



WWJMRD 2017; 3(12): 187-191  
www.wwjmr.com  
International Journal  
Peer Reviewed Journal  
Refereed Journal  
Indexed Journal  
UGC Approved Journal  
Impact Factor MJIF: 4.25  
e-ISSN: 2454-6615

**Cecilia Amponsem-Boateng**  
Department of Public Health,  
Adventist University of Africa,  
Kenya

## Prevalence of Malnutrition among Children 1-8 Years in Ghana: Amansie West District of Ghana

**Cecilia Amponsem-Boateng**

### Abstract

**Background:** Malnutrition is a primary origin of childhood demises in low- and middle-income countries and has lasting significances for mental, physical and metabolic development. It is said to play a vital role in up to a third of the 8.8 million yearly deaths happening in children below the age of 5 years, and undernourished children have a fourfold augmented risk of death.

**Method:** A community based cross-sectional study was conducted in 194 school age children and their parents or caregivers living in Manso Adubia Community. Participants were nominated using a multi-stage simple random sampling technique. Age and weight of children were measured and parents or care givers were also interviewed for factors associated with malnutrition. Questionnaires were read out and explained in the local language as participants were guided to answer them with the assistance of teachers present.

**Results:** The prevalence of Malnutrition among the selected group in the district was by sexes were 45.6% stunting for male and 39.8% for female with a mean stunting of 40.5%. That of underweight was 30.5% for males as against 35.8 for females with a mean of 32.6%, while wasting accounted for 11.2% for males and 17.5% for females with a mean of 14.3%. Only 39.7% of household in Adubia had received training on childcare nutrition with the remaining 60.3% never received any education on the subject of nutrition, revealing a minimal knowledge on the subject. The outcome of foods consumed in various households impacts on the nutritional statuses of children.

**Conclusion:** Though the study found a high prevalence of malnutrition among the selected participants, this can be attributed to some extent to a lack of nutrition education on the side of mothers and care takers, and poverty. The fourth Millennium Development Goal of Ghana is to reduce child mortality rate, but it looked at other clinical causes of death in children as that of malnutrition was scarcely mentioned. This and other studies are indicators of the importance of factoring child nutrition in the goals of both the government and development partners to help in the achievement of this forth goal.

**Recommendation:** Based on the findings of this study, it is important to use different methods to improve the nutritional status of school children.

**Keywords:** Prevalence, Malnutrition, Children, Amansie West District, Ghana

### Introduction

Malnutrition is a causal factor in numerous diseases in both children and adults, and it contributes significantly to the disability-adjusted life years globally. Predominantly, it is prevalent in developing nations, where it affects one in every three preschool-age child (Mahgoub E.O et al, 2006). The load of acute malnutrition is mostly extreme in areas suffering multifaceted emergencies such as drought or conflict ((DK Kinyoki et al, 2015), and it averts children from attaining their full physical and mental capacities (Kandala et al, 2011).

Malnutrition cases have been alarming. In Sub-Saharan Africa, the prevalence of malnutrition among the group of under-fives is estimated at 41% (Ellen Van de Poel et al, 2007) In Ghana for example, malnutrition has been most prevalent under the form of Protein

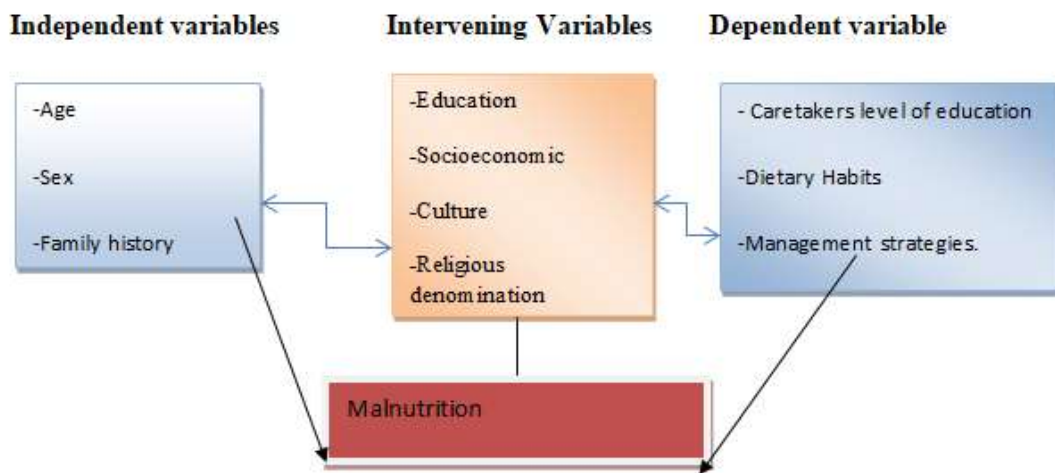
**Correspondence:**  
**Cecilia Amponsem-Boateng**  
Department of Public Health,  
Adventist University of Africa,  
Kenya

Energy Malnutrition (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. The prevalence of overweight has increased steadily in Ghana over the past 20 years from less than 1% in 1988 to 5% in 2008 as it has been for global and Africa trends over the past decade in Ghana for example in the Volta region of Ghana, Nkwanta south district reported 17.2% stunting, 9.3% wasted and 12.9% underweight of all under-fives admissions ((Nkwanta South District Hospital Report, 2012). The Princess Marie Louise Hospital in Accra also documented (60-80% W/A) of under or moderate malnutrition, and severe malnutrition of (< 80% W/A and presence of edema, or < 60% of W/A) recruits at the clinical ward and the public health service section of the hospital out of 170 children aged 8-36months.

According to the GHS Annual Report 2007, it peaks in the 12-23 months age group. In 2007, almost eight percent (7.8%) of children aged 0-11 months were found to be malnourished. This shows a steady increase from 4.1% in 2005 to 4.9% in 2006 to the current figure. For children aged 12- 23 months, 10.1% were malnourished in 2007 as

compared to 8.2% in 2006. The highest rate of 28.2% was recorded by Upper West region, while Brong-Ahafo recorded the lowest rate of 3.3%. The malnourished rate among children 24-59 months age group was 7.3% in 2007 as compared to 6.2% in 2006. Studies such Appiah Kubi Prince and Amos Laar (2014), The Volta Region Summary Report(2003), Lily-Versta Nyarko (2008), Juliette Tuaklie et al,(2014) Rikimaru T et al, 2002 and the Ghana Health Service Annual Report(2007), have all been done with respect to malnutrition among children Ghana. However, according to the Amansie West District annual reports (2015), the district noted that even though school health programme were in place, there was not adequate data on the nutritional standing of these school-age children. Yet, kids at this stage in time need good nutrition for accurate psychosocial growth and malnutrition disturbs their ability to attend school frequently, stay at school, focus during teaching and learning, and to perform well. Driven by the crucial need to bridge the data gap, this study of the prevalence of malnutrition among children of this age group in the Manso Adubia Area is warranted.

**Conceptual Framework**



**Fig. 1**  
Source: Authors construct.

**Methods**

**Study Area**

Amansie West district is located in the south-western part of the Ashanti Region. It shares common boundary on its western part with the Atwima District. On its northern part can be found the Bosomtwe District while a regional boundary separates it from Western Region on its southern part. Manso Nkwanta is the capital. A typical community within this district is Manso Adubia. The population of the district according to the 2010 Population and Housing Census stands at 134,331 with 67,485 males and 69,790 females. The District covers an area of 1364sq km

**Design**

A community based cross-sectional study was conducted in 194 school age children and their parents or caregivers living in Manso Adubia Community at a PTA meeting. Participants were nominated using a multi-stage simple random sampling technique. Age and weight of children were measured and parents or care givers were also interviewed for factors associated with malnutrition. The purpose of the study was described to each participant and

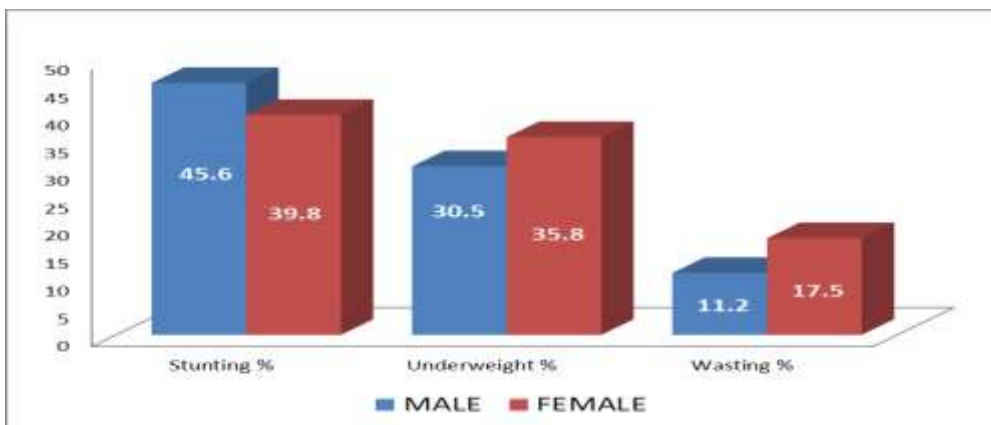
their consent sought before they were enrolled into the study. Respondents were also assured of strict confidentiality and data collected have been handled as such.

**Results**

In establishing the levels of the conditions amongst school going ages in the community, table 1 depicts it’s prevalence amongst the sexes, and table two shows their nutritional classifications and three shows the average dietary intake for women and children.

**Table 1:** shows the Prevalence of Malnutrition among Children According to Gender.

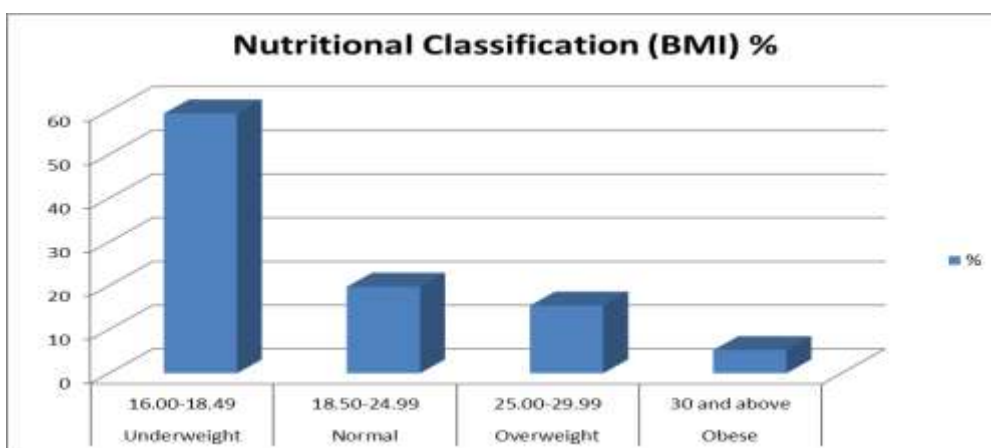
Variables	Male	Female
Stunting %	45.6	39.8
Mean %	40.5	
Underweight%	30.5	35.8
Mean%	32.6	
Wasting%	11.2	17.5
Mean%	14.3	



Source: Authors field work

Table 2 depicts their Nutritional Classification (BMI)

Nutritional Status	Range (BMI)	%
Underweight	16.00-18.49	59.4
Normal	18.50-24.99	19.8
Overweight	25.00-29.99	15.5
Obese	30 and above	5.3



Source: Authors field survey.

Table 3: Average dietary intake for women and children

FOOD GROUPS	% of daily intake	2(times daily)%	3(times daily)%
Cereals	42.8	20.8	22
Roots and Tubers	84	68	16
Beans& legumes	25.3	15	10.3
Fruits	14.5	8.5	10
Vegetables	15.8	9.6	6.2
Meat &products	15	8	7
Poultry	8	4	4
Fish	7	2	5
Milk &products	4	-	-
Cocoa & products	19.5	10.5	9

The outcome of the food consumption on table 3 has resulted in the nutritional deficiencies depicted in tables 4

below with children between the ages of 2 and 5 being affected the most

Table 4: weight for age indices for anthropometric measurement

Weight(Lbs)	Age	Male%	Female%	Normal Range (lbs) boys	Normal Range(lbs) girls
11.5-15.5	1-2years	32.5	20.6	26.3-27.5	25.5-26.5
18.5-22.5	3-4 years	38.9	41.7	31.0-40.5	31.5-34.0
20.0-25.9	5-6 years	15.9	30.8	40.5-45.5	44.0-49.5
		2.4	4.5	50.5-56.5	49.5-57.0

## Discussion

In establishing the level of the condition amongst school going children, Joanne Leslie and Dean T. Jamison (2015), said that around 2% of kids who reach school age in developed countries will die before ending it, and in sub-Saharan Africa the figure increases to over 4%. They opined that schoolchildren in the developing world have been comparatively ignored in epidemiological studies; so hard signal on their patterns of indisposition, and on how those patterns differ by income level and across regions, is only unreliably available. Thus the problem of their disorders and how it varies from that of other age groups continue to be recognized. Many situations known to be vital in the school-age years, however, such as helminthic infection and malnutrition, cause high levels of morbidity relative to their limited significances for mortality. Agreeably, this study seems to coincide in a way to their study about the rise in level of malnutrition in this part of our world.

Dr. Sunil Pal Singh C. (2014) also found in his study of an urban community in India that the prevalence of underweight was 28.9%, overweight was 9.2% and obesity was 4.4%. Prevalence of stunted height was found among 21.8% in school going children of a community while this study reveals a mean values of 40.5% stunting, 32.6% underweight, and 14.3% wasting to depicts the levels of the conditions in rural community. Though the study of Dr. Sunil (2014), was done in an urban community the condition of stunting children were more as compared to that of the present study of the Adubia community.

Interestingly, the studies of (Joanne Leslie and Dean T. Jamison 2015, Dr. Sunil Pal Singh C, 2014, Appiah Kubi Prince & Amos Laar 2014, Mwaniki, E. W, and AN Makokha, A. N, 2013), as well as this study confirms the association of malnutrition conditions between stunting and sex. The associations also indicate that females were less likely to be associated with stunting than males.

The risks associated to the condition of malnutrition in school going ages are enormous. Studies has constantly establish protein-energy malnutrition and iron-deficiency anemia to have major undesirable effects on tests of cognitive function in both pre-school and school-age children, and on attending and attainment among the latter (Joanne Leslie and Dean T. Jamison 2015). In analyzing from this point of it is obvious that as depicted on table 4 above.

Comparing to their studies (Mwaniki & Makokha, 2013) found 24.5% stunted, 14.9% underweight and 9.7% were wasted they also opined that more boys were stunted than girl and few children ate foods from more than four food groups, this study also reveals 40.5% stunting, 32.65% underweight and 14.3% wasting which draws to the fact that there are risks associated to the conditions of malnutrition amongst school children though (Mwaniki & Makokha, 2013) further added that Incidence of diarrhea, colds/coughs increased the risk of stunting and underweight which this study did not measure.

Remarkably, in determining the level of knowledge on malnutrition and its among caretakers, Mahama Saaka (2014), found 68.2% of his subjects in the Northern region of Ghana as having low knowledge with respect to suitable childcare practices while 31.8% were having high knowledge levels in childcare practices, with the mean score of mothers' nutritional knowledge on childcare

practices been  $2.0 \pm 1$ . This is not much different from the 39.7% that had knowledge on the subject of childcare nutrition, and the 60.3% who had never received any education on the subject of nutrition that was revealed by this study. This shows a clear linkage of knowledge of malnutrition of caretakers and its impact on children of school going age.

## Limitation

As far as this research work is concerned, time and financial resource were the main limitations of this study. The study because of time limited itself to one basic school in the Manso Adubia community at the Amansie west district.

## Conclusions and Recommendations

In conclusion, prevalence of malnutrition among children 1 to 8 years is high in the Manso Adubia community, and this may be partly because majority of caretakers/mothers do lack training on childcare nutrition and education on the subject matter with others attributing it to lack of money. As it is the fourth of the Millennium Development Goal of Ghana to reduce child mortality rate, it looked only at the other clinical causes of death in children and that of malnutrition was scarcely mentioned. But this and other studies are indicators of the importance of factoring child nutrition in the goals of both the government and development partners to help in the achievement of this forth goal. The next questions therefore will concern likely intercessions to address these health and nutrition problems, how operative they are likely to be, and how much they might cost. While statistics to answer such questions is much less sufficient than education and health planners would wish, accrued experience from both advanced and developing countries recommends the variety of options available and a touch about their effectiveness and costs.

Based on the findings of this study, it is recommended that public awareness and education on childhood malnutrition should be intensified in the district and community levels especially, nutrition at preconception, conception, after delivery and infant and school age children. Parents and guardians (caretakers) should also be educated at prenatal, antenatal and postnatal clinics on the six food groups and their importance on the growth of a child. Teachers can also adopt the effective nutrition education for parents during Parent Teachers Association and School Management Committee meetings in order to educate parents on their role on child nutrition. The Ghana Statistical Services should partner with concerned authorities to take demographic and health survey as a priority for public health action. However, efforts should be made to include nutrition of the school-age children to the dignified indicators and to create national based nutrition data on children.

## References

1. Grover Z, Ee LC. Protein energy malnutrition. *Pediatr Clin North Am.* 2009 Oct; 56(5):1055-68. [Medline]
2. Appiah Kubi & Laar Amos (2014): Nutritional status of school-age children in the Nkwanta South District - Volta region of Ghana. *European Scientific Journal* October 2014 edition vol.10, No.30 ISSN: 1857 – 7881 (Print) e - ISSN 1857- 7431.

3. Christian Nordqvist (2016), Malnutrition: Causes and Diagnosis retrieved on the 7<sup>th</sup> of February, 2016 from: <http://www.medicalnewstoday.com/articles/179316.php?page=2>
4. Damaris K Kinyoki<sup>1</sup>, James A Berkley, Grainne M Moloney, Ngianga-Bakwin Kandala, and Abdisalan M Noor (2015) Predictors of the risk of malnutrition among children under the age of 5 years in Somalia: *Public Health Nutrition*: 18(17), 3125–3133
5. Dawit Degarege, Abraham Degarege & Abebe Animut (2015), Undernutrition and associated risk factors among school age children in Addis Ababa, Ethiopia: DOI 10.1186/s12889-015-1714-5.
6. Dr.Sunil Pal Singh. C (2014), Malnutrition among Primary School Children in Hyderabad, Andhra Pradesh, India: *International Journal of Technical Research and Applications* e-ISSN: 2320-8163, www.ijtra.com Volume 2, Issue 1, PP. 36-39.
7. Ghana Millinium Report (2015).
8. Gomez F, Galvan RR, Cravioto J, Frenk S. Malnutrition in infancy and childhood, with special reference  
9. To kwashiorkor. *Adv Pediatr.* 1955; 7:131–169. [Medline]
10. Harohalli R Shashidhar, (2014), Malnutrition, retrieved on the 7<sup>th</sup> of February, from <http://emedicine.medscape.com/article/985140-overview>.
11. Joanne Leslie and Dean T. Jamison (2015), Health and nutrition considerations in education planning. 1. Educational consequences of health problems among school-age children: Retrieved from:<http://archive.unu.edu/unupress/food/8F123e/8F123E03.htm>
12. Lutuf Abdul-Rahman & Rosanna Agble (2012), Government of Ghana: Review of School Health and
13. Nutrition Interventions and Mapping of existing Programmes in Ghana.
14. Mwaniki, E. W, and AN Makokha, A. N, (2013), Nutrition status and associated factors among children in public primary schools in Dagoretti, Nairobi, Kenya. *Afr Health Sci.* 2013 Mar; 13(1): 39–46. doi: 10.4314/has.v13i1.6 Mar:PMC3645091.
15. Ngianga-Bakwin Kandala, Tumwaka P Madungu, Jacques BO Emina, Kikhela PD Nzita and Francesco P
16. Cappuccio (2011). Malnutrition among children under the age of five in the Democratic Republic of Congo (DRC): does geographic location matter?
17. Pedro Alonso, Quique Bassat, Clara Mene'ndez and Victoria Fumado'(2013) Severe malnutrition among
18. Children under the age of 5 years admitted to a rural district hospital in southern Mozambique.
19. Saaka Mahama (2014), Relationship between Mothers' Nutritional Knowledge in Childcare Practices and
20. The Growth of Children Living in Impoverished Rural Communities. *J Health Popul Nutr.* 2014 Jun; 32(2): 237–248: retrieved from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4216960/>.
21. Salah E.O. Mahgoub, Maria Nnyepi, and Theodore Bandeke (2006) Factors Affecting Prevalence Of Malnutrition Among Children Under Three Years Of Age In Botswana. *African Journal of Food Agriculture Nutrition and Development*, Vol. 6, No. 1, 2006.
22. Tacilta Nhampossa, Betuel Sigau'que, So'nia Machevo, Eusebio Macete, Van de Poel E, et al retrieved on 31<sup>st</sup> Jan, 2016 from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2245943/>
23. Waterlow JC, Buzina R, Keller W, Lane JM, Nichaman MZ, Tanner JM. The presentation and use of height and weight data for comparing the nutritional status of groups of children under the age of 10 years. *Bull World Health Organ.* 1977; 55(4):489–498. [Medline]
24. Waterlow JC. Classification and definition of protein-calorie malnutrition. *Br Med J.* 1972 Sep 2; 3(5826):566-9. [Medline]
25. WHO proper weight for height and age: retrieved on the 8<sup>th</sup> of February from: <http://www.buzzle.com/articles/proper-weight-for-height-and-age.html>