 16% of the world's children under five years of age are under weight and this is associated with one million to two million preventable deaths each year (Collins et al, 2006). The current statistics for acute malnutrition presents a 36% decrease from an estimated 159million cases for 1990. However, the overall progress in management of malnutrition cases is insufficient and millions of children remain at risk (Global Alliance for Improved Nutrition, 2013).

Recent UNICEF reports have estimated that 5% of the children younger than 5years (estimated 26million) are currently severely wasted most of whom are (<90%) live in South Asia and Sub Saharan Africa **(**Akaribo, 2013**).** Available statistics by the Ghana Health Service (GHS) indicates that 12,000 children die every year of underweight related ailment due to malnutrition. The statistics also indicates that under nutrition contributes to about half of all child deaths beyond early infancy, whilst one out of every thirteen children in Ghana die before their fifth birthday mostly as a result of under nutrition**(**GNA, 2012).

A report on malnutrition trends in the Central Tongu District indicates that, from **(**2011-2013), there has been an increase in cases of malnutrition. That is from 17.1% to 23.1% (annual report, Central Tongu District Health Directorate). One might argue that the percentages are not high, but these rates continue to increase even in the years of project based and routine interventions. It was also observed that caregivers do not have much information on the three categories of malnutrition which are wasting, stunting, and underweight. This is especially important given the fact that many cases of stunting go unnoticed to the untrained eye and needs to be addressed explaining the consequences of long term malnutrition. It is therefore perceived that community perceptions have

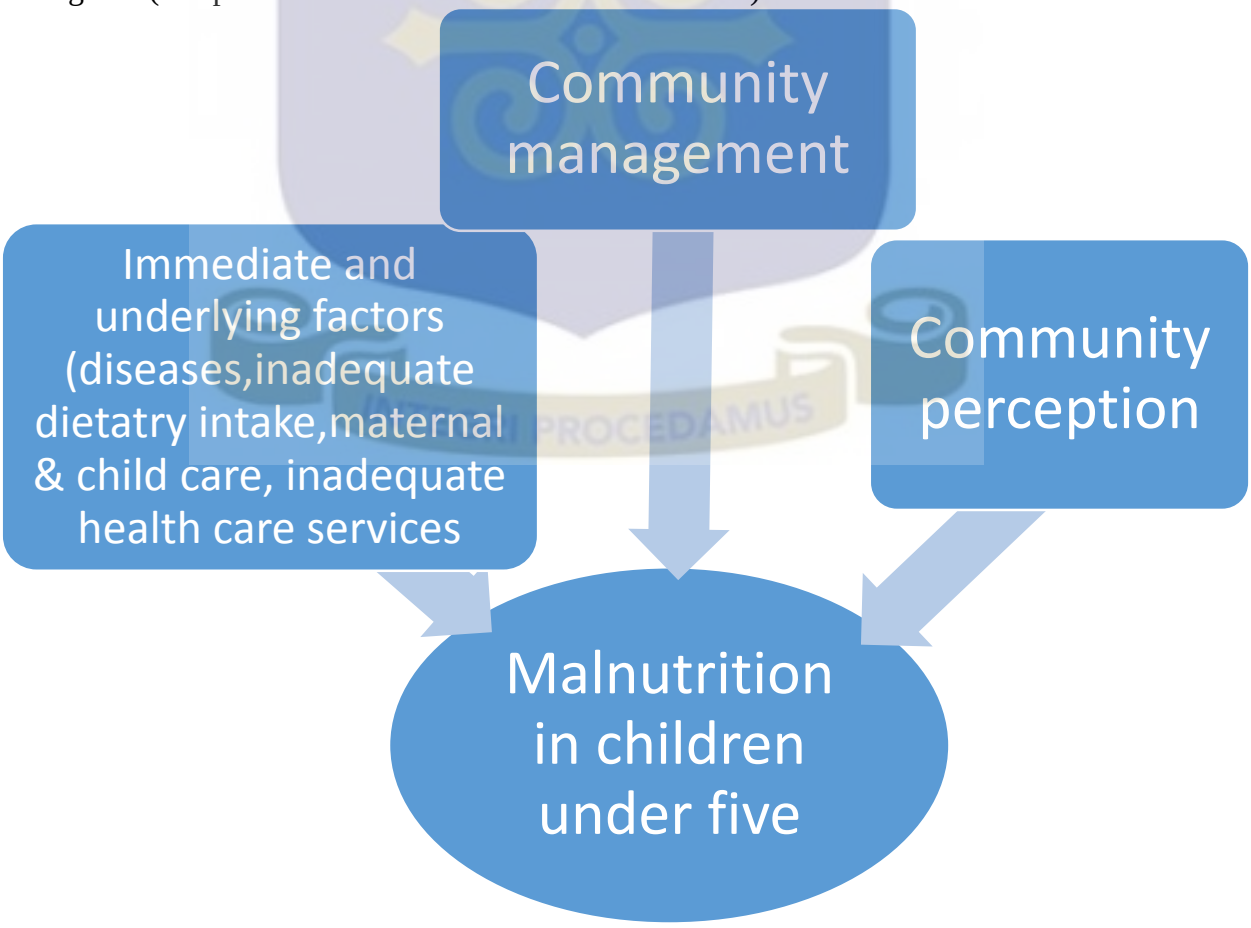
influence on management of malnutrition and health seeking behavior because all illness which are not understood, are believed to be caused by the evil eye (FSAU, 2007).

Available statistics by the Multiple Indicator Survey (MICS) 2011, Indicated that the percentage of wasting is highest in the Volta and Upper West Regions 9% for each region. And in the Volta Region considering the districts that reports cases of malnutrition, Central Tongu District is considered the fourth district affected with malnutrition aside Krachi West and East District and Nkwanta District (Volta Regional Nutrition Department).

It is in view of this that the study seeks to examine community perceptions, factors contributing to malnutrition and community management of cases of malnutrition.

1.3 CONCEPTUAL FRAMEWORK ON CHILD MALNUTRITION

Figure1 (Adapted from UNICEF FRAMEWORK 1990)



Nutrition is directly related to food intake and infections such as diarrhea, acute respiratory infections, malaria and measles. Both food intake and infections reflect underlying social and economic conditions at the household level, community and national levels that are supported political, economic, and ideological structures within a country.

The UNICEF conceptual framework for the causes of malnutrition, was developed to guide analysis of causes of malnutrition in a given context. The framework reflects relationships among factors contributing to, and their influences on children's nutritional status. Understanding the many different factors on malnutrition allows the development of appropriate interventions to address malnutrition.

The highlighted areas of the framework depicts selected factors for this study.

These factors are:

Immediate factors such as food intake (micronutrients status and supplementation) and infectious diseases (diarrhea and respiratory infections).

Underlying biological and behavioral factors such as feeding patterns, child care, hygiene and community perception.

Underlying social and Economic factors such as employment (mothers working status), water and sanitation (source of drinking water, type of toilet), education (maternal), and health service (community management).

A child suffering from inadequate dietary intake is more susceptible to diseases. Inadequate dietary intake and illness interact in a negative synergy. Diseases depresses the child's appetite and compete for limited energy resources from the child and also affect the digestion of food or absorption of nutrients from food.

Influencing the immediate factors of nutritional status of a child are the underlying factors which include feeding patterns, child care, community perception, hygiene, maternal education, maternal employment, water and sanitation and health service (Gabriele & Schettino, 2008, UNICEF,2009, WHO,2010). Feeding patterns in terms of quality, quantity, and frequency of food intake by the child which can affect the child's nutritional status. Care refers to caregiving behavior such as breastfeeding and complementary feeding practices, personal hygiene and care can also refer to the support that the family or community provides which in effect influences the child's nutritional status. Maternal education is one of the most important resources that enable women to provide appropriate care for their children. Maternal employment enhances the household's accessibility to income, it may also have negative effect on the nutritional status of the child as it reduces a mother's time for child care. Access to and use of safe water, sanitation facilities and good hygiene have the potential to positively impact nutritional outcomes. Community perception and community management, also have influence on malnutrition, understanding the nature of malnutrition problem, affects in particular the choice of what is assessed, how it is analyzed and what actions are regarded as feasible in terms of community management of malnutrition, therefore having an effect on malnutrition outcome.

Some of the problems causing malnutrition are amenable to effective actions at the household and community levels. If decision making at these levels are more supportive, more children would survive, and those surviving would be in better condition.

1.4 JUSTIFICATION

The aim of this study is to enhance an understanding the role of community perceptions on management of malnutrition and the importance of caregivers identifying the three categories of malnutrition which will help in management and subsequently provide key recommendations for simple and effective public health programs.

1.5 RESEARCH QUESTIONS

1. What are community perceptions of malnutrition in children under five (5) years
2. What factors contribute to malnutrition in children under five (5) years
3. How are cases of malnutrition managed in the community?

1.6 RESEARCH OBJECTIVES

1.6.1 General Objectives

To examine community perceptions and management of malnutrition in children under five years

1.6.2 Specific Objectives

1. To examine community perceptions of malnutrition in children under five years
2. To determine factors that contribute to malnutrition in children under five years
3. To examine how cases of malnutrition are managed in children under five years

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter gives a brief background of malnutrition and reviews Community Perception and Management of Malnutrition related literature. Literature were reviewed under themes following the objectives of the study.

Malnutrition remains a global problem affecting development particularly that of the under privileged and the poor. UNICEF, has coined malnutrition as a "silent emergency" that endangers children, women, society and the future of mankind (Biomedica, 2005).

Poor nutrition contributes to approximately half of all the child deaths. Globally, under nutrition is a contributing cause for deaths from diarrhea (61%), malaria (57%), pneumonia (52%), and measles (45%) (Black et al, 2008). More than 90% of the worlds stunted children live on the continents of Africa and Asia.

Under nutrition contributed to 3.1million (45%) of child deaths worldwide in 2011. Between 1990 and 2011, stunting (low weight for age), a measure of chronic under nutrition declined by 35%, while wasting a measure of acute underweight nutrition decline by 11%. However with population growth, the absolute number of children affected has remained unchanged. In 2011, stunting and wasting affected more than 165million and 52million children under five respectively (USAID, 2013).

Adequate nutrition is critical to child health and development. Growth during the first year of life is greater than any other time after birth. Good nutrition during this period of rapid growth is vital to ensure that the infant develops both physically and mentally to the fullest potential. Community perception is associated with malnutrition, hence forms

an essential first step for any need felt for intervention program designed to bring about positive behavioral change **(**Nohan, Sawsan...lily Kareema, 2009).

2.2 COMMUNITY PERCEPTIONS OF MALNUTRITION

Some studies have been carried out in some countries on how malnutrition is perceived by caregivers and community members.

A study carried out by UNICEF, (2013), showed that in Ghana, especially in the northern part, many belief that symptoms and illness in their children signify a curse from the gods or a punishment from the ancestors and therefore children are taken to traditional healers for spiritual intervention rather than medical care.

Another study carried out in the Upper East Region of Ghana, stated that most mothers believe that malnutrition comes about as a result of mother's disregard of traditional norms and beliefs. To them, the treatment of malnutrition should also incorporate traditional medicine **(**Akpribo, 2013).

A study was carried out in Pakistan on traditional perceptions of marasmus and most mothers interviewed said that the usual cause of malnutrition is the contact with a woman who had marasmic child or is otherwise in a state of ritual impurity. The mediating factor is said to be a saya (shadow, influence) emanating from such a person and ultimately linked with the spirit world. Some others associated the condition with fright and spirit possession. Mothers described various magico religious therapies that could be tried (Elsevier, 2014).

A study carried out in Rwanda, Nyacyonya, on perceptions of malnutrition at the clinic where some mothers with malnourished children shared their experiences. One mother said she was shocked when she was told her child was malnourished and felt her

irresponsible behavior caused that, because that is the perception. Another mother said because of stigmatization and embarrassing questions she did not want to come out. (GFH, 2014).

A study was also conducted in Dhaka Bangladesh in (2011), where it is perceived that having many brothers and sisters and also parents of large families were unable to provide adequate physical comfort. It is also perceived that neglect by sick or working mother's leads to malnourishment in children. Sick mothers feel weak and exhausted and therefore lacked the physical energy and motivation to provide adequate care to their children which lead to poor health and malnutrition. All this boils down to inappropriate care (American Journal of Public Health, 2011).

In a study carried out in Nepal, malnutrition is sometimes perceived as a natural phenomenon related to the "strength" of the body of the child at the time of delivery. It was explained as the result of God's curse, a spirit threatening the child, or "a wizard eating the child slowly (Kolstern, Lefevre, Lerude, 1997).

Considering the above studies carried out one thing stands out and that is the belief or perception of malnutrition is considered to be spiritual and not a natural cause and this influences health seeking behaviors.

2.3 MEANING OF MALNUTRITION AND COMMON INDICATORS

The WHO defines malnutrition as "the cellular imbalance between the supply of nutrients and energy and the body's demand for them to ensure growth." Although this definition can be applied to excess and deficiency (World Bank, 2006).

Malnutrition can also be defined as all forms of "bad" nutrition which includes both under nutrition and over nutrition. Under nutrition results from insufficient food intake,

inadequate care and infectious diseases, or a combination of these factors. This comprehensive term includes being underweight for one's age, too short for one's age (stunting), dangerously thin for one's height (wasting) and deficient in micronutrients (Benjon et al, 2008). According to UNICEF (2009), failure to grow is easily observed through the three forms mentioned.

Acute malnutrition or wasting reflects weight loss as highlighted by a small weight for a given height. A child suffering from acute malnutrition can be categorized as being either moderately or severely thin or wasted. The consequences of acute malnutrition affect every organ and system. The presence of bilateral pitting edema is always a sign of severe acute malnutrition. Severe wasting, also referred to as severe acute malnutrition or SAM, is characterized by the following clinical manifestation. Marasmus, otherwise known as severe wasting. A child with marasmus is extremely thin, with wizard, old man appearance. Kwashiorkor, a manifestation of severe acute malnutrition is indicated by bilateral pitting edema. A child suffering from kwashiorkor may not appear to be undernourished, because the body swells as a result of edema. The additional water retained by the body increases the child's weight so that it may be within limits. In its most severe form, kwashiorkor results in extremely tight, shining skin, skin lesions, and discolored hair (Benjon et al, 2008).

Stunting is an adaptation to chronic malnutrition and reflects the negative effects of nutritional deprivation on a child's potential growth over time. Stunting can occur when a child suffers from long term nutrient deficiencies and or chronic illness, so, that only weight gain but height is affected. It can also be an outcome of repeated episodes of acute malnutrition. Stunting is classified by low height for age, indicating a restriction of potential linear growth in children, it negatively and often affects organ growth, stunting is strongly linked to cognitive impairment (Benjon et al, 2008).

Underweight is an effect of both wasting and stunting and is therefore a composite indicator of general malnutrition. It is measured by low weight for age in children or low weight for height in adults, and it's an outcome of either past or present under nutrition. **(**Benjon, et al, 2008).

There are three assessment methods that is used to assess malnutrition. Anthropometric measurement which is often used (such as height, weight, arm circumference, and skin fold). We have Analysis of biomedical content of blood and urine (such as iron deficiency and Vitamin A supplementation), and the last one is clinical assessment of physical signs of nutrient deficiencies **(**UNICEF, 2009, Zavosshy, Noroozi, Jahanihashemi & Kiamiri, 2012).

Among the three assessment methods, anthropometric measurement is a common and easy way to assess health and nutrition status. The other two methods are less practical because of the logistical difficulties involved and because data collection and analysis is expensive and time – consuming. Biochemical and clinical indicators are more useful when malnutrition is extreme. Due to their relative cost – effectiveness for wide – scale usage and relative sensitivity in detecting more moderate forms of malnutrition, anthropometric measurements are the most widely available in household surveys.

Three common measurements include weight – for – age, height – for – age and weight for – height (often converted into Body Mass Index, or BMI). Each measurement is generally converted to a *z* – score, which indicates the number of standard deviations an individual is above or below the mean of a reference population. A *z* – score of two standard deviations or more below the mean indicates moderate malnutrition, while a *z* – score of three standard deviations or more below the mean indicates severe malnutrition. Weight – for – age, routinely collected in growth promotion programs, is the most

common assessment of child nutrition status. It is a measure of both short – and long – term insults to health. A child is considered underweight if his/her weight – for – age is two standard deviations or more below the mean for the reference population. Weight – for – height is a measure of acute or short – term nutritional deficiency. Wasting, a term applied when weight – for – height falls two standard deviations or more below the mean for the reference population, is a sensitive indicator often used for short – term program intervention such as providing nutritional supplementation in emergencies. Wasting can be calculated without knowing the age of a child and, therefore, is the best malnutrition indicator when it is difficult to determine the exact ages of the children being measured (such as in complex emergencies like famines). Height – for – age is a measure of linear growth and reflects the long term, cumulative effects of inadequate nutrition and poor health status. A child is considered stunted if his/her height – for – age is two standard deviations

2.4 CAUSES OF MALNUTRITION

Often, it is assumed that the primary cause of malnutrition is food security (Smith & Haddad, 2006). According to Shrimpton (2003), household food security refers to the adequacy of food availability at a household level in terms of both quantity and quality. The necessary resources for ensuring household food security include income for food purchases and in kind transfers (Smith &Haddad, 1999). Studies suggest that food is not the only main cause of malnutrition (World Bank, 2006). Many children in food secured environment and those in poor families are malnourished because of insufficient energy and other nutrient intake combined with infectious diseases especially, diarrhea. Poor maternal knowledge, inappropriate caring practices, inadequate access to health services and water and sanitation (Ibid, 2006).

On the other hand, Shrimpton (2003) identified one drawback of the UNICEF conceptual framework. That is, it recognizes insufficiently the influence of maternal health and poor fetal growth on the occurrence of malnutrition. The most damaging effects of malnutrition occur during pregnancy and in the first two years of life (World Bank, 2006). Thus, it is essential to incorporate maternal health and nutrition, and fetal growth that are temporally linked to child survival and growth (Shrimpton, 2003). In summary, the UNICEF nutritional framework facilitates assessment, analysis, and decision on actions to be taken in resolving nutritional problem at the broader level.

A study was carried in Nepal and they believed the causes of malnutrition is direct and indirect. Example with "peso women", or contact with another malnourished child. A" peso woman" is a woman who delivers and the child dies or have miscarriages. The contacts with another malnourished child were various and could take various forms, such as eye contact, wind, contact with a shadow, or heat of body, and also contact of a child with the weighing bag at the weighing center, and this belief has deferred some of the mothers from coming to the weighing center (Kolsteren, Lefevre, Lerude, 1977).

2.5 CONSEQUENCIES OF MALNUTRITION

Malnutrition has global repercussions, not only does it harm affected children but the societies they live in also suffer (Bhutta et al, 2008). Malnutrition also has dire consequences, causing critical health problems that lead to growth retardation and impaired cognitive development. Without treatment, individuals who are affected by moderate and severe acute malnutrition during the critical stage of life between conception and age two (2) may bear the scars for the remainder of their life's (Victoria, 2008). The 1,000 days from pregnancy to child's second birthday is the most critical

time for positive impact on a child's cognitive, intellectual, physical development, therefore good nutrition lays the foundation for good health, and even prosperity for the next generation (USAID, 2013). These adverse mental and physical developments in turn shape future market opportunities and earning prospects through reducing schooling and post – schooling productivity (Behrman and Hoddinot, 2001). Those surviving malnutrition as children are less productive both physically and intellectually, and suffer from chronic illness (UNICEF, 1998 cited in Smith and Haddad, 1999). These damaging effects of malnutrition on health, brain development, intelligence, educability, and productivity are largely irreversible (World Bank, 2006).

According to World Bank (2006), malnutrition undermines economic growth and perpetuates poverty. Failures to deal with the problem have manifested themselves in terms of inadequate progress towards the achievement of the Millennium Development Goals (MDGs) which include not only reducing poverty and hunger by half by the year 2015 but also goals on education, child and maternal health, and HIV/AIDS. Moreover, malnutrition poses a serious health problem. It causes more than half of all child deaths worldwide resulting in a major waste of human energy (Smith and Haddad, 2000). It is also a major contributor to the burden of diseases (mostly in developing countries) which subsequently has led to increased opportunity cost of health spending distorting economic resource allocation.

With this in mind, it is, therefore, essential to direct timely interventions. Investments in people's health and nutritional status play a key role in improving general welfare, promoting economic growth, and poverty reduction, for improved health and sanitation are preconditions to escape poverty and contribute to economic growth.

2.6 HOUSEHOLD LEVEL AND SOCIO ECONOMIC DETERMINANTS OF CHILD MALNUTRITIONAL STATUS

The household level is the underlying factors, that causes malnutrition includes, household economic status, education of parents (particularly that of mothers), women's status relative to men, employment status of mother, access to water and sanitation, health services and maternal and child care.

2.7 HOUSEHOLD ECONOMIC STATUS

The economic status of a household where a child lives has been identified as one of the key determinants of child nutritional status. It is also an indicator of access to adequate food supply, use of health services, availability of improved water sources and sanitation facilities which are prime determinants of child nutrition. Studies by Smith et al, (2005) stated that household economic status significantly affects access to food (a necessary condition for food security). It also indicates possession and utilization of child care resources on a sustainable basis. In addition, it allows a more diversified diet and effective child care arrangements. A study by **(**Yimer, 2000), also showed that the higher the level of economic status of the house hold, the lower the level of child stunting.

Increase in household income at the community level leads to improved access to quality of health care, improved water and sanitation systems and access to information.

2.7.1 Mother's Educational Status

In many developing countries particularly in Africa, tradition has laid the responsibility of child care on women saying the place for women is in the kitchen. Therefore women are the key players in the growth of and development of children (Oyekale & Oyekale,

2005). However it is not until recently that the role of mother's education in enhancing the quality of care and nutritional status of children is being emphasized in empirical research (Smith et al, 2004). Maternal education is one of the most important resources that enable women to provide appropriate care for their children.

Education improves the ability of mothers to implement simple health knowledge and facilitates their capacity to manipulate their environment including interaction with medical personnel. Furthermore, educated women have greater control over health choices for their children.

Studies by Oyekale & Oyekale, (2005), showed that education of women also have positive effects on the quality of care rendered to children since women are the main caretakers of children. For instance educated mother's may have good paid jobs, thus be able to earn higher income and take better care of their children, be resident in urban areas, where there are functioning social infrastructure, possess commendable culture of hygiene needed to protect children from diseases, be more likely to participate in child health enhancing programs like immunization and child care talks and be able to benefit maximally from nutrition and other health related programs. The mother's ability to process information, acquire skills and positive behaviors improves with education.

2.7.2 Women's Status Relative to Men

Conceptually, the status of women is multidimensional. Smith et al. (2005) define women's status as the relative power of women in household, communities, and nations they live in. The status of women is an important determinant of two resources for care: their physical and mental health status, and control over household resources (Smith and Haddad, 2000). The physical conditions of women strongly affect the quality of care they

provide to their children even before they are born. Poor physical and mental status of women constrains the quality of care rendered to their children which includes the quality of breast feeding.

On the other hand, women's control over resources promotes household food security and nutrition because women show a tendency to spend resources on nutrition inputs such as food (Haddad, 1999). Improved control over resources gives women a better opportunity to provide good care which includes better food preparation and storage practices, hygienic practices, improved care for children during illness (including diagnosis of illness, care seeking and home treatment), and motivation for supporting child development.

Weak control over household resources, tighter constraint on time, restricted access to information and health services, poor mental health, and lack of self confidence and self-esteem typically characterize women with relatively lower status which in turn reflect on their children's health and the quality of care provided.

2.7.3 Mother's Employment Status

Although women's employment enhances the household's accessibility to income, it may also have negative effects on the nutritional status of children as it reduces a mother's time for child care. Some studies have revealed that mothers of the most malnourished children work outside their home (Abbi et al, 1991). Another study argued that there is no association between maternal employment and children's nutritional status. (Leslie 1988).

The effect of maternal employment on the wellbeing of children has been controversial and it appears difficult to determine the net effect. Crepinsek & Burstein (2004),

underscored that employment of mothers can have both positive and negative implication on children's dietary intake. On the one hand, the employment of mothers adds to family income and this may help to ensure stable supply of quality food through increased expenditure. On the other hand, mothers' employment may leave them with lesser time for caring and supervision of the activities of their children, and preparation of food. This appears more apparent under the assumption that no care taker would be motivated as mothers.

2.7.4 Water and Sanitation

Access to and use of safe water, sanitation facilities and good hygiene have the potential to positively impact nutritional outcomes by addressing both direct and underlying causes of malnutrition. Washing of hands with soap, treatment and safe storage of drinking water, and sanitary disposal of human feces, have been shown to effectively reduce the prevalence of diarrhea, a major contributor of malnutrition. Lack of sanitation in particular is strongly correlated to stunting and even in absence of diarrhea. Essential food hygiene actions include maintenance of clean food preparation area, separation of raw and cooked food, cooking food thoroughly, strong food safety (time, temperature, covered container0 and use of safe water and fresh raw ingredients prevents infants and young children from infections.(USAID, 2013).

Studies by the World Bank (2006), stated that improving access and quality of water source not only reduces transmission of water borne diseases but also saves women the extra time they spend on carrying water which can be allotted to child care and feeding or income generating activities.

2.8 COMMUNITY MANAGEMENT OF MALNUTRITION

Considering management of malnutrition in the community, very little has been done in Ghana but however, this have been done in different countries.

In Somalia, a study carried out by FSAU, (2007) showed that acute malnutrition, locally known as (nafagodoro), and is associated with poor food and sanitation. The two combine to cause malnutrition and treatment involves giving the child more food. No food is withheld during treatment of malnutrition. Medicine is used to treat accompanying diseases. In cases of kwashiorkor, the swollen limbs, stomach and face is burnt to remove the fluid.

According to the same study the treatment of evil eye also involves the use of the following ingredients, feaces of elephant, hooves of donkey, hyena's skin, garlic and ubuore leaves. These ingredients are burnt and the child is steamed with the smoke. In the process, the child sweats, sneezes with a lot of liquid coming out through the nose as a sign that the evil is being emitted from the head. During the process it is believed that the child becomes calm and recovers from the evil eye (FSAU, 2007).

Another study carried out in Pakistan, by Elsevier, (2014), stated that mother's described various magico religious therapies that is tried when their children are malnourished because the condition is associated with fright and spirit possession, and for some other's the first response in health seeking is prayer or reading of Koran.

In Rwanda, children are also taken to traditional healers for spiritual interventions rather than for medical care **(**GFH, 2014).

In most cases malnutrition is a treatable condition that can be managed in the home. You may be given advice to use at home, or you may be treated at home under the supervision of qualified health professional. Children are also give additional nutrients to

increase their intake of energy and protein(Abubakar, Holding, Mwangome, & Maitland, 2011)

Aside these community management there are other interventions that can also be used in the community. The Government of Ghana, in collaboration with development partners, has taken a pragmatic steps towards addressing child malnutrition. One of such steps is the adaptation of the community based management of acute malnutrition (Akparibo, 2013). This intervention is to improve the lives of hundreds of thousands of children. Providing foods that are safe to use at home and ensure rapid weight gain in severely malnourished children.

Linking community based management of acute malnutrition to other nutrition promotion services is important to prevent all forms of under nutrition and reduce the overall case load of malnutrition.

CHAPTER THREE

METHODOLOGY

This chapter discusses the research methodology including the type of study, variables, study population, sampling, data collection and analysis and ethical consideration.

3.1 TYPE OF STUDY

A descriptive mixed – methods approach was used.

3.2 STUDY LOCATION/ AREA

The study was conducted in the Central Tongu District which was carved out from the former North Tongu District. It shares boundaries with North &South Tongu Districts, Akatsi North & South Districts, and Adaklu District, of the Volta Region. Ada West & East Districts, of the Greater Accra Region. The district has a total population of 68,374, projected from the 2010 census.

The district has 13 health facilities made up of 1 hospital, 3 health centers, 1 private clinic, 7 CHPS, zones and 1 maternity home. It has 208 communities. The district is divided into two unequal halves by the Volta River stretching from the Titikofe in the North to Avadiokofe Island, located South of the lower Volta Bridge at Sogakofe. The district has 14 hard to reach communities, 3 are on the island, 3 inland and 8 that are seasonally to reach (raining season).

The people are predominantly Ewes, with few other tribes. They are mainly farmers, fisher men and traders. Source of drinking water is pipe borne water, but few people use the Volta River and few manmade ponds.

Malnutrition trend in the district has been on the increase for the past three years. (2011-2013) That is from 17% to 23%. Some intervention program on malnutrition has been carried out in the various communities and are still on going. Routine activities such as nutrition surveillance, counselling on feeding practices community based growth monitoring and project based interventions, which is mostly sponsored by international organizations and local organization, the district is currently implementing the community infant and young child feeding (IYCF), nutrition assessment, counselling & support (NACS), and nutrition and malaria control for child survival project, (NMCCS) to help reduce cases of malnutrition. All this interventions are community based programs.

3.3 VARIABLES

3.3.1 Independent Variables

Socio demographic characteristics (age of mother, educational status, marital status, employment status, religion, ethnicity), perception of malnutrition

3.3.2 Dependent Variables

Community Management of malnutrition

3.3.3 Study Population

Mother's and caregiver's of children under five years will be the target population for this study

3.4 SAMPLING

The sample size was determine by using the statistical formula of Fisher (Korlik & Higgins, 2001).

3.4.1 Sample Size

N = z2 pq/d2

Z = 1.96, 95% confidence limit

d= 0.05 as the acceptable margin of error

p= the probability of the event occurring = 0.08

q= 1-p = which is the probability of the event not occurring in this 1-p =0.92

The sample size was determined as follows

$n=1.96^2$ (pq)/d^2

n=1.962(0.08) (0.92)/ 0.0025

0.228274/0.0025

Minimum sample size required is 133

Non respondent rate of 10% size to give a total of 124

A sample size of 124 respondents will be required for the study

3.4.2 Sampling Method

The District Health Directorate initiated a malnutrition program in some selected communities scattered in 5 sub districts. A simple random sampling method was used to

recruit respondents from the communities. All 15 communities under the malnutrition program in the district were visited and an average of nine respondent were randomly sampled to be interviewed. Respondents were selected during child welfare clinic in the selected communities. Yes/No was written on a piece of paper and mothers who picked yes were selected for the study.

Inclusion criteria includes:

Mothers and caregivers with children under five (5) years

Has to be resident of the study area

Exclusion criteria: mothers and caregivers who do not have children under five (5) years.

3.5 DATA COLLECTION TECHNIQUE/METHODS & TOOLS

3.5.1 Quantitative Component

A structured questionnaire was used to elicit information from respondents on background characteristics and other variables relevant to the study objectives and questions. Semi structured interview guide was more appropriate for the study because it elicited detailed information.

A vignette was also designed to elicit information from respondents on each category of malnutrition. A vignette can be described as stories about individuals and situations which make references to important points in the study of perception, beliefs and attitude. They are stories generated from a range of sources including previous research findings. Participants are typically asked to respond to these stories with what they would do in a particular situation or how they think a third person will respond **(**Carlson, 1996, Mckeganey, et al, 1995)

3.5.2 Qualitative Component

One focus Group Discussion with 8 – 12 participants, was used to examine perceptions and practices about malnutrition among mother's and caregivers. Participants for the Focus Group Discussion were representatives of the various stakeholders in the community. Selection was done with the help of the community volunteer. One executive of each group was selected.

3.6 QUALITY CONTROL

An interview and focus group discussion guide was created and revised based on reference materials and was reviewed by supervisor. All questionnaires that were returned by research assistants were checked for mistakes and completeness. The questionnaires which had unclear responses or many missing information that cannot be clarified were excluded. Double entry was done to reduce entry errors. Entering was done separately and reconciled.

3.7 DATA PROCESSING AND ANALYSIS

Numerical data was entered into SPSS version 15 and subsequently analyzed to generate frequency tables of selected variables.

Community perception and management of malnutrition was measured by using the three variables. Agree, Disagree, Don't know. This was measured based on the responses of participants to the three variables.

3.7.1 Statistical Analysis

Chi square analysis was used to determine the association between independent and dependent variables. Interviews were transcribed into English and thematic analysis was used to analyze the data.

3.8 ETHICAL CONSIDERATION

The researcher ensured that all necessary measures needed to be followed was done. Approval to conduct this study will be obtained from the Ethical Board of the Ghana Health Service.

3.8.1 Approval from study area

Permission and approval was sought from the District Director of the District Health Directorate to have access to data and to conduct the study in some of their communities. Opinion leaders of the communities in which the study will be conducted will be informed before data will be collected.

3.8.2 Description of respondents involved in the study

The study population were caregivers of children under five years

3.8.3 Potential risk /benefits

The study is non evasive and did not cause any form of discomfort to respondents. The study is envisaged to be beneficial to the study population. Information obtained can be used to revise the health messages delivered to the communities in order to make them culturally more appropriate and relevant in the context of under nutrition.

3.8.4 Privacy / Confidentiality

The identity and privacy of the respondents will be protected, a code was used to identify them instead of their names and objective of the study will be made known to them.

3.8.5 Compensation

No compensation will be given, however, their inputs will be recognized and appreciated

3.8.6 Data Storage

Hard copy and electronic data will be stored in locked file cabinets and access will be limited to PI and the supervisors of the study.

3.8.7 Voluntary Consent

Written consent was sought from study participants before data was collected from them. They were informed that their involvement in the study is voluntary. Respondents were given the opportunity to opt out of the study anytime they wish to without any consequence.

3.8.8 Conflict of Interest

Apart from academic and public health importance, there is no conflict of interest in this study.

3.8.9 Proposal & funding information

The study was self – financed from my own resources.

3.9 PRETEST OR PILOT STUDY

Research instrument was piloted at Asesewa Reproductive Child Health Unit to know the sequence of the questions, time to complete the interview, difficult questions and the nature of responses. And also to determine the validity and reliability of the instrument.

CHAPTER FOUR

RESULTS

4.0 INTRODUCTION

This chapter presents results of the study on community perception and management of malnutrition in children under five years in the Central Tongu District, and focuses on the socio – demographic characteristics of respondents, causes of malnutrition, community perception of management of malnutrition and perceived perceptions of malnutrition.

4.1 SOCIO – DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

One hundred and thirty three caregivers in 15 communities within the district were interviewed. Majority of the mothers interviewed were between 20 and 29 years of age (55.6%), while 5.3% were aged between 40 and 49 years. A display of respondents' reported marital status as given in Table 4.1, indicates that the majority (97.7%) of mothers were married. None of the respondents reported being widowed, separated or divorced, and (2.3%) were single/never married. Most respondents had completed Junior High School (JHS),

(50.4%) those with no educational level were (11.3%), while (1.5 %) reported having completed Tertiary education. Majority of respondents were Christians (96.2%) and a very small portion were traditionalist (3%), and Moslem (0.8%). Findings indicated that the majority (98.5%) of respondents were Ewe's while (1.5%) were Northner's. The majority of respondents, (39.9. %) were farmer's, (18.8%) respondents were not working, (2.3%) of respondents were civil/public servants. This is because of the environment in which they find themselves, (49.1%) of respondents were earning

between GHS 100- 300, (35.2%) were earning below GHS 100, whilst (1.9%) were earning above GHS 700. (Table 4.1).

Table 4.1 Background Characteristics of respondents

Background Characteristics	Frequency	Percent
Age		
15-19	13	9.8
20-29	74	55.6
30-39	39	29.3
40-49	7	5.3
Marital Status		
Married	130	97.7
Single/Never Married	3	2.3
Educational Background		
JHS	67	50.4
Primary	46	34.6
None	15	11.3
SHS/Vocational	3	2.3
Tertiary	2	1.5
Ethnicity		
Ewe	131	98.5
Northerner	2	1.5
Religion		
Christian	128	96.2
Traditionalist	4	3
Moslem	1	0.8
Occupation		
Farming	53	39.9
Trading	37	27.8
None	25	18.8
Artisan	14	10.5
Civil/Public Servant	3	2.3
Fishing	1	0.8
Average Income		
GHS100 - 300	53	49.1
<GHS100< strong>	38	35.2
GHS400 - 700	15	13.9
Above 700	2	1.9
No of Dependents		
Below 4	32	29.6
4 to 7	69	63.9
8 to 13	7	6.5
Total	**133**	**100**

Field Survey, 2015

4.2 PERCEIVED CAUSES OF MALNUTRITION.

A vignette was used to elicit information from respondents on the categories of malnutrition. This were pictures with a brief story, that was shown to respondents to identified the three categories, wasting, underweight, and stunting, whether it is common in their communities and what they think causes malnutrition in the communities.

Majority (86%) identified the condition in the first vignette, as Kwashiorkor while 1.5% said it was cholera. A little above 12% of the respondents have no idea what the first vignette represents. This could imply that 86% of the respondents within the South Tongu District perceived wasting in the vignette as Kwashiorkor, 81% of the respondents claim the second vignette presented showing underweight represents Kwashiorkor, 0.8% are of the view that the second vignette represents beriberi and 18% have no idea. The third vignette was on stunting, 4.5% of respondents identified it as " siahor", 2.3% said it is called "matsimatsi", both literally in English means "the child has refused to grow", 60.2% said it was kwashiorkor and again 32.3% were not able to identify the third vignette. 86% of the respondents are of the view that the first vignette presented is not common in their community with 14% of them not responding to the question. It could therefore be said that, first vignette presented is not common in the South Tongu District. 82% of the respondents are of the view that the second vignette presented is not common in their community with 18% of them not responding to the question. It could therefore be said that, the second vignette presented is also not common in the South Tongu District. With the third vignette, 80% of respondents said the condition is not common in the community, whilst 20% did not respond to the question.

About 12% of respondents have seen these vignettes before but not in communities they live majority of respondents 74% have heard but not seen it before except in books that are shown to them by the nurses, and 14% of respondents have not heard about it before.

With respect to causes of malnutrition, generally responses were not very different when it came to quantitative analysis with regards to the three categories of malnutrition. However, narratives from the focus group discussion (FGD), showed differences in the causes of malnutrition with the three categories. People attributed wasting to always eating starchy foods without any nutrients, underweight to poor hygiene and stunting to caregivers failing to monitor the feeding habits of their children. Water and sanitation was mentioned as a component of malnutrition. Following are the causes of the three categories of malnutrition.

4.2.1 Perceived Causes of Wasting

Majority of respondents mentioned poor birth spacing (86.9%), eating too many starchy foods (85.7%), eating foods deficient with fruits and vegetables (85.7%), frequent absence of mother at home (85.7%), poor personal/environmental hygiene (85.7%) as some of the causes of wasting as presented in the first vignette except for mothers with low educational status.

Narratives from the FGDs further gave more weight on the causes of wasting. Main causes cited included feeding practices. Feeding practices refers to the quantity, quality of foods eaten and varieties of foods:

> "*When the child is always eating starchy foods without any nutrient. And giving complementary food at the wrong time and also the child one type of food everyday (akple kple atadi gbesiagbe) eating banku and pepper everyday."*
>
> (26 – year old female respondent)

Narratives also suggests that the absence of caregivers due to work, poor food choices been made where biscuits of lower nutritional value were bought for the children instead

of feeding them with protein rich foods. Respondent also considered the multi task of caregivers makes most of them not able to cook regularly for the children.

> *"Sometimes you wake up and because you are busy doing something, you give money to the child/children to buy biscuits or buy food from food venders at popular joints. (Rice and beans popularly called wakye, rice, or kenkey, preparation from fermented corn dough eaten with fresh tomatoes, pepper and onion sauce with fried fish).*
>
> (28 – year old female respondent)

4.2.2 Perceived Causes of Underweight

Results from Table 4.2 on the causes of underweight, shows that majority of respondents (82%) agreed that eating too many starchy foods; child experiencing diarrhea; frequent absence of mother at home are causes presented in the second vignette. Furthermore 81.2% of the respondents agreed eating foods deficient with fruits and vegetables is also a cause presented in the second vignette except for Presence of other infections and Mother's low educational status which appears to be evenly spread.

Narrative from FGD highlighted poor hygiene as one of the causes of malnutrition, this was linked to drinking dirty water, poor environment, i.e. general untidiness of the home, using dirty cooking utensils to prepare food and children playing in the sand and dirty environment and also children not washing their hands before eating, and birth spacing. The following narratives are typical

> "*Sometimes we don't wash the child hands with soap and water after use oftoilet and before eating, and if the cooking utensils we use to cook are dirty, and the water children drink is dirty, the child will be malnourished.*
>
> (20 – year old female respondent)

"*If our surroundings are dirty, our children play in it, they can fall sick, and if the child is being fed with a lot of food at a time, the child can become malnourished."*

(22 – year old female respondent)

"Getting pregnant when the other child is still very young and you do not give attention to the other child. The child lacks care and in the end the end the stomach and the cheeks become big".

(30 – year old female respondent)

4.2.3 Perceived Causes of Stunting

From Table (4.2), we could say in general that majority of respondents agreed to the causes of stunting presented in the third vignette, such as eating too many starchy foods (79.7%), eating foods deficient with fruits and vegetables (79.7%), and sub optimal breastfeeding (79.7%), except for Malaria, Diarrhoea and Mothers low employment/socio economic status which appears to be evenly spread.

During the FGD, mother's explained that sometimes they felt overwhelmed by their daily chores, which include going to the farm, fetching water and firewood, therefore, neglecting the needs of their children and failing to monitor their feeding habits.

"Sometimes you wake up early in the morning and go to farm till evening, so you give money for the children to buy food or eat gari, therefore feeding is not good, they don't get the nutrients they are supposed to get. Because you the mother you are not around to monitor the child's feeding"

(26 – year old female respondent)

"If you don't practice exclusive breastfeeding as the nurses have been Saying, your child can become malnourished"

(19 – year old female respondent)

Table 4.2 Perceived Causes of malnutrition

Perceived Causes	Wasting F (%)	Underweight F (%)	Stunting F (%)
Eating too many starchy foods	114(85.7)	109(82)	106(79.7)
Eating foods deficient with fruits and vegetables	114(85.7)	108(81.2)	106(79.7)
Sub-optimal breast feeding	113(85)	83(62.4)	106(79.7)
Having Malaria attack	86(64.7)	98(73.7)	78(58.6)
Experiencing Diarrhoea	102(76.7)	109(82)	80(60.2)
Frequent absence of mother from the home	114(85.7)	109(82)	105(78.9)
Poor birth spacing	123(86.9)	104(78.2)	106(79.7)
Mother dying at birth	109(82)	104(78.2)	101(75.9)
Mother dying during her child infancy(0-1)	110(82.7)	105(78.9)	101(75.9)
Child growing up and often playing in dirty surroundings	109(82)	103(77.4)	103(77.4)
Presence of other infections	102(76.7)	62(46.6)	98(73.7)
Mothers low educational status	64(48.1)	79(59.4)	64(48.1)
Mothers employment/socio economic status	84(63.2)	108(81.2)	81(60.9)
Lack of food in the house	113(85)	107(80.5)	105(78.9)
Poor personal/environmental hygiene	114(85.7)	0	0
Genetic/Heredity	0	0	28(21.1)

Field Survey, 2015

4.2.4 Sources of Water and Sanitation as a cause of malnutrition

Results from (Table 4.3) indicated that the major source of water use in most of the communities visited, is pipe borne water**.** Whilst few of the communities, used the river/stream as their source of water. Seventy two percent of respondents were using pit latrine as household toilet, (12.0%) of respondents do not have household toilets, therefore turn to go the free range way. With regards to refuse disposal (77.4%) of the respondents burn their refuse and (3.0%) of respondents either bury or controlled crude dumping.

Table 4.3 Sources of Water and Sanitation

Water and sanitation	Frequency	Percent
Bathing water		
Pipe borne	76	57.1
River/stream	50	37.6
Borehole	7	5.3
Washing water		
Pipe borne	69	51.9
River/stream	56	42.1
Borehole	7	5.3
Hand dug well	1	0.8
Drinking water		
Pipe borne	79	59.4
River/stream	47	35.3
Borehole	7	5.3
Cooking water		
Pipe borne	79	59.4
River/stream	47	35.3
Borehole	7	5.3
Household toilet		
Pit latrine	97	72.9
KVIP	20	15.0
Free range	16	12.0
Method of refuse disposal		
Burning	103	77.4
Backyard dumping	22	16.5
Burying	4	3.0
Controlled crude dumping	4	3.0
Total	**133**	**100**

Field Survey, 2015

4. 3 COMMUNITY PERCEPTION FOR MANAGING MALNUTRITION

This section talks of management of the three categories of malnutrition. The responses for the management of the three categories were not different based on the quantitative analysis. However, narratives on the management of the three categories during FGD were linked to the causes, such as feeding children with food rich in protein, practicing good hygiene and attending child welfare clinic.

4.3.1Community Perception for Managing Wasting

From Table 4.4, we could say that overwhelming majority of respondents (87.2%) agreed to take the child to a health center for a medical treatment as a means of managing the condition for wasting. Furthermore, 85.7 % of the respondents agreed that feeding the child with less starchy foods; feed the child with fruits and vegetables are other means of managing the condition for wasting. However 90.2 % of respondents disagree that offering of prayers for the child whether at home or away from home is one way of managing wasting.

In order to manage malnutrition in the community respondents during FGD recommended giving a balance diet, attending child welfare clinic/ health center and seeking spiritual treatment.

> "*We should feed our children with vegetables, fish and fruits, reduce starch foods start complementary feeding at the right time."*
>
> (25 – year old female respondent)

It was recognized that management of malnutrition could be obtained at the hospital.

> "*We have to send our children to weighing for the nurses to tell us what is wrong with them or where there is a clinic.*

(26 – year old female respondent)

Most of them nodded in agreement and some saying yes, that is what we should do.

For some they felt there is the need to seek spiritual treatment. Going for prayers at prayer camps.

"Well for me I think sometimes you need to seek spiritual treatment (prayers) because sometimes is not all sickness that are physical. And where necessary you use herbs."

(29 – year old female respondent)

4.3.2 Community Perception for Managing Underweight

From the results in Table 4.4 , majority of the respondents (82%) agreed that taking the child to a health center for a medical treatment; feed the child with less starchy foods; feed the child with fruits and vegetables; give the child more water or fluids to drink and allow the child to rest frequently are factors for managing underweight . Furthermore 92.2% of the respondents agreed that giving other food supplements to children who are severely malnourished is a means for managing underweight. However 91% of the respondent disagree that offering of prayers for the child whether at home or away from home is one of the means of managing underweight. This overwhelming response from the respondents who are predominantly Christians indicates that they do not perceive spirituality can be considered as a factor for managing underweight.

Narratives from the FGD suggests

"We need to practice proper personal and environmental hygiene, by making sure that our surroundings are clean and the cooking utensils we use are also clean. Washing our hands with soap and water is very important for both mother and child."

(21 – year old female respondent)

"Fruits should be given to the children at least three times in the week, and we should cook our children's food separately from the adult's food."

(19 – year old female respondent)

4.3.3 Community Perception for Managing Stunting

From Table 4.4, majority of the respondents (79.7%) agreed that taking the child to a health center for a medical treatment; feed the child with less starchy foods; and feed the child with fruits and vegetables are means of managing stunting.

During the FGD respondents suggested that:

"We should practice exclusive breastfeeding for six months and continue to Two years, and also we should feed the children with kontomire and other Green leaves and monitor their feeding."

(21 – year old female respondent)

Table 4.4 Community Perception for Managing Malnutrition

Community Perception and Management	Wasting F (%)	Underweight F (%)	Stunting F (%)
Taking the child to a health centre for medical treatment	116(87.2)	109(82)	106(79.7)
Offer prayers for the child whether at home or away from home	13(9.8)	12(9)	14(10.5)
Provide traditional treatment (spiritual or herbal care)	30(22.6)	26(19.5)	24(18)
Feed the child with less starchy foods	114(85.7)	109(82)	106(79.7)
Feed the child with fruits and vegetables	114(85.7)	109(82)	106(79.7)
Give the child more water or fluids to drink	113(85)	109(82)	103(77.4)
Allow the child to rest frequently	113(85)	109(82)	102(76.7)
Do nothing	0(0.0)	0(0.0)	0(0.0)
Giving other food supplements to children who are severely malnourished	109(82)	132(99.2)	130(97.7)

Field Survey, 20154.4 Community Perceptions of Malnutrition

4.3.4 Community Perceptions of Malnutrition

Perceptions about malnutrition was examined based on perceived causes, treatment and prevention. Table 4.5 shows the description of respondents' response on the perception of malnutrition. Majority of the respondents (74%) disagreed that malnutrition is a result of a spiritual illness/curse. This response from the respondents who are predominantly Christians indicates that they do not perceive spirituality can be the cause of malnutrition. However about 87% of the respondents agreed that very little to eat for children born into a large family; mothers inability to afford a nutritious diet; and children who are not exclusively breastfed can be causes of malnutrition. Furthermore about 86% of the respondents agreed that improper weaning and introduction of family foods to child causes malnutrition. Nevertheless 62 % of the respondents agreed that only medical treatment can manage malnutrition whilst 26.3 % agreed that malnutrition can only be managed with a combination of other treatments. They are of the view that medical treatment alone is not enough for managing malnutrition. Eighty seven percent of the respondents agreed that malnutrition can be prevented.

Table 4.5 Community Perceptions of Malnutrition

Community Perceptions of malnutrition	Agree F (%)	Disagree F (%)	Don't know F (%)
Malnutrition is a result of a Spiritual illness/curse	18(13.5)	99(74.4)	16(12)
Malnutrition can be managed with Medical treatment only	82(61.7)	33(24.8)	18(13.5)
Malnutrition can only be managed with a combination of other treatments. Medical treatment alone is not enough.	35(26.3)	80(60.2)	18(13.5)
Malnutrition can be prevented	115(86.5)	0(0)	18(13.5)
Malnutrition is a result of very little to eat for Children born into large family	115(86.5)	0(0)	18(13.5)
Malnutrition is a result of Mother's poor understanding of nutritious diet	115(86.5)	0(0)	18(13.5)
Malnutrition is a result of Mothers inability to afford a nutritious diet	115(86.5)	0(0)	18(13.5)
Children who are not exclusively breastfed	115(86.5)	0(0)	18(13.5)
Improper weaning and introduction of family foods to the child causes malnutrition	114(86.4)	0(0)	18(13.6)
Poor hygiene and sanitation practices makes the child malnourished	114(86.4)	0(0)	18(13.6)
Malnutrition is caused by the Presence of disease and other infections like diarrhoea	113(86.3)	0(0)	18(13.7)

Field Survey, 2015

4.6 CHI- SQUARED TEST BETWEEN DEMOGRAPHICS VARIABLES AND MANAGEMENT OF MALNUTRITION

Findings from the analysis (Table 4.9) also depict a Chi-Squared test between demographics variables (Age, Occupation and Education) and management of Malnutrition (Taking the child to a health centre for medical treatment). Based on the fact that taking the child to a health centre for medical treatment had the highest frequency of responses. This analysis was done to see whether there is an association between the variables. It is clear from the table that none of the variables are significant at a (p value) of less than 0.05. This implies that there is no significant relationship between the socio-demographic variable and management of malnutrition (Taking the child to a health centre for medical treatment).

4.6.1 Association between socio-demographics variables and Perceptions of Malnutrition

4.6.1.1 Association between socio-demographics variables and Malnutrition is a spiritual illness (N=133)

Table 4.6 presents a relationship test between socio-demographics variables (Age, Occupation and Education) and Perceptions of Malnutrition (Malnutrition is a spiritual illness). It is clear from the table that none of the variables are significant at an asymptotic significance (p value) of less than 0.05. This implies that there is no significant relationship between the socio-demographic variable and perception of malnutrition (Malnutrition is a spiritual illness).

4.6.2 Association between socio-demographics variables and Malnutrition can be managed with medical treatment only (N=133)

Table 4.7 also depict a Chi-Squared test between socio-demographics variables (Age, Occupation and Education) and Perceptions of Malnutrition (Malnutrition can be managed with medical treatment only). It is clear from the table that none of the variables are significant at an asymptotic significance (p value) of less than 0.05. This implies that there is no significant relationship between the socio-demographic variable and perception of malnutrition (Malnutrition can be managed with medical treatment only).

4.6.3 Association between socio-demographics variables and Malnutrition can be managed with combination of other treatments (N=133)

At a significance level of 0.05, none of the variables are related as shown in Table 4.8.This implies that there is no significant relationship between the socio-demographic variables and perception of malnutrition (Malnutrition can only be managed with combination of other treatments).

Table 4.6 Association between socio-demographics variables and Perceptions of Malnutrition (Malnutrition is a spiritual illness) ***(N=133)***

Variables	Malnutrition is a spiritual illness/Curse N (%)			χ^2	p-value
	Agree	Disagree	Don't Know		
Age					
15-19	0(0)	9(69)	4(31)	8.582	0.199
20-29	8(11)	55(74)	11(15)		
30-39	6(15)	30(77)	3(8)		
40-49	2(29)	5(71)	0(0)		
Occupation					
Missing	2(8)	18(72)	5(20)	8.472	0.583
Artisan	3(21)	11(79)	0(0)		
Farming	4(8)	41(79)	8(13)		
Fishing	0(0)	1(100)	0(0)		
Trading	7(19)	26(70)	4(11)		
Civil/Public Servant	0(0)	2(67)	1(33)		
Education					
None	2(13)	10(67)	3(20)	3.532	0.897
Primary	5(11)	33(72)	8(17)		
JHS	9(13)	51(76)	7(11)		
SHS/Vocation	0(0)	3(100)	0(0)		
Tertiary	0(0)	2(100)	0(0)		

Data are presented in frequency **(N)** and proportions **(%)**; $\chi 2$**,** Pearson's chi-square value;

p-value< 0.05

Table 4.7 Association between socio-demographics variables and Perceptions of Malnutrition (Malnutrition can be managed with medical treatment only) ***(N=133)***

Variables	Malnutrition can be managed with medical treatment only N (%)			χ^2	p-value
	Agree	Disagree	Don't Know		
Age					
15-19	6(46)	3(23)	4(31)	5.875	0.437
20-29	46(62)	17(23)	11(15)		
30-39	25(64)	11(28)	3(8)		
40-49	5(71)	2(29)	0(0)		
Occupation					
Un employed	15(60)	5(20)	5(20)	9.973	0.443
Artisan	11(79)	3(21)	0(0)		
Farming	29(55)	16(30)	8(15)		
Fishing	0(0)	1(100)	0(0)		
Trading	25(67)	8(22)	4(11)		
Civil/Public Servant	2(67)	0(0)	1(33)		
Education					
None	8(53)	4(27)	3(20)	5.557	0.697
Primary	25(54)	13(28)	8(18)		
JHS	44(66)	16(24)	7(10)		
SHS/Vocation	3(100)	0(0)	0(0)		
Tertiary	2(100)	0(0)	0(0)		

Data are presented in frequency **(N)** and proportions **(%)**; $\chi 2$**,** Pearson's chi-square value;

p-value< 0.05

Table 4.8 Association between socio-demographics variables and Perceptions of Malnutrition (Malnutrition can be managed with combination of other treatments (N=133)

Variables	Malnutrition can only be managed with combination of other treatments N (%)				p-value
	Agree	Disagree	Don't Know		
Age					
15-19	3(23)	6(46)	4(31)	5.941	0.43
20-29	18(24)	45(61)	11(15)		
30-39	12(31)	2462)	3(7)		
40-49	2(29)	5(71)	0(0)		
Occupation					
Missing	5(20)	15(60)	5(20)	9.935	0.446
Artisan	4(29)	10(71)	0(0)		
Farming	17(32)	28(53)	8(15)		
Fishing	1(100)	0(0)	0(0)		
Trading	8(22)	25(68)	4(10)		
Civil/Public Servant	0(0)	2(67)	1(33)		
Education					
None	5(33)	7(47)	3(20)	6.014	0.646
Primary	13(28)	25(54)	8(18)		
JHS	17(25)	43(64)	7(11)		
SHS/Vocation	0(0)	3(100)	0(0)		
Tertiary	0(0)	2(100)	0(0)		

Data are presented in frequency **(N)** and proportions **(%)**; $\chi 2$, Pearson's chi-square value;

p-value< 0.05

4.7ASSOCIATION BETWEEN SOCIO-DEMOGRAPHICS VARIABLES AND MANAGEMENT OF MALNUTRITION (TAKING THE CHILD TO A HEALTH CENTRE FOR MEDICAL TREATMENT) (N=133)

Table 4.9 also depict a Chi-Squared test between socio-demographics variables (Age, Occupation and Education) and management of Malnutrition (Taking the child to a health centre for medical treatment). It is clear from the table that none of the variables are significant at an asymptotic significance (p value) of less than 0.05. This implies that there is no significant relationship between the socio-demographic variable and management of malnutrition (Taking the child to a health centre for medical treatment)

Table 4.9 Association between socio-demographics variables and Management of Malnutrition (Takingthe child to a health centre for medical treatment) ***(N=133)***

Variables	Taking the child to a health centre for medical treatment N (%) **Yes**	χ^2	**p-value**
Age			
15-19	9(69)	5.74	0.125
20-29	64(86)		
30-39	36(92)		
40-49	7(100)		
Occupation			
Un employed	20(80)	5.482	0.362
Artisan	14(100)		
Farming	45(85)		
Fishing	0(0)		
Trading	34(92)		
Civil/Public Servant	2(67)		
Education			
None	12(80)	3.191	0.526
Primary	38(83)		
JHS	61(91)		
SHS/Vocation	3(100)		
Tertiary	2(100)		

Data are presented in frequency **(N)** and proportions **(%)**; $\chi 2$**,** Pearson's chi-square value;

p-value< 0.05

CHAPTER FIVE

DISCUSSION

The primary goal of the study was to examine community perceptions and management of malnutrition in children under five years, using a mixed method approach to elicit information from caregivers. The study findings suggests that majority of respondents agreed that malnutrition was a multifaceted problem with a complex sequence of causation, but were not able to identify the categories of malnutrition. And again majority of respondent agreed that cases of malnutrition can be managed medically by taking the child to the health centre. Majority of respondents also disagreed that malnutrition is a result of spiritual illness/curse and therefore can be prevented. This response from the respondents who are predominantly Christians indicates that they do not perceive spirituality can be the cause of malnutrition. . The Central themes and categories that resulted from the data analysis and interpretation process were discussed and evaluated as they correlate with and/or contribute to existing literature.

5.1 PERCEIVED CAUSES OF MALNUTRITION

The study findings indicated that majority of respondents observed that malnutrition was a multifaceted problem with a complex sequence of causation. This is consistent with the UNICEF Frame work on malnutrition. The causes of malnutrition given by the mothers in this study can be categorized into the three strata of the UNICEF framework. The first stratum is made up of the immediate causes that manifest themselves at an individual level. Immediate causes identified included disease such as malaria and diarrhoea, inadequate food intake, child personality and behavior. The second stratum are the underlying causes that manifest at the household level and impact on quality of care (e.g.

inadequate child supervision because of the multi task of caregivers, and maternal attitude and behaviors), and access to resources (e.g. income, food supply).The third and last stratum, basic causes which includes potential resources (financial). From this last stratum the mothers identified constraints on potential resources related to the availability of farmland and the means to develop alternative income sources. The presence of these strata suggest that the mothers recognize individual differences in needs among children, households and communities, while also acknowledging the influence of expectations at the societal level.

The sentiments expressed by the mothers in the FGD concerning the heavy burden of household and farm chores concur with findings from other parts of Africa where maternal work load (i.e. many household duties and long working hours outside the house) has been observed to contribute to poor nutritional outcomes (American Journal of Public Health, 2011).

Research from Africa and other parts of the world provide evidence of the contributing effects of infectious diseases to malnutrition, (Ibid, 2006). Interestingly, none of the participants during the focus group discussion, raised the relationship of ill-health and malnutrition, except for the quantitative analysis.

Some studies have reported a significant relationship between maternal education and child's nutritional status**, (Onyekale & Onyekale, 2005).** However, the findings in this study revealed, some respondents think mother's educational background do not have any effect on malnutrition. Reason being that as far as that mother attends child welfare clinic, and implement what is taught by the nurses, she can be able to care for the child.

5.2 COMMUNITY PERCEPTION OF MANAGING MALNUTRITION

Studies carried out in Pakistan, by **Elsevier, (2014),** stated that mother's described various magico religious therapies that is tried when their children are malnourished because the condition is associated with fright and spirit possession, and for some other's the first response in health seeking is prayer or reading of Koran.

In Rwanda, children are also taken to traditional healers for spiritual interventions rather than for medical care **(GFH, 2014).** In Somalia, in cases of kwashiorkor, the swollen limbs, stomach and face is burnt to remove the fluid **(FSAU, 2007).**

However, this study showed the contrary, majority of respondents agreed that cases of malnutrition can be managed medically by taking the child to the health centre and given other supplements to increase their protein level. This is in accordance with studies by Abubakar, Holdings, Mwangome, & Maitland**,(2011),** that showed that cases of malnutrition is a treatable condition that can be managed under the supervision of qualified health professional and children are also given additional nutrients to increase their intake of energy and protein.

5.3 COMMUNITY PERCEPTION OF MALNUTRITION

Whereas in the northern parts of Ghana and other African countries such Pakistan, Rwanda and Nepal, many perceived that malnutrition comes about as a result of mother's disregard of traditional norms and beliefs, some perceive the usual cause of malnutrition is the contact with a woman who had marasmic child or is otherwise in a state of ritual impurity. The mediating factor is said to be a saya (shadow, influence) emanating from such a person and ultimately linked with the spirit world, whilst some others associated the condition with fright and spirit possession.

Malnutrition is sometimes perceived as a natural phenomenon related to the "strength" of the body of the child at the time of delivery. It was explained as the result of God's curse, a spirit threatening the child, or "a wizard eating the child slowly**.** (UNICEF, 2013, Akparibo, 2013, Elservier, 2014, Kolstern, Lefevre, Lerude, 1997).

On the contrary key findings of the study revealed that majority of respondents disagreed that malnutrition is a result of spiritual illness/curse, and that malnutrition can be prevented.

The study also pointed out that the association between maternal education, age, occupation and community perception. Likewise, the study did not find any associations between maternal education, age, occupation and community management of malnutrition. The insignificant association can be based on the fact that a number of respondents had some level of formal education, and education is generally known to have positive impact on respondents understanding of some health issues.

Solutions to the problem of malnutrition includes more education by community health workers on the prevention of malnutrition. Because if people have the knowledge, their children will be healthy.

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

6.1 CONCLUSION

The findings from the study shows that majority of participants were able to mention causes of malnutrition, but were not able to identify the three categories of malnutrition. They understood that it is a complex disease that has many determinants as stated by the UNICEF framework. Although, primary caregivers did exhibit some knowledge on malnutrition, it would be beneficial to reinforce their education. Additionally, the issue of the three categories of malnutrition, needs to be addressed, especially stunting, explaining the consequences of long term malnutrition. This is especially important given the fact that many cases of stunting go unnoticed to the untrained eye. In spite of the fact that primary caregivers recognized the importance of a varied diet, due to their economic constraints, they believe the administration of a healthy diet to be more preventive than curative.

Study findings also revealed that majority of respondents disagreed that malnutrition is a result of spiritual illness/curse, and can be prevented.

The study also pointed out that there is no association between age, education, occupation, and community perception and community management. In order to achieve the MDG 1& 4, the content and approach of any program must address the need for variability, determined by individual local needs, concerns, attitude and beliefs.

Because the 1,000 days from pregnancy to child's second birthday is the most critical time for positive impact on a child's cognitive, intellectual, physical development. Good nutrition lays the foundation for health, development, and even prosperity for the next generation.

6.2 RECOMMENDATION

Based on the findings of this study, I recommend:

To the district health directorate and health workers

1: The District Health Directorate (DHD) and all health facilities in the district to encourage educational campaign that would focus on teaching community members how to use foods already available to them to prevent malnutrition in an economically feasible manner and the three categories of malnutrition.

2: Film shows and drama should be encouraged as part of strategies to create awareness on malnutrition in the communities. Because it is believed that people believe in what they see than what they hear.

3: The DHD, should encourage research to evaluate existing programs on prevention of malnutrition for its effectiveness.

To mothers and caregivers

1. Mothers and caregivers are encouraged to attend child welfare clinic for their children's growth to be monitored.
2. Mothers and caregivers are also encouraged to implement what they are taught by the health workers.

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APPENDICES

INTERVIEW GUIDE

I am Precious Mensah, a student of University of Ghana, School of Public Health, and Master of Public Health (MPH). I am conducting a research on the topic community perceptions and management of malnutrition in the South Tongu District. We are interviewing people here in order to provide data that would contribute to the formulation of pertinent programs in the district.

This Interview Guide aims at examining community perception and management of malnutrition in children under five. The interview guide collects information on socio demographic, perceptions of malnutrition, factors contributing to malnutrition, and management of malnutrition.

Unique code for respondent……

Date of Interview……

District……

Name of community/ locality……

Name of Interviewer…….

SOCIO DEMOGRAPHIC CHARATERISTICS (Tick as appropriate)			
Question No	Variable	Responses	
1	Age	15 – 19	
		20 – 29	
		30 – 39	
		40 – 49	
		50 and above	
2	Marital Status	Single/Never Married	
		Married	
		Widowed/Separated/Divorced	
3	Educational Background	None	
		Primary	
		JHS	
		SHS/Vocational	
		Tertiary	
4	Ethnicity	Ewe	
		Akan	
		Ga Adangbe	
		Northerner	
		Others (Specify)	
5	Religion	Christian	
		Muslim	
		Traditionalist	
6	Occupation	Fishing	
		Farming	
		Trading	
		Artisans (seamstress, etc.)	
		Civil/Public Servant	
		None	
		Others (Specify)	
7	What is your average income GHC?	<GHS100.00	
		GHS100-300	
		GHS400-700	
		Above 700 GHC	
8	How many people depend on this income?		

WATER AND SANITATION			
Question No	Question	Responses	
10	What is household source of water for bathing?	River/Stream	
		Hand dug well	
		Bore hole	
		Pipe-borne	
		Harvested rainwater	
		Dam	
		Other (specify)	
11	What is household source of water for washing?	River/Stream	
		Hand dug well	
		Bore hole	
		Pipe-borne	
		Harvested rainwater	
		Dam	
		Other (specify)	
12	What is household source of water for drinking?	River/Stream	
		Hand dug well	
		Bore hole	
		Pipe-borne	
		Harvested rainwater	
		Sachet water	
		Dam	
		Other (specify)	
13	What is household source of water for cooking?	River/Stream	
		Hand dug well	
		Bore hole	
		Pipe-borne	
		Dam	
		Other (specify)	
14	What type of toilet facility does your household use?	Pit Latrine	
		Bucket latrine	
		KVIP	
		Water closet	
		Free range	
		Defecate in plastic rubber	
15	How do you dispose of your refuse	Burning	
		Burying	
		Backyard dumping	
		controlled crude dumping	

Presentation of vignette

Preamble/Question	**Response**	
Kofi is three is years old. Kofi's mother noticed that Kofi had been losing weight over three weeks, and has become thin and skinny. Kofi looks like this (show picture to respondents to identify each category of malnutrition).		
16. How do you call Kofi's condition?		
17. Is it common in this community?	Yes	No
18. What are the causes of kofi's condition?		
	Eating too many starchy foods	
	Eating foods deficient with fruits and vegetables	
	Sub-optimal breast feeding	
	Malaria	
	Diarrhea	
	Frequent absence of mother from the home	
	Poor birth spacing	
	Mother dying at birth	
	Mother dying during her child infancy(0-1)	
	Child growing up and often playing in dirty surroundings	
	Presence of other infections	
	Mothers low educational status	
	Mothers employment/socio economic status	
	Lack of food in the house	
	Poor personal/environmental hygiene	
	Don't know	
	Others (Specify)	

19. How is Ama's condition generally managed in the community	Taking the child to a health centre for medical treatment	
	Offer prayers for the child whether at home or away from home	
	Provide traditional treatment (spiritual or	

	herbal care)	
	Feed the child with less starchy foods	
	Feed the child with fruits and vegetables	
	Give the child more water or fluids to drink	
	Allow the child to rest frequently	
	Do nothing	
	Others (Specify)	
	Don't know	
	Giving other food supplements to children who are severely malnourished	
Ama is two years old.Ama's, mother noticed that Ama's hair has changed, the stomach is becoming big and legs swollen (show picture to respondents to identify category of malnutrition).  		
20. How do you call Ama's condition?		
21. Is it common in this community?	Yes	No
22. What are the causes of Ama's condition?	Eating too many starchy foods	
	Eating foods deficient with fruits and vegetables	
	Sub-optimal breast feeding	
	Malaria	
	Diarrhea	
	Frequent absence of mother from the home	
	Poor birth spacing	
	Mother dying at birth	
	Mother dying during her child infancy(0-1)	
	Child growing up and often playing in dirty surrounding	
	Presence of other infections	
	Mother's low educational status	
	Mother's low employment/ socio economic status	
	Lack of food in the house	
	Others (Specify)	
	Don't know	
23. How is Ama's condition generally managed in the community	Taking the child to a health centre for medical treatment	
	Offer prayers for the child whether at home or	

	away from home	
	Provide traditional treatment (spiritual or herbal care)	
	Feed the child with less starchy foods	
	Feed the child with fruits and vegetables	
	Give the child more water or fluids to drink	
	Allow the child to rest frequently	
	Giving food supplements to children who are severely malnourished	
	Do nothing	
	Others (Specify)	
	Don't know	

Afua is four years old. When Afua is compared with /her age group, she is relatively shorter, Afua, in the yellow blouse, purple trousers and blue slippers is supposed to be above the green line. (Show picture to respondents to identify category of malnutrition.)

24. How do you call Afua's condition?		
25. Is it common in this community?	Yes	No
26. What are the causes of Afua's condition?	Eating too many starchy foods	
	Eating foods deficient with fruits and vegetables	
	Sub-optimal breast feeding	
	Malaria	
	Diarrhea	
	Frequent absence of mother from the home	
	Poor birth spacing	
	Mother dying at birth	
	Mother dying during her child infancy(0-1)	
	Child growing up and often playing in dirty surrounding	
	Presence of other infections	
	Mothers low educational status	
	Mothers low employment/socio economic status	
	Lack of food in the house	
	Genetic/Heredity	
	Others (Specify)……	
	Don't know	

26. How is Afua's condition generally managed in the community	Taking the child to a health centre for medical treatment	
	Offer prayers for the child whether at home or away from home	
	Provide traditional treatment (spiritual or herbal care)	
	Feed the child with less starchy foods	
	Feed the child with fruits and vegetables	
	Give the child more water or fluids to drink	
	Allow the child to rest frequently	
	Do nothing	
	Don't know	
	Giving other food supplements to children who are severely malnourished	
	Other (Speify)……....	

PERCEPTIONS OF MALNUTRITION			
No	Question	Responses	
27	Malnutrition is a result of a curse/Malnutrition is a spiritual illness	Agree	
		Disagree	
		Don't know	
28	Malnutrition can be managed with medical treatment only	Agree	
		Disagree	
		Don't know	
29	Malnutrition can only be managed with a combination of other treatments. Medical treatment alone is not enough.	Agree	
		Disagree	
		Don't know	
30	Malnutrition can be prevented	Agree	
		Disagree	
		Don't know	
31	Malnutrition is a result of very little to eat for children born into large families	Agree	
		Disagree	
		Don't know	
32	Malnutrition is a result of mothers poor understanding of a nutritious diet	Agree	
		Disagree	
		Don't know	
33	Malnutrition is a result of the inability of mothers to afford a nutritious diet	Agree	
		Disagree	
		Don't know	
34	Children who are not exclusively breastfed can be malnourished	Agree	
		Disagree	
		Don't know	
35	Improper introduction of complementary foods to children causes malnutrition	Agree	
		Disagree	
		Don't know	
36	Improper weaning and introduction of family foods to the child causes malnutrition.	Agree	
		Disagree	
		Don't know	
37	Poor hygiene and sanitation practices makes the child malnourished	Agree	
		Disagree	
		Don't know	
38	Malnutrition is caused by the presence of diseases and infections like diarrhea	Agree	
		Disagree	
		Don't know	

FOCUS GROUP DISCUSSION GUIDE

A Focus group discussion on **Community Perception and Management of Malnutrition in children under five**

Good Morning, I am Precious Mensah working with Ghana Health Service, but currently a student at the School of Public Health. I am undertaking a study on malnutrition. The findings of the study will help to revise the health messages delivered to the communities in order to make them culturally more appropriate and relevant.

I would therefore like to discuss a few issues on malnutrition with you. With me is ……. To help me with the recording.

Demographic Details

Name of community:

Age:

Occupation:

Number of children under five years:

Educational Background:

Religion:

Marital Status:

Discussion Guide

Welcome and thank you for volunteering to take part in this focus group. You have been asked to participate as your point of view is important. I realize you are busy and I appreciate your time.

Introduction: This focus group discussion is designed to assess community perception and management of malnutrition in children under five. The focus group discussion will take not more than one hour. May I tape the discussion to facilitate its recollection?

Anonymity: Despite being taped, I would like to assure you that the discussion will be anonymous. The tapes will be kept safely in a locked facility until they are transcribed word for word, then they will be destroyed. The transcribed notes of the focus group will contain no information that would allow individual subjects to be linked to specific statements. You should try to answer and comment as accurately and truthfully as possible. I and the other focus group participants would appreciate it if you would refrain from discussing the comments of other group members outside the focus group. If there

are any questions or discussions that you do not wish to answer or participate in, you do not have to do so; however please try to answer and be as involved as possible.

Ground rules

- The most important rule is that only one person speaks at a time. There may be a temptation to jump in when someone is talking but please wait until they have finished.
- There are no right or wrong answers
- You do not have to speak in any particular order
- When you do have something to say, please do so. There are many of you in the group and it is important that I obtain the views of each of you
- You do not have to agree with the views of other people in the group
- Does anyone have any questions? (Answers).
- OK, let's begin

Warm up

- First, I'd like everyone to introduce themselves. Can you tell us your name?

Introductory question

I am just going to give you a couple of minutes to think about any experiences of malnutrition. Is anyone happy to share his or her experience?

Guiding questions:

1. What are the causes of malnutrition? (Show the different pictures of malnutrition)
2. What are the signs & symptoms of malnutrition for each of the types of malnutrition?

3. How are these signs and symptoms for malnutrition managed in the community? (Ask for each of the three types, probe for home management, other options of management, prayers, herbs, medical treatment)
4. What would you do if your child becomes malnourished? (Ask for each of the three types)
5. At what stage of the malnutrition (ask for each of the types) would you seek treatment?
6. What are the social and economic challenges to the family with respects to malnutrition? (Probe for socio – economic challenges and disruption of life).
7. How do you think malnutrition can be prevented? (Probe for home remedies)

Conclusion

- Thank you for participating. This has been a very successful discussion
- Your opinions will be a valuable asset to the study
- We hope you have found the discussion interesting
- If there is anything you are unhappy with or wish to complain about, please speak to me later

VOLUNTEER AGREEMENT FORM

This questionnaire is designed to undertake a study on the topic Community Perception and Management of Malnutrition in Children under five (5) years in the Central Tongu District. Your assistance in this exercise in providing candid responses to each of the questions will go a long way to provide data that gives a true reflection of the situation on the ground and which will also contribute to the formulation of pertinent programs in the district. You are assured that your responses are completely confidential and be for only this study. If you have any questions during the course of the interview, you are free to ask and you want to opt out you are free to do so. Our interaction will take between 15 – 30 minutes of your time

I……

declare that the purpose, procedures as well as risks and benefits of the study have been thoroughly explained to me in English language and/or Twi and/or Ga /and/Ewe and I have understood.

I hereby agree to answer the questionnaire provided below

Signature/Thumbprint of Participant: ……

Date…….. / …… / ……

Interviewer's statement:

I, the undersigned, have explained this consent form to the subject in the English language (Twi, Ewe or Ga language) that He/she understands the purpose of this study, procedures to be followed as well as the risks and benefits involved. The subject has freely agreed to participate in this study.

Signature of interviewer ……

Date ……. / …….. / …….

Address ……

CURRICULUM VITAE

Dr Mercy M. Ackumey

Contact:

Department of Social and Behavioural Science

School of Public Health

College of Health Sciences

University of Ghana

P. O. Box LG 13

Legon

Accra, Ghana

Tel: +233 24 78 77 681

E – mail: **jekammy@yahoo.com** or mackumey@ug.edu.gh

Educational Background:

Institution	Qualification/Programme/Year
University of Ghana (UG)	B.A (Sociology, Psychology and Political Science),1989
UG	M.A (Population Studies), 1992
UG	MPH, (Master of Public Health), 2002
Swiss Tropical and Public Health Institute, University of Basel, Switzerland.	Ph.D. (Public Health) (2011)

Employment:

Date	Position
2005 to date	Lecturer, School of Public Health, UG
1998-2005	Monitoring and Evaluation Officer, Centre for Social Policy Studies, UG.
1992-1995	Sociologist/Demographer, Ghana Rural Water Programme (GRWP) of World Vision, Ghana
1988-1991	National Service at the UG as a Teaching Assistant (TA) in Statistics and then as a research assistant

Selected Publications

1. **Ackumey, M.M**. (2002).Local Perceptions of Buruli ulcer in the Ga District, Greater Accra Region.*Social Policy*, Centre for Social Policy Studies, University of Ghana. *2*(2), 44-57.

2. Renzaho, A.M., Woods, P.V., **Ackumey, M.M**., Harvey, S.K., & Kotin, J. (2007).Community-based study on knowledge, attitude and practice on the mode of transmission, prevention and treatment of the Buruli ulcer in Ga West District, Ghana.*Trop Med Int.Health, 12*(3), 445-458.

3. **Ackumey, M.M**., Gyapong, M., Pappoe, M., & Weiss, M.G. (2011).Help-seeking for pre-ulcer and ulcer conditions of Mycobacterium ulcerans disease (Buruli ulcer) in Ghana. *Am.J Trop Med Hyg*, *85*(6), 1106-1113.

4. **Ackumey, M.M**., Kwakye-Maclean, C., Ampadu, E.O., de Savigny, D., & Weiss, M.G. (2011).Health services for Buruli ulcer control: lessons from a field study in Ghana. *PLoS.Negl.Trop Dis.*, *5*(6), e1187.

5. **Ackumey, M.M**., Yirenya-Tawiah, D.R., Amoah, C.M., Dade, M., & Bosompem, K.M. (2008**).** Local Perceptions of Genital Schistosomiasis in the Afram Plains District of Ghana**.***New Developments on Health, Agricultural resources and Socio-economic activities in the Volta Basin* 35-42.

6. Yirenya-Tawiah, D., Amoah, C., Apea-Kubi, K.A., Dade, M., **Ackumey, M**., Annang, T., Mensah, D.Y., & Bosompem, K.M. (2011).A survey of female genital schistosomiasis of the lower reproductive tract in the Volta basin of Ghana**.***Ghana.Med J.*, *45*(1), 16-21.

7. **Ackumey, M.M**., Gyapong, M., Pappoe, M., Kwakye-Maclean, C., & Weiss, M.G. (2012).Socio-cultural determinants of timely and delayed treatment of Buruli ulcer: Implications for disease control**.***Infectious Diseases of Poverty*, *1*(6).

8. **Ackumey, M.M**., Gyapong, M., Pappoe, M., Kwakye-Maclean, C., & Weiss, M.G. (2012).Illness meanings and experiences for pre-ulcer and ulcer conditions of Buruli ulcer in the Ga-West and Ga-South Municipalities of Ghana. *BMC.Public Health*, *12*(1), 264.

CURRICULUM VITAE

PERSONAL INFORMATION

NAME - PRECIOUS MENSAH

POSTAL ADDRESS - P.O.BOX 2, ASESEWA

MOBILE NUMBER - 0243503931

EMAIL - ladypreciousmensah@gmail.com

WORKING EXPERIENCE

Working as a preventive nurse for the past 15 years. I am a proactive thinker, very confident when executing my duties and responsibilities. I possess influencing communication and interpersonal skills. I also possess organizational skills and a good facilitator. Very active and smart when on duty.

EDUCATIONAL BACKGROUND

UNIVERSITY OF GHANA - 2008-2011

COMMUNITY HEALTH NURSING TRAINING SCHOOL - 1996 – 1998

MAWUKO GIRL'S SECONDARY SCHOOL - 1988 – 1993

QUALIFICATIONS

B.A. SOCIAL WORK WITH PSYCHOLOGY

CERTIFICATE IN COMMUNITY HEALTH NURSING

G.C.E O LEVEL

EMPLOYMENT HISTORY

AKUSE GOVERNMENT HOSPITAL - 1998 – 2001

AKATENG CHPS - 2001 – 2006 (FACILITY INCHARGE)

ASESEWA RCH - 2007 – 2014 (FACILITY INCHARGE AND SUB-DISTRICT LEADER)

INFORMED CONSENT

PROJECT TITLE

COMMUNITY PERCEPTION AND MANAGEMENT OF MALNUTRITION IN CHILDREN UNDER FIVE IN THE CENTRAL TONGU DISTRICT.

INSTITUTIONAL AFFILIATION

Department of Social and Behavioral Science (SOBS) School of Public Health, College of Health Sciences, University of Ghana, Legon.

BACKGROUND

Dear Participants, My name is PRECIOUS MENSAH, a student of the School of Public Health, University of Ghana, Legon. The purpose of this study is to examine community perception and management of malnutrition in children under five.

PROCEDURE

The study will involve answering of questions by respondents through an interview guide and focus group discussion on community perception and management of malnutrition in children under five.

RISK AND BENEFITS

This study is non-invasive and will not cause any form of discomfort to respondents the result will be used to revise the health messages delivered to the communities in order to make them culturally more appropriate and relevant and intervention would be directed to address direct causes and also the context of under nutrition.

RIGHT TO REFUSE

Participation in this study is voluntary and you can choose not to answer any individual question or all the questions. You are at liberty to withdraw from the study at any time. However, I will encourage you to fully participate since your opinions are very important to us. Your opinions will enable us understand community perception having influence on health seeking behavior and management of cases of malnutrition and the effect on malnutrition outcome.

ANONYMITY AND CONFIDENTIALITY

I would like to assure you that whatever information you will provide will be handled with strict confidentiality and will be used purely for research purposes. Your responses will not be shared with anybody who is not part of the study team. Data analysis will be done at the aggregate level to ensure anonymity.

DISSEMINATION OF RESULTS

The final report of this study will be disseminated to the Volta Regional Nutrition Department, the Central Tongu District Health Directorate and communities that were involved in the study.

COSTS AND/OR PAYMENTS TO SUBJECT FOR PARTICIPATION IN RESEARCH

There will be no costs for participating in this research and there will be no payments awarded for participating clients in this research.

For further questions, concerning the research, you may contact Ms Hannah Frimpong ERC, Administrator (+233 24 3235225, +233 50 704 1223)

Dr. Mercy Ackumey (PhD) (+233 247 877681),Precious Mensah (+233 24 3503931), all of the Department of Social and Behavioral Science (SOBS), School of Public Health, University of Ghana.

VOLUNTEER AGREEMENT FORM

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I,……

declare that the purpose, procedures as well as risks and benefits of the study have been thoroughly explained to me in English language and/or Twi and/or Ga /and/Ewe and I have understood.

I hereby agree to answer the questionnaire provided below

Signature/Thumbprint of Participant: …….....

Date: ……/……/…….

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Signature of interviewer …….

Date ……. / …….. / …….

Address ……..