



## **NUTRITIONAL PROBLEMS AMONG CHILDREN OF SCHOOLS AGE AND WAY FORWARD.**

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### **Abstract**

The nutritional status of school-aged children impacts their health, cognition, and subsequently their educational achievement. The school is an opportune setting to provide health and nutrition services to disadvantaged children. Yet, school-aged children are not commonly included in health and nutrition surveys. Rising obesity rates among other nutritional problems, elevated food insecurity, and the growing recognition that nutrition is critical to the healthy development of young children are all raising awareness of the need to improve school children food and to educate children and families on the importance of healthy eating. Every child must be ensured the best start in life – their future, and indeed the future of their communities, nations as well as the whole world depends on it. Nutrition has been called the single greatest environmental influence on babies while in the womb, during infancy and it remains essential for them in the early years of life through the school age period. This paper discusses what constitute good nutrition and nutritional needs of school age children, nutritional problems of this age, factors contributing to school age nutritional problems and the way out of the problems among school age children.

**Keywords:** *Nutrition, Malnutrition, Over-nutrition, obesity, Food security.*

### **Introduction**

Children are faced with a number of food related concerns, such as poor vision, anemia, goiter and cretinism, rickets, obesity among host of others. Rising obesity rates, elevated food insecurity, and the growing recognition that nutrition is critical to the healthy development of young children are all raising

awareness of the need to improve school children food and to educate children and families on the importance of healthy eating. “Every child must be ensured the best start in life – their future, and indeed the future of their communities, nations and the whole world depends on it” United Nations Children’s Education Fund (UNICEF, 2008). Every time the child opens his/her mouth to eat, he/she is making an important decision towards him/herself, community and the nation’s future. This shows the importance of food in the relationship to health. Furthermore, nutrition is the relationship of foods to the health of the human body. Proper nutrition implies receiving adequate food and supplements to convey the nutrients required for optimal health. Without proper nutrition couple with exercise, optimal health and well- being cannot be attained Krischmann (1979).

Proper nutrition refers to the presence of all the essential nutrients that the body requires and is found in Carbohydrate, Fats and Oil, Protein, Vitamins, Mineral salts and Water to help maintain optimal health and well-being. Nutritional deficiencies results whenever the body is provided with inadequate amount of essential nutrients to the tissues and are expected to function normally over a long period of time. Good nutrition is essential during the early ages especially at the period of the pre- primary and primary school age of a child for normal organs development, and functioning; growth and maintenance; for optimum activity level and for working efficiency; for resistance to infections and diseases; for ability to repair bodily damage or injuries; and for educational goal achievements to be attained. It is in line with the above (Hashim, 2002) said that, “for children to achieve goals above, parents are challenged to make sure that the nutritional needs for their children are being provided”. In 2010 more than one-third of U.S. children and adolescents were Overweight or Obese, while nearly 20%of Minnesota’s 9<sup>th</sup> and 12<sup>th</sup> grade students were Obese. In addition to Obesity, children also encounter food insecurity, or limited access to food due to an absence of money, or resources. More so, 10% of U.S. with children faced food insecurity in 2012, while in Minnesota 10% of household are classified as food insecure, and it is estimated that 1 in 6 Minnesota children are at risk of hunger (Wilder Research 2014).

It was in line with the above the All Pakistan Women’s Association (APWA, 2002) at that PPSEAWA workshop called for special attention in distribution of food, adequate diet programme is essential. They also called for the need of

tackling specific nutritional deficiencies, considering relationship between nutrition and infections, capitalizing on vitamin 'A' benefits against blindness, strengthen resistance to infections, Anaemia, Iron deficiency and the role of calcium and vitamin 'D'.

The world declaration on nutrition and plan of action adopted by the International Conference on Nutrition (ICN) in Rome December 1992, and the Pan Pacific and South- East Asia Women's Association (PPSEAWA) conference (2002) called for a concerted multi-sect oral efforts and commitments for all nations, non- governmental organization and International community to eliminate hunger and reduce all forms of nutritional problems.

The age 6 – 12 child in the Nigeria context is ready for learning. Though, their readiness depends on the environment to which they found themselves and the educational opportunities given them by the society as well as their parents. Abanobi and Ewuzie (2000) explained that this period of children life coincidentally is very important for the physiological and intellectual development which are enhanced by good nutrition, education and other developmental programmes identified necessary for the child. Hashim (2002) further explained that good nutrition and dietary habits during this period in the life of the children are important for growth and development. Good nutrition is not just to prevent nutrients deficiency but also to promote a healthy and active life.

### **What Constitutes good nutrition and nutritional needs of the school age child.**

Good nutrition is a healthy meal or balanced diet which is safer to consume that provides nutrients necessary to improve the nutritional status of children. Balance diet/meals refer to eating a variety of foods in the correct proportions needed to provide all the needed nutrients for growth and development for this age group. Basically, a good diet should contain carbohydrates, protein, fat and oils, vitamins, mineral salts and water/fibers at the appropriate proportion. Water ensures a balance between intake and water loss during play and leaning processes. Fibres help the gut or digestive system function well. The major source of dietary fibres is whole grain cereals, fruit and vegetable.

The pre- primary school age child needs large amount of same food as the primary school child, though, the growth rate of this age is slow but steady, their

intellectual and social growth are rapid. Primary school children have a long and mental demanding day followed by some very active periods. This calls for the school age child to learn about food, growth and health. A primary school child needs a diet that provides sustained energy, something to keep them going through the long day to prevent fatigue and maintain concentration during the school hours as well as keeping them healthy and active. The school age child needs all types of food ranging from carbohydrate of about 330g, protein of about 36g, fats and oil of about 80g, total mineral salts of about 6,220mg, and about 1,112.9 (Mcg/mg) of vitamins Kirschmann (1979). It therefore, means that the content of breakfast, lunch and snacks are very important in getting the school age child through the day.

Children who skip breakfast are less well fed since it is difficult to make up missed nutrients at other meals and this can affect their concentration at school. Children needing energy top up at lunch time or after school, parents should select a carbohydrate source which could be rice or bread or pasta protein food of chicken, fish or egg plus a vegetable and make up a complete and balanced meal for them. Fruits and milk can be offered as dessert and to help build strong bones and teeth. Children of school age should be encouraged to drink about 2-3 glasses of milk plus another 2-3 glasses of other fruits per day with plenty water.

These days, the evening meals is the only time a family eats together and so good eating habits must be encouraged. Parents' attitudes to food must be positive and eat healthy food to encourage the school child. In essence, a good nutrition for this age group is based on variety, moderation, balance and regularity. Healthy life is more than just eating; children should be encouraged to get involved in physical activities regularly to have good weight maintenance. Adequate sleep and rest are very important to sustain a healthy life of the school age child.

### **Nutritional problems of the school age child**

The most common special nutritional problem for this age is malnutrition, which comprises both under and over- nutrition. Childhood malnutrition currently accounts for 130 million deaths annually is gradually decreasing due to public health interventions, but it is still projected to cause 10 million deaths in 2020 Murphy (2004).

**1. Under – nutrition:** In sufficient food intake will lead to inadequate nutrients which results in growth retardation or stunted growth and other diseases associated with micro- nutrients deficiencies. World Bank Development Report (WBDR, 1993) indicates that low height for a given age or stunting is the most prevalent symptom of protein – energy malnutrition (PEM) and that approximately 40 percent of all children in developing countries are short for their age. Murphy (2004) added that under – nutrition is an underlying cause of diseases causing an estimated 60 percent of child deaths. Echoka (2008) in a research conducted in a low – income urban community among children age 6 – 12 years discovered that 4.5% were wasted, 14.9% under weight and 30.2% were stunted. The children who were over 9 years of age were more under weight (72.4%) and stunted (77.2%) than those below 8 years. His finding shows that the girls were more wasted (29.1%) than the boys (18.2%), whereas the boys were stunted (65.7%) than the girls (50.7%). This finding of Echoka (2008) study shows evidently that there is under nutrition among school age children, with stunting being the most prevalent. Under – nutrition stem out mostly due to deficiencies in most common micro – nutrients such as:

**i. Iron deficiencies-** which causes anemia that reduces physical productivity and the child’s capacity to learn in school. This happen when his appetite is reduced and diminishing the child’s intake of food and growth.

**ii. Iodine deficiency-** cause goiter and cretinism, there is also mental retardation, delay in motor development as well as causing neuromuscular, speech and hearing disorders. WBDR (1993) reports shows that, it is the leading preventable cause of intellectual impairment in the world. The report also explains that cretinism from iodine deficiency affects about 5.7 million people and about 20 million mentally retarded cases.

**iii. Vitamins deficiencies-** cause varying degrees of micro – nutrient problems. For example vitamin A deficiency causes varying degrees of vision loss and is the primary cause of acquired blindness in children. World Health Organisation (WHO) according WBDR (1993) gives 13.8 million children having some degree of eye damage caused by vitamin A deficiencies; of these number 250,000 – 500,000 go blind every year, and two third of the blinded children died. Both vitamin A deficiency and iodine are particularly common in Asia and sub – Saharan Africa. These three malnutrition disease caused a direct loss

of almost 46 million Disability-adjusted life years (DALYS) in 990 or 3.4 percent of the global burden of diseases.

**iv. Calcium and vitamin D deficiency-** causes (rickets) bones deformities and slows skeletal growth in children, and may contribute to Osteoporosis in elderly. Other problems caused by some micro – nutrients deficiencies among children are scurvy and Marasmus which all affects the school age child.

### **Causes of under- nutrition among children of this age**

The above and many others are common in under – developed and developing countries of the world. Under – nutrition is mostly associated with poverty and improper food distribution system. Gerrett and Ruel (2005) opined that under – nutrition is generally thought of a reflecting deprivation at the household level; lack of income; lack of food; poor sanitation; and low levels of education, among others are factors affecting the school age child directly or indirectly through their impacts on care, feeding practices, and diet.

Factors causing mal – nutrition among school age children Craig (2002) observed that over the last ten to twenty years families in Australia have undergone tremendous upheavals where children cannot be assumed to live in a stable family unit with their mum, dad, brothers, and sister nor do they have a strong affiliation with their extended family. More so, there are one parent’ families or ‘two income families where both parents work long hours thereby not having enough time to be with their school age children. Today parents leave their children at ‘long day care centres’ and at before or after school care facilities where they struggle to survive in an ever increasing, stressful and high expectation environment since parents have little or no time for them. In fact, it is a reflection situation of what is happening in our nation Nigeria and it is really affecting the children’s nutritional needs resulting to nutritional problems.

**2. Over – nutrition:** Is another type of malnutrition problem common to developed nations of the world and is fast catching up in developing countries resulting to obesity. Obesity is not a disease but a condition which contributes to a higher risk of other health and medical problems such as cardio-vascular disease. Garrett and Rued (2005) reported that national food and nutrition policies affecting food prices may encourage such changes. He cited the Middle East, where governments subsidize staple items such as oil, sugar and wheat. This price lowering of food items leads to their over – consumption at the cost

of a more balanced diet, couple with a decline in physical activity, cities dwellers including rural migrants takes on more sedentary jobs; firms and households adopts labor – saving technologies and so on all these contributes to rise of over – weight and nutrition related chronic diseases. It is important to practice prevention of obesity when it comes. Obesity makes the school age child finds it difficult to participate in exercises or other outdoor tasks as well as to feel free with peers hence, they are easily fatigued. Herowati (2002) explained that mal – nutrition makes a major contribution to the number of death and four persistent problems especially in Indonesia are PEM, Vitamin A and Iodine deficiencies and nutritional Anemia.

**3. Food intolerance and allergies:** It is worth of note that some school age children react adversely to some food. Hashim (2002) explained that adverse reaction to food is an unusual response to food which includes food intolerance and allergies. These problems threaten children nutritional health to varying extents, depending on the severity and duration of the reactions and the food involved. It should be noted that temporary reactions to food can, if not detected early and treated can cause chronic illness thereby affecting the child’s feeding and subsequently his/her learning ability.

**4. Dental carries or tooth decay:** This is another nutritional problem among school age children who do not practice good oral hygiene. This problem occurs when bacteria in the mouth reacts with sugar in food to produce an acid, which eats into the tooth and makes a hole. This can affects the child’s nutrition and learning ability.

### **Factors contributing to school age nutritional problems**

Parliamentary Office of Science and Technology (POST, 2006) explained that food security and insecurity are terms used to describe whether or not people have access to sufficient quality and quantity of food. The two are affected by factors such as poverty, health, food production, political stability, infrastructure, access to markets, and natural disasters (hazards). Food security is achieved “when all people at all times have physical and economic access to sufficient, safe, and nutritious food for a healthy and active life”. Talking about the challenges of food security in Nigeria Eme, Onyishi, Uche and uche (2014) highlight the following:

1. Inability of people to gain access to food due to widespread poverty and unemployment, which also inhibits purchasing power and prevents assured access to food supplies.
2. Global food prices have risen dramatically in the last few years and are forecast to rise further or become more volatile.
3. The inherent characteristics of climate that manifest themselves as changes of climate over a period time affect food security significantly in unpredictable ways as a result of their detrimental effect on pests, crops diseases, crop production, animal husbandry, and humans.
4. Farmers in Nigeria have limited access to credit, and less than 10 per cent of irrigable land is being irrigated.
5. The global economy is knowledge-driven and food system efficiency is dependent heavily and directly on agricultural technological innovations and innovations in relevant sectors.

The urban child institute (2011) reported that children in the United States are mostly safe from the severe hunger seen in poor and developing countries. However, many children do not have consistent and dependable supply of healthy food of which it is refers to as food insecurity. Food insecurity is not the same as hunger. Food insecure families are often able to avoid hunger by choosing cheaper, more filling types of food over more costly nutritious foods. For young children, the result is often a diet that provides inadequate nutrients for their normal growth and development which ends up affecting their educational achievement. Orefi (2012) explained that despite agricultural policies and strategies in both Nigeria and South Africa, food insecurity remains a fundamental challenge in both countries. To Orefi some of the challenges of food security in Nigeria are:

1. More than 90% of agricultural output is accounted for by households with less than 2 hectares under cropping.
2. Supply of agricultural inputs has also been generally sub-optimal.
3. On the processing front, Nigeria loses significant value of between 15-40% of products from its inability to process most its agricultural production.
4. Rapid population increase and lack of correct estimate of food deficits or surpluses which tends to further undermine Nigeria's food security situation. These challenges have far reaching consequences for weak households, in



addition to a range of other household level challenges which all affects the school age child normal growth and subsequently the achievement of their educational attainment especially to the pre- school age 2-5years KhanKhattah and Ali (2010) and Orefi (2012).

### **Way out of nutritional problems among school age children**

It has earlier been mentioned that, “every child must be ensured that the best start in life – their future, and indeed the future of their communities, nations and the world depends on it.” UNICEF (2008) calls on preventive and curative health care which include immunization, provision of adequate nutrition and safe water and basic sanitation, which must be provided as a sine qua non. Some of the following measures could help solve the problem of over and under nutrition among school age children:

1. There should be more public investment in technology to deliver high – productivity, low – cost vegetables and fruits and low-fats livestock products to meet needs of poorer consumers Haddad (2005).
2. Eliminating of incentives on growing high fat foods and relaxing restrictions on growing healthier foods.
3. Government to always evaluate food trade policies from a health perspective and not on what those in government will gain from those policies.
4. The use of kitchen-garden programme. Kitchen-garden programme aimed at increasing production and consumption of vitamin A rich crops. Here Nutrition and Horticultural specialists identify high – economic value vitamin A plants (crops) grown within each region of the country and continued production year round. Crops such as Broad leaf, Mustard leaf, Cress, Swiss Chard, Fenugreek, Amaranth, Carrot, Broccoli, Helen Keller sweet potatoes, (a variety high in Carotenoids), Colocasia, Kangkung (water spinach, Ipomoea aquatical), climbing spinach, Pumpkin and Papaya were identified and seeds were distributed by the Nutrition District Coordinators (NDCS) one in every district and local motivators two per district during the appropriate seasons. Nigeria is blessed with abundance of lands and water if we can borrow lift of this program which has been successful in Lumbini –Gandaki zone Nepali India (Jones et al, 2005).
5. There should be regularly and frequently health educational talks on child care and nutritional demonstration for children foods of various ages, at both

government polyclinics and communities centers' at every possible opportunity provided by the community organization and this also can be experimented in our own schools Wong (2002).

6. Good hygiene and feeding practices should be practice at home, Nursery school and in the primary schools.

7. Most parents spent most of the day time away from home like the children, for this reason much nutritional top-up needs to be organized by parents during evening meals and at weekends when the family is together. More so, the introduction and maintenance of school meals should be encouraged by various public and private schools to help combat nutritional problems in Nigeria.

### **Conclusion**

The need for good and proper nutrition for the school age child cannot be over emphasized. This will help prevent of nutritional deficiencies which might results to problems such as: anemia, vision lost, obesity among others which affects the school age child normal organs development and functioning, growth and maintenance, optimum activity level and working efficiency, resistance to infectious diseases and infections, ability to repair bodily damage or injuries and for the attainment of their educational goals.

### **Recommendation**

The following recommendations are suggested to ensure that the school children are properly fed to prevent the effects of nutritional problems:

1. The Ministry of Education and Ministry of Health need to develop policies that can alleviate under nutritional problems among school age children.
2. Awareness be created among school age children, parents and teachers on the dietary requirement of both boys and girls, in view of this, teachers must ensure that food brought to school by children are consumed to avoid missing meals by children.
3. The manager of school feeding programme initiated by the government must ensure that the quality of food provided match what is giving to them and not out to make exotic gains.
4. Parents must make sure of energy top up to children that miss their meals during the evening meals as that is the main period when parents and children eats together to make up lost required nutrients during the day.

5. The government should initiate programmes like the kitchen-garden programme aimed at increasing the production and consumption of vitamin A rich crops where a Nutrition and Horticultural specialist can identify high – economic value types of vitamins plants (crops) grown within each region of a country and together continued production year round.

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