

Protein energy malnutrition pem health essay

[Health & Medicine](#)



**ASSIGN
BUSTER**

CHAPTER ONE

INTRODUCTION**1. 1 Background of the Study**

Protein Energy Malnutrition (PEM) is one of the global public health problems which has been as a result of ecological problems of which the community's physical, biological and cultural environment are considered to be the factors (WHO, 1995). PEM is noted to be the disease of the poor, ignorant and those living in an unhygienic environment. According to the World Health Organization (WHO) (1995), malnutrition is " the syndrome that results from the interaction between poor diets and diseases and leads to most of the anthropometric deficits observed among children in the world's less developed countries". Malnutrition in Ghana has been most prevalent under the form of PEM, which causes growth retardation and underweight. About 54% of all deaths beyond early infancy were associated with PEM, making this the single greatest cause of child mortality in Ghana (Van de Poel et al., 2007). Moreover, malnutrition comes in different forms, but PEM is recognize to be the most widespread and serious nutritional disorder in Ghana. It manifests in mild to severe stunting, wasting and underweight among children (Ghana Health Service, 2005). PEM is particularly serious in post-weaning and often associated with infections. The most common diseases associated with severe PEM are respiratory infection, diarrhoea and vomiting, with high morbidity (Donald, 1991). The two severe forms of PEM are " Kwashiorkor" and " Marasmus" (Redmond, 2009). These two are said to occur in all developing countries and are life threatening conditions. The term " Kwashiorkor" was introduced into the medical community by Jamaican

Pediatrician Cicely . D. Williams in 1935 (Lancet article). The name is derived from the Ga language " Kwashiorkor" means " the sickness of the weaning". Williams referred to the term " Kwashiorkor" as an inadequate protein intake with reasonable caloric (energy) intake. The term Marasmus is derived from the Greek word marasmos, which means withering or wasting. Marasmus is a severe form of protein-energy malnutrition characterized by energy deficiency. Studies have shown that Marasmus represents an adaptive to starvation, whereas " kwashiorkor" represents a maladaptive response to starvation. Profound weaknesses accompany severe Marasmus. Since the body breaks down its own tissues to use calories (energy), people with this condition lose all their body fat and muscle strength. One of the most characteristic symptoms of kwashiorkor is a distended belly. Victims of the disease also suffer from lethargy, slow growth, anemia, oedema, hair loss, and changes in hair and skin color. Marasmus is primarily a disease of infancy and caused by a severe deficiency of nearly all nutrients, especially protein and calories (energy) and is characterized by stunted growth and leads to extensive tissue and muscle wasting, as well as variable oedema. Other common characteristics include dry skin, loose skin folds, growth failure, monkey face, hair changes.

1. 2 Statement of the Research Problem

Although the WHO (2000) has estimated that the overall prevalence of stunting has fallen from 47% in 1980 to 33% in 2000 in developing countries, Protein-Energy Malnutrition (PEM) which impairs the growth and development of children is still a major public health problem in poor communities (WHO, 2000). Besides inhibiting child growth, PEM also

increases morbidity, affects cognitive development, and reduces educational performance and future labour productivity (Gilgen, Mascie-Taylor and Rosetta, 2001). The first demographic health survey conducted in Ghana (Ghana Demographic Health Survey, 1988) found that stunting begins very early in life, with 30% of Ghanaian children 0-36 months of age being affected. Again, the 1993 Ghana Demographic Health Survey (GDHS) estimated that among children aged 0-36 months, 26% were stunted, 28% were underweight and 12% wasted. This, according to the survey, had not changed very substantially by 1998 and GDHS (1998) estimated that the incident of stunting, underweight and wasting were 26%, 25%, and 10% respectively. Moreover, there was still no significant improvement by 2003; rather, stunting had increase from 26% to about 30%. The GDHS (2003) thus estimated the same parameters to be 29%, 22. 1% and 7. 1% respectively. From the 2005 children mortality profile, it was recorded that 54% of the children deaths were due to PEM. Again, the Ministry of Health of Ghana, Ghana Health Service, is trying to prevent PEM from Ghana through immunization and nutritional programmes, yet PEM is counted as one of the most predominant disease in Ghana. The report from Ghana Demographic Health Survey (2003) indicates that Ashanti region in 2003 recorded 29. 1% stunting, 20. 8% underweight and 6. 7% wasting. However reports from Ahafo-Ano South District Nutritional Office indicate that, the district recorded 821 PEM cases from 2007 to 2009. The report continued that the district recorded 4 deaths out of the total 821 PEM cases recorded in 2007-2009. Sadly, according to Ghana Profile (2005), with the present levels of stunting, Ghana stands to lose \$947 million in future economic production as the direct result of the poor nutrition of its children over the next ten years.

<https://assignbuster.com/protein-energy-malnutrition-pem-health-essay/>

1. 3 Justification of the Study

According to the World Health Organization (WHO, 2002-2008 child mortality estimates), hunger and malnutrition are the biggest causes of child mortality in developing countries. In most countries all causes of child mortality by malnutrition, PEM represents majority of the cases. One child dies every five seconds as a result of hunger-700 every hour-16000 each day-6, 000, 000 each year-60% of all children deaths. Protein Energy Malnutrition continues to be a major Public Health threat in Ahafo-Ano South District. In the year 2007-2009 the district recorded 821 PEM cases with 4 deaths as indicated by the District Nutritional Officer. In addition, their study did not reveal the prevalence rate of stunting and wasting, knowledge of mothers on PEM, feeding practices and also causes of PEM. These deaths and the cases of malnutrition, most especially PEM, need to be avoided, because the death of a child could have effects on procreation of human race and productivity in Ahafo-Ano South District and Ghana as a whole. Besides inhibiting child growth, PEM also increases morbidity, affects cognitive development, and reduces educational performance and future labour productivity (Gilgen, Mascie-Taylor and Rosetta, 2001). The most important aspect is that these deaths and cases of high prevalence of PEM could be reduced if related infections were promptly diagnosed and treated. Moreover, the incidence could also be prevented if children are fed well with a well balanced diet containing required calories and protein needed for child growth. Again, it is suggested that stunting is an important form of protein- energy malnutrition is moderately prevalent in Ghana, but to determine the causes, more studies needs to be done. It is therefore imperative to identify the main factors that

lead to high prevalence of PEM in children under 2 years and how this menace can be prevented.

1. 4 Objectives of the Study

1. 4. 1 General Objective.

To determine the prevalence of Protein Energy Malnutrition among children less than two years in the Ahafo-Ano South District in the Ashanti Region of Ghana.

1. 4. 2 Specific Objectives

To determine the prevalence rate of PEM among children less than two years in the Ahafo-Ano South District. To identify the level of knowledge on PEM among mothers/caregivers in the Ahafo-Ano South District. To determine the factors that predisposes children less than two years to PEM in the Ahafo-Ano South District. To assess the feeding practices of mothers/caregiver in the Ahafo-Ano South District. To determine the Nutritional programmes available in the Ahafo-Ano South district.

1. 5 Research Questions

What is the prevalence rate of PEM among children less than two years in the Ahafo-Ano South District in the Ashanti Region of Ghana? What is the level of knowledge on PEM among mothers/caregivers of children under two years in the Ahafo-Ano South District? What are the factors that cause PEM among children less than two years in the Ahafo-Ano South District? What are the feeding practices of Mothers /Caregivers of children under age two in the Ahafo-Ano South District? Does the Ahafo -Ano South District have a nutrition program?

1. 6 Significance of the Study

This study would help reveal current prevalence rate and factors that predispose children under two to PEM, and the effectiveness of the nutrition program. In addition, it would assist the authorities of the Public Health Unit of Ahafo-Ano South District to design appropriate intervention for an effective change in the prevalence of PEM in the district. This study would also seek to educate the people and mothers of Ahafo-Ano South District on what PEM is and the effect of PEM on their children, to help them prevent PEM from occurring. The study will also bring to the notice of the Ministry of Health on the prevalence of PEM at Ahafo-Ano South District. To the academia, this study would contribute to existing literature on PEM in Ghana as a whole and Ahafo-Ano South District in particular.

1. 8 Scope of the Study

Malnutrition (PEM) is characterized by many forms and predisposing factors and also cuts across all age. The study was however conducted at Ahafo-Ano South District to identify the prevalence of PEM in children under two. Thus, the study covered only prevalence rate of PEM, knowledge of mothers on PEM, factors that predisposes children under two to PEM, feeding practices of caregivers or mothers and nutritional programmes available at the district and could not cover children who have Kwashiorkor, Marasmus and Marasmic-Kwashiorkor.

1. 8 Organization of Chapters

The long essay was organized into five (5) chapters. Chapter 1: Chapter one focuses on the background to the study, problem statement, research questions, objectives, significance of the study and scope of the study.

<https://assignbuster.com/protein-energy-malnutrition-pem-health-essay/>

Chapter 2: Chapter two deals with systematic reviewing of existing literature with emphasis on the objectives of this study. Chapter 3: Chapter three deals with research methodology including study type, study area, population, sample size, sampling techniques, methods of data collection, the research instruments that would be employed and Ethical consideration. Chapter 4: Chapter four provides detailed analysis of data collected and presentation of information with the aid of Qualitative and quantitative models as well as the Summary of the results. Chapter 5: The fifth chapter covers the conclusions, and recommendations.

CHARPTER TWO

LITERATURE REVIEW

2. 1 Introduction

This Chapter covers a theoretical framework and empirical evidence on PEM among children under two. In order to provide suitable theories on Protein Energy Malnutrition in Children under two years and to avoid duplication, the researcher reviewed a number of existing literatures that helped explain some key terms, causes, effects and nutritional aids, which are relevant to the study. The researcher used both secondary and primary data source such as books, articles, abstract journals, organizations and also reports in reviewing the set objectives.

2. 2 Prevalence of PEM among children less than two years

Douglas et al. in 2007 cited that, globally, in 1997 the WHO estimated that about one third of all children are affected by PEM; over 20% of these children live in Africa. The disorder complicates all infectious diseases; and

wreaks havoc on compromised immune systems; it kills about 10 million children less than 5 years of age annually. However, in Ghana, childhood malnutrition represents the sixth leading cause of death among children under five, with over half of these deaths attributed to kwashiorkor. This is usually found in children less than two years due to their immunity based on the development. As cited by Al-Mekhlafi et al. (2008), although the World Health Organization has estimated that the overall prevalence of stunting has fallen from 47% in 1980 to 33% in 2000 in developing countries, protein-energy malnutrition (PEM) which impairs the growth and development of children is still a major public health problem in poor communities (WHO, 2000). Moreover, the African Region has the highest estimated prevalence of stunting (48. 1%) and has the lowest rate of improvement of 20% (Vlok, 1991). Hamidu et al. (2003) indicated in their studies conducted in Northern region of Nigeria that Marasmus was also found to be more common among children of the ages between 6 and 12 months while kwashiorkor and marasmic-kwashiorkor were highest between the ages of 13 to 18 months and 19 to 24 months, respectively. In a study conducted by Al-Mekhlafi et al. (2008), the overall prevalence's of mild and significant underweight conditions were 52. 3% and 37. 3%, respectively, and the prevalence of mild stunting and wasting were 43. 6% and 43. 1%, respectively, while the prevalence of significant stunting and wasting were 43. 6% and 5. 6%, respectively. There was a significant association between gender (male) and malnutrition ($p= 0. 029$). GDHS (2003) indicates that Ashanti region in 2003 recorded 29. 1% stunting, Estimates indicate that 135. 5 million children 0-5 year old in developing countries, or 24. 8% of this age group, were underweight in 2000. However, 162. 1 million preschool children were

<https://assignbuster.com/protein-energy-malnutrition-pem-health-essay/>

estimated to be suffering from stunting in 2000. This corresponds to a global prevalence of stunting of nearly 30%. Again, in 2000, 45.1 million children aged 0-5 years were estimated to be wasted, i. e., 8.2% of this age group (UN SCN (2004), p. 8-10) 20.8% underweight and 6.7% wasting. Reports from Ahafo-Ano South District Nutritional Office indicate that, the district recorded 821 PEM cases from 2007 to 2009. Malnutrition in Ghana is most prevalent under the form of Protein Energy Malnutrition (PEM), which results in growth retardation and underweight. About 54% of all deaths beyond early infancy are associated with PEM, making this the single greatest cause of child mortality in Ghana (Ghana Health Service, 2005).

2.3 Factors that Predispose Children Under Two Years to Protein Energy Malnutrition

Nutritional status is considered to be one of the major determinants of host resistance to infection (Keusch 1979; Gershwin et al., 1985). PEM results from various factors, including inadequate intake of nutrients, abnormal gastrointestinal assimilation of the diet, and stress response to acute injury or chronic inflammation (Crompton and Tulley, 1987). Malnutrition in Ghanaian children rises with the age of the child, which is confirmed by other studies. There is higher prevalence of malnutrition among boys as compared to girls, and the negative association of long breastfeeding have also been established as one factor to PEM. Long duration of breastfeeding may be associated with higher malnutrition because it reflects lack of resources to provide children with adequate nutrition (Van de Poel et al., 2007). However, studies in developing countries investigating the possible determinants of child growth showed the nutritional status of children has a significant

inverse relationship with the household income (Norhayati and Mohammad, 1997; Zamaliah et al., 1998; Li, 1999). Other factors, such as educational level of parents, distribution of food in the family (Rabiee and Geissler, 1990; Brugha and Kevany, 1994), immunization status and childhood illness (Berkman et al., 2002), and childhood nutrition (Maleta et al., 2003) have also been significantly associated with the nutritional status of children. Additionally, poverty is noted to be the root cause of malnutrition, and poor socioeconomic factors propagate the occurrence of health problems in developing communities. In contrast to the findings of other studies, this current study found that socioeconomic factors, such as parental education, employment status and household income, did not correlate with PEM. Again, several studies have found that children of poor families are more prone to suffering malnutrition (Norhayati and Mohammad, 1997; Zamaliah et al., 1998; Li et al., 1999; Odunayo and Oyewole, 2006). A child gets Kwashiorkor when he is fed on mainly starchy food (carbohydrates) over a long period of time. This food contains very little body building nutrient (Ghana Ministry of Health, 2000). Moreover, dietary studies have begun to show that children who develop " Kwashiorkor" had an inadequate intake of energy as well as protein (WaterLow, 1993). Also, the intake of energy and body building nutrients are far below what the body needs (Ghana Ministry of Health, 2000). However, Kwashiorkor and iron deficiency anaemia are common causes of morbidity and mortality in childhood in the tropics (WHO, 1968, 1971). Kwashiorkor results from early weaning followed by an overall inadequate protein intake. Iron deficiency anaemia is a consequence of inadequate dietary intake of iron, chronic blood loss, or both. Heavy hookworm infestation is the commonest cause of blood loss and iron

<https://assignbuster.com/protein-energy-malnutrition-pem-health-essay/>

deficiency anaemia in East Africa (Blackman, 1962; Vanier, 1966; Nhoqoli, 1969). Moreover, Kwashiorkor, which occurs mostly in children 1-3 yr of age, results from a deficiency of dietary protein and is usually associated with an infection (Suskind et al., 1990). Again, according to Ahmed et al. (2009), it is possible that variant iso-enzymes or variations in concentration of enzymes in the metabolic pathways lead to the development of kwashiorkor in children with poor diets. Moreover, break in traditional prolonged breastfeeding is also a major factor for failure to thrive and for poor infant nutritional status. The unrestricted and longer duration of breast feeding strictly adhered to in the past actually protected the infants from early onset of Kwashiorkor or Marasmus. This has, however, reduced drastically because of nursing mothers' need to augment family income by working outside the home (Omololu, 1975; Ojofeitimi, 1981; Jelliffe and Jelliffe, 1983). Arguably, poor weaning practices can lead to stunted growth, delayed motor and mental development, immune incompetence and frequent attacks of diarrhea, PEM, micronutrient deficiencies, and most importantly, interference with the realization of full human potential (Kibel & Wagstaff, 1995: 96; Hendricks & Badruddin, 1992; Martorell, 1993). The solution to all these problems is available programmes on complementary feeding, breastfeeding and vitamin supplementation. There are two main categories of malnutrition: Protein energy malnutrition (PEM) and micronutrients deficiencies (Kimati & Scrimshaw, 1995). Furthermore, the Welcome Trust Classifications defines severe PEM as a combination of Marasmus, Marasmic-kwashiorkor and Kwashiorkor; often associated with deficiencies of micronutrients particularly zinc, vitamin A, iron, magnesium and selenium (WHO/FCH/CAH, 2000). According to UNICEF (1998), although many people still refer to growth

<https://assignbuster.com/protein-energy-malnutrition-pem-health-essay/>

failure as 'protein-energy malnutrition,' or PEM, it is now recognized that poor growth in children results not only from a deficiency of protein and energy but also from an inadequate intake of vital minerals (such as iron, zinc and iodine) and vitamins (such as vitamin A), and often essential fatty acids as well. These minerals are needed in tiny quantities, on the order of a few thousandths of a gram or less each day. Moreover, some parents are ignorant about the type of food to give their children to ensure good health. They tend to give them any type of food to fill the child's stomach and reduce hunger. They are generally not aware of the suitable combination of food that the child's body needs to grow healthy (Ghana Ministry of Health, 2000).

2. 3. 1 Conceptual Framework

Conceptual Framework Showing Factors that Predisposes Children Under-Two to PEM

Prevalence of Protein Energy Malnutrition

Predisposing Factors of PEM
Poor Nutritional Factors
Infectious

Diseases
Underlying Factors
Ignorance
Poverty
Lack of education
Socio-Cultural factors
Food Security
Family size
Underlying Factors
Poor immunization status
Poor mothering care during breastfeeding
Poor hygiene

Source: Researcher's Construct, 2011

Protein Energy Malnutrition results from multifaceted factors that act in an interrelated manner. The factors include poor nutritional factors and infectious diseases. Poor nutritional factors come as a result of key underlying factors that include; ignorance, poverty, lack of education, socio-

<https://assignbuster.com/protein-energy-malnutrition-pem-health-essay/>

cultural factors, food security and also the size of the family. Infectious diseases also result from poor immunization status, poor mothering care during breastfeeding and poor hygienic conditions which cause diseases such as diarrhoea and vomiting which predispose children under two to PEM.

Protein energy malnutrition is however categorized into three, including kwashiorkor (which is noted to be the disease of early weaning and excessive intake of carbohydrate). Marasmus, which also results from inadequate intake of calories, and Marasmus-kwashiorkor, which is noted to be the intermediate of kwashiorkor and Marasmus, also results from excessive intake of carbohydrate with low intake of Protein. A child suffering from Protein Energy Malnutrition may recover, undergo disability or die. Those who undergo disability show characters such as oedema, belly stomach, thin legs and red hair.

2. 4 Level of knowledge among mothers/caregivers

Protein Energy Malnutrition (PEM) is a clinical syndrome that is characterized by multiple of progressively worsening nutrient deficiencies. Paramount to the recognition and classification of PEM is weight loss (Frongillo Jnr., 1999). Moreover, PEM is understood generally to include severe clinical malnutrition (Kwashiorkor, Marasmus, and mixed forms) and the common forms of growth failure, often called mild and moderate forms of malnutrition (Frongillo Jnr, 1999). Parental education was identified as a significant determinant of nutritional status in a study in the Laorians People's Democratic Republic where children whose mothers had completed primary education were less stunted and wasted than children whose mothers had never been to school

(Phimmasone et al., 1997). This study was conducted in different context which needs to be investigated in Ghanaian context to find out if findings would be consistent or otherwise with this. PEM usually manifests early, in children between 6 months and 2 years of age, and is associated with early weaning, delayed introduction of solid foods and frequent childhood infections (Berkman et al., 2002). However, Protein Energy Malnutrition (PEM) is particularly serious in post-weaning and often associated with infections (Donald, 1991). According to Douglas et al. (2007) in his study, Appiah interviewed 95 women, of whom 46 had well nourished children and the others had children with kwashiorkor, 67 believed that the condition was caused by a lack of the right kind of food. The reduction of PEM is contingent upon adequate supplies of high-quality food that may also be beyond the purchasing power of poor families. It is difficult for impoverished, malnourished women to achieve adequate nutrition, especially if they lack access to education that could increase their knowledge of health and nutrition (Reifsnider, 2006). Though, in Ghana where food items like "kontomire", and other nutritious food item are within the easy reach of the poor yet PEM is prevalent in all ages. Good food is important for good health. Children who are well fed during the first two years of life are more likely to stay healthy for the rest of their childhood. During the first six months of a child's life, breast milk alone is the ideal food. It contains all the nutrients needed for healthy growth as well as immune factors that protect against common childhood infections (Ashworth, 2002). In sum good food is important to the prevention of PEM.

2. 4 Feeding Practices of Mothers/Caregiver

Infant feeding practices have been identified as one of the important determinants of children's nutritional status and account to a large extent for the high rates of malnutrition among children in Ghana. The impacts of infant feeding practices on the health of children and the importance of encouraging breastfeeding have gained increasing recognition in recent years. Breastfeeding plays an important role in developing countries because of its relationship with child health and births pacing (Manama, 2003).

However, WHO estimates that worldwide, only 35% of children between birth and their fifth month are breastfed exclusively (Peters et al., 2005).

Moreover, the World Health Organization (WHO) and UNICEF recommend that all mothers should breastfeed their children exclusively for the first 6 months and thereafter they should continue to breastfeed for as long as the mother and child wish, and both appropriate and sufficient weaning food should be added after six months of life (Peter et al., 2005 & Foo et al., 2005). As in many other developing countries, the practice of mother giving water or tea to their children in addition to the breast milk was common (Bloss et al., 2007 ; Brunken et al., 2006). In addition, most of the mothers provided their children water because they thought that the milk was insufficient, seen primarily as food and that water is required to satisfy the needs of the child, which was probably due to misconception of mothers (Brunken et al., 2006; Shiva & Nasiri, 2003; Parada et al., 2007; Nwankwo & Brieger, 2002). Again evidence, particularly from the developing world, indicates that exclusive breastfeeding is rare and early supplementation with water, teas or juices or other fluids is the norm (Ghana Statistical Service 1999; Semega-Janneh et al., 2001). According to Patrice (1999), appropriate

<https://assignbuster.com/protein-energy-malnutrition-pem-health-essay/>

feeding for children includes characteristics of breastfeeding, such as initiation in first hour, exclusive breastfeeding for about six months, and sustained breastfeeding to the second year. These care practices received more attention than any others did. For example, 85% recognized the importance of encouraging exclusive breastfeeding, feeding the infant within the first hour after birth, and initiating complementary feeding at about six months. However, in Ghana breast-feeding is nearly universal. 97% of all children born in the past five years were breast fed for some time (Ghana Statistical Service, 1999). Even after age 6 months when food supplementation becomes necessary, breastfeeding may continue until after the child's second birthday. However for the age group 0-6 months, although breastfeeding initiation is widely practiced in Ghana, with an average duration of 20.4 months, only 17% of children under the age of six months are exclusively breastfed, with 38% fed on breast milk and water or water based liquids. Food supplementation starts very early. By age 2-3 months, 45% of children are breast feeding and having some form of food supplementation (Ghana Statistical Service, 1999). According to Manama (2003), food supplementation starts by age two months with porridge (koko) made from fermented millet or corn dough with little or no sugar. The consistency of the porridge is initially light and often diluted with water, but made thicker as the child grows older. By age four months, 40% of children in the sample were breastfeeding and having some form of supplementation. Semi-solid foods such as thicker porridge and soups are introduced from 4 months. By six months solid foods such as mashed yam, tuo-zafi (TZ) and soup are introduced. Other supplements are orange juice and weanimix. However, Manama (2003) in his findings revealed that " A key finding was <https://assignbuster.com/protein-energy-malnutrition-pem-health-essay/>

that mothers-in-law were often the primary decision-makers regarding infant feeding practices. Elderly women and older co-wives in the household were also influential in feeding decisions. In nearly all households where the mother-in law was present, she played a dominant role in deciding breastfeeding initiation and the timing of the introduction of food complements and supplementary foods". These feeding practices influence the occurrence of PEM due to infectious diseases.

2. 5 Nutritional Program

According to Mock & Mason (1999), growth monitoring and promotion is widely practiced in India and Viet Nam through the health service system, although the most impressive examples of large-scale growth monitoring, in India and Viet Nam, are implemented by ministries other than health. However, in Viet Nam, growth monitoring is a component of primary health care, as well as the National Protein Energy Malnutrition (PEM) Control Program, where it is used to target supplementary food and nutrition counseling. Again, Malekzadeh et al. (2003) stated that Growth monitoring is very important in nutritional assessment of children up to the age of maturity. Micronutrient programs will, in part, be integrated with community-based programmes, but others, especially fortification, will have a different structure and distinct monitoring needs (Mason, Hunt et al., 2001). These are quite well understood, and should be applied as an integrated part of programmes as developed. A particular case is the assessment of iodine content of iodized salt, which can be readily done at the community and household levels (Mock & Mason, 1999). Currently, breastfeeding recommendations include the promotion of exclusive breastfeeding for the

first six months of life, thereafter breastfeeding with complementary nutritive foods well into the second year of life (WHO 1989; 1993). In Ghana, the Ministry of Health is promoting these WHO/UNICEF recommendations. Exclusive breastfeeding is defined as the use of breast milk as the only source of food, to the total exclusion of other supplementary foods such as formulas, water, juices or teas (Labbok and Krasovec, 1990 & WHO, 1989). Child survival strategies therefore recommend exclusive breastfeeding for the first six months of life. An understanding and awareness of the heavy burden of malnutrition among school children is growing. However, even though a better picture of the nutritional status of this age group is being built, the extent of the burden of malnutrition is still not fully known (ACC/SCN., 2002). Malnutrition in this age group can be addressed by focusing on relevant policies and programmes (ACC/SCN., 2005). The main nutritional problems facing the school-aged children are stunting, underweight, wasting and anemia. However, children can exhibit catch up growth if their environment improves (ACC/SCN., 2002). Thus school-based interventions like school feeding programmes (SFP) aimed at alleviating hunger can also help improve nutritional status of school children if well planned (ACC/SCN., 2000). WHO, UNICEF, nongovernmental organizations, bilateral donor agencies and private industry are reinforcing their collaboration in order to accelerate progress in combating vitamin A deficiency, particularly through food fortification. Coverage of at-risk children has been increased substantially by linking supplementation to visits to sick children in the context of the integrated management of childhood illness, and to immunization services, for example in Africa where the number of countries providing supplements during national immunization days

<https://assignbuster.com/protein-energy-malnutrition-pem-health-essay/>

increased from four in 1996 to 35 in 1999. In 2000, some 90 million children worldwide received at least one dose of vitamin A which is given twice in a year. The same distribution trend is carried out in Ghana, where vitamin A capsules are given to children 6-59 months twice yearly (May and November). Thus vitamin A according to GDHS (2008) benefits children who are breastfed. According to their findings lack of vitamin A, predisposes children to low birth weight. Moreover, much is being done to tackle iron deficiency, which is the main cause of anaemia, although it remains a remarkably intractable global public health problem, with a range of adverse effects including increased mortality, preterm birth, low birth weight, delayed and impaired development, and decreased work productivity (WHO, 2002). Again, given the limited availability of zinc in the diets of most children in developing countries and the micronutrients' role in reducing the incidence and severity of diarrhoea and possibly the incidence of pneumonia

The Food and Agriculture Sector Development Policy (FASDEP) (2002) defines food security as good quality nutritious food, hygienically packaged and attractively presented, available in sufficient quantity all year round and located at the appropriate places at affordable prices. This definition makes it possible for the state of food security to be measured and assessed from time to time. A detailed analysis of food security strategies for Ghana has been carried out and documented (FASDEP, 2002 and GPRS II, 2005). These policy documents were developed in response to concerns over the level of food imports, poor post-harvest management, poor marketing and their resultant effects on the long term sustainability of national food security. The preparation of these policy documents involved a review of existing food and agricultural related policies, development strategies and

<https://assignbuster.com/protein-energy-malnutrition-pem-health-essay/>

programmes, projects and activities in food crops, livestock, fisheries and forest derived foods, marketing, processing, preservation and utilization (Lawrence et al., 2007). This according to the researcher would help prevent food insecurity which is categorized as a factor that contributes to Protein Energy Malnutrition. According to Mahgoub et al., (2006) in their study, a well-nourished child is one with access to adequate food supply, care and health. Such a child will have weight and height measurements that compare very well with the standard normal distribution of heights (H) and weights (W) of healthy children of the same age and sex. Thus, the best way to evaluate the nutritional status and overall health of a child is to compare the child's growth indices with the set cut-off points in the standard normal distribution of well nourished children that are associated with adequate growth.

-

Factors that contribute to malnutrition are many and varied. The primary determinants of malnutrition, as conceptualized by several authors relate to unsatisfactory food intake, severe and repeated infections, or a combination of the two Nutritional statuses as a predictor of child survival (UNICEF, 1998; Rowland, 1988; Schroeder & Brown, 1994).

CHAPTER THREE

RESEARCH METHODOLOGY

3. 1 Study Area

Ahafo - Ano South District is one of the twenty - seven (27) administrative districts in the Ashanti Region. It is about 30km from Kumasi and its capital is

Mankranso. The District occupies a total land area of 124km square. The district shares boundaries with other district Such as; Tano District in BrongAhafo Region (North), AtwimaMponua District (South), Ahafo - Ano North District (West) and Offinso District and part of AtwimaNwabiagya (East)The principal crops produced are cassava, plantain, cocoyam, maize, okro and tomatoes. Cocoa is the cash crop. There are also chain saw operators, because of the abundance of timber in the district. Water supply is a major problem of the people in the District. Most of the communities depend on boreholes, which often break down, and few fetch water from streams. Mankranso town is now enjoying pipe borne water. A greater proportion of the people are Ashantis, then Ewes, Frafras, Kontokoris, Grushis and Hausas are also in the District. About 80% are farmers engaged in cocoa, vegetables, plantain and maize farming. The rest are petty traders, chain saw operators and civil servants. There are few sawmills in the District. The educational level of the district depicts that those with Primary education is 80. 9%, 24. 8% secondary and Adult Literacy representing 41. 1%. The district has a total population of 184, 347 which is mainly distributed across the 6 sub-districts with majority of the population (37, 607) coming from Mankranso, 33, 920 from Pokukrom, 33, 182 from Mpasaso, 31, 708 from Wioso and the minority of 26, 730 from Sabronum and 21, 200 from Biemso sub-district. There are 14 health facilities at the district including only 1 hospital, 4 health centres, and 4 Community Health Planning Service (CHPS) Zones which are all Government (public) facilities. There are also 2 mission clinics (maternity homes) and 3 private clinics (Report from Ahafo-Ano South District Health Directorate, 2010). What inform the choice of

Ahafo-Ano South District was due to inadequate information on prevalence rate of PEM in the District Health Directorate.

3. 2 Study Design

The study adopted the descriptive cross sectional survey. The idea of using the cross sectional survey was geared towards the attempt to base the overall findings on the views or behaviour of those targeted, assuming that they would play a typical role in the study. It is also intended to cover a wide range of the populace.

3. 3 Study Type and Design

The study adopted a descriptive study type in order to be able to measure the prevalence rate of PEM in children under two.

3. 4 Study Population

The population for the study included nurses, mothers with children 0-23 months suffering or who have ever suffered or have not suffered from PEM from the six sub-districts (Sabronum, Pokukrom Mankranso, Biemso, Wioso and Mpasaso 1). PEM conditions like " Kwashiorkor" usually appear at the age of about 12 months when a child is weaned later than normal and receives starchy foods low in protein. " Kwashiorkor" occurrences increase after 18 months. The researcher also believed that at this age the child, when denied breast milk, does not have the appetite to take solid and calorie foods which leads him/her to PEM. Children were used because of the prevalence rate the researcher wanted to investigate; however, the researcher believed that mothers were the best people to get relevant information from with regard to the state of their children. In all the total

population for the study based on relevant data from the District Health Directorate were 14, 423 children from 0-23 months.

3. 5: Study Variables and Indicators

Table : Study Variables and Indicators

Variables

Indicators

Prevalence rate of PEM
Measurement of weight of children under two
Measurement of height children under two
Age of child(ren)
Knowledge
Definition of PEM by Mothers/caregivers
Period of prevalence of PEM in children under two
Mothers idea on signs and symptoms of PEM
Causes
Predisposing factors of PEM
Poverty
Cultural factors
Traditional prolonged breastfeeding
Childhood illness
Lack of immunization by children under two
Inadequate intake of food
Feeding Practices
Type and frequency of food mothers/caregivers give to child(ren)
Exclusive breastfeeding
Appropriate time for weaning
Child intake of water
Complementary feeding
Nutritional programmes
Activities carried out to monitor feeding practices and child growth
Growth monitoring
Health talk to mothers

3. 6 Sample Size and Sampling Technique

384, eligible respondents were estimated and sampled. This was based on the prevalence rate of 50% Protein Energy Malnutrition in the district. Using the formula adapted from (www. ifad. org) Retrieved. 11/6/2010) $asn = t^2 \times p(1-p) / m^2$ Where n = required sample size
t = confidence level at 95% (standard value of 1. 96)
p = estimated prevalence of Protein Energy

<https://assignbuster.com/protein-energy-malnutrition-pem-health-essay/>

Malnutrition in the Ahafo-Ano South District (50% = 0.5) m = margin of error at 5% (standard value of 0.05) Hence, $n = (1.96)^2 \times 0.5(1-0.5) / (0.05)^2$ $n = 3.8416 \times 0.5(0.5) / 0.0025$; $n = 384.16 \approx 384$ Based on the above calculations, it stands to reason that the sample size should be larger than this to make room for non-response error, but the study used 360 mothers whose children (under-24 months) have ever suffered from PEM before; or are suffering from PEM; or are not suffering from PEM; in order to get a true reflection of children 0-23 months of age. Also, 360 children were selected for their data on weight, height and age to help determine those children who are underweight, wasted and stunted. The child health records were reviewed to support the data gathered in the various outreach points. 24 nurses were also included in the study to help ascertain the necessary information required for the study. After the data collection the researcher got all 384 questions with accurate response from respondents' without any error. To ensure standardization and prevention of bias, the Simple Random Sampling method was applied in the selection of the 360 mothers. Using a list of all mothers whose children were below two years, each mother was given a number (1 to 158) at each outreach point in the selected communities from each Sub-District, and numbers written on small pieces of paper. All the 158 papers were put in a box, after which the box was shaken vigorously, to ensure randomization. Then, 60 papers were taken out of the box, and numbers recorded. Mothers belonging to these numbers constituted the sample. The purposive sampling technique was used in selecting the 12 communities in the six sub-districts in Ahafo-Ano South District with 2 communities in each sub-district and also 24 nurses from the district to help affirm the importance of nutritional programme in the district. Purposive

<https://assignbuster.com/protein-energy-malnutrition-pem-health-essay/>

sampling technique was used to select the 12 community, since; the communities were noted to be areas where PEM is predominant in the district. In addition, purposive sampling technique was used to select the communities for the purpose of determine the prevalent rate of PEM in the district.

3. 7 Data Collection Tool(s)/Technique(s)

A well structured questionnaire comprising of open and close-ended questions was designed for the study. In addition, questionnaires were sub-grouped under five headings (demographic data, causes of PEM, knowledge on PEM, nutritional programmes and indicators to determine PEM). The questionnaire was however designed by the researcher and not from elsewhere. Questions were administered to mothers in the local language for easy understanding. However, data on weight, height and age were taken from the 360 children. Children were examined to find signs of PEM (Kwashiorkor, Marasmus and Marasmic-Kwashiorkor). The research questionnaires were administered to respondents by the help of 8 trained health workers (interviewers) who were assigned by the District Director of Health Services to help to administer the questionnaires and also to take the weight, height and age of each child for anthropometric study. The questionnaires were administered to respondents on days scheduled for Child Welfare Clinic (CWC).

3. 8 Data Analysis

The Statistical Package for Social Sciences (SPSS version 11. 5, March 2002), Microsoft Excel (2010) was used; the WHO Anthropometric Study Software (2005) for the nutritional survey analysis was implemented. The Microsoft <https://assignbuster.com/protein-energy-malnutrition-pem-health-essay/>

Excel (2010) was used to plot the charts. Data was presented in tables, charts and graphs for interpretation and analysis, based on frequency distributions, percentages, and descriptive analysis on the variables under study.

3. 9 Limitations of the Research

The study was conducted for only six months due to the academic calendar so the results may not be a true reflection of PEM cases recorded over a whole year. The research was not able measure the effects of PEM on all children less than two years because of time, funds and expertise needed for such work. The study covered only 2 communities in the six sub-districts in Ahafo-Ano South District namely; Mpasaso, Sabronum, Pokukrom, Mankranso, Wioso and Biemso to ascertain the prevalence rate of PEM. The study was limited to children within the age group of 0 - 23 months and could not cover all children in the district.

3. 10 Ethical Issues

Ethical clearance was first sought from the Faculty of Public Health and Allied Sciences, Ethics Control Board of Catholic University College of Ghana, which offered an ethical backing for the study. Informed permission was also sought from the District Director of Health Services, the District Public Health Unit, Chief and Elders of the various communities and the head of institutions of the various health facilities in the communities used for the study. Permission was also sought from the family heads before attending to appropriate respondents for the research. The researcher created awareness to the respondents, ensuring them that no information generated from them was going to be used against them, but treated with all confidentiality to <https://assignbuster.com/protein-energy-malnutrition-pem-health-essay/>

help them prevent PEM at the communities and Ahafo-Ano South District as a whole.