

Nutritional Knowledge of Basic School Students in Ghana - A Case of Enchi College of Education Demonstration in Aowin Municipality in the Western North Region

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Abstract:

The main objective of the research is to find the level of nutritional knowledge of students of Enchi College of Education Demonstration Basic School. The population for this study consisted of all the Junior High School (JHS) students of Enchi College of Education Demonstration School in the Aowin municipality in the Western Region of the Republic of Ghana. A random sampling technique was used select sample size of 60 respondents from the school made up of 35 boys and 25 girls was selected for the survey. The main instrument for data collection was Close-ended questionnaire, and eight (8) items were used to explore the level of nutritional knowledge of students of Enchi College of Education Demonstration Basic School. It was concluded that students have fair knowledge and a common knowledge base on the concept nutrition that guide their food choices. It is recommended that, teachers of nutrition component of the subject basic design and technology should be asked to intensify the knowledge impartation of pupils in the basic schools.

Keywords:

Nutrition Knowledge, Basic School, Enchi, Ghana

1. Introduction

Acquiring accurate and adequate nutrition information is important as it could inform nutritional choices positively and promote the maintenance of a healthy nutritional status [1]. Nutritional education improves good eating habits, such as taking snacks in between meals, eating on time, and balance diet among pregnant

adolescents [2]. Nutrition knowledge increases, intake of most unhealthy foods decreases [3]. Nutrition knowledge likely helps by directing attention to salient information, promoting comprehension, allowing more accurate information to be stored in memory and used in decision making situations. Increasing consumers' nutrition knowledge levels may improve nutrition communication through food labels [4]. Nutrition information on food labels is an important source of nutrition information but is typically underutilized by consumers [4]. This denotes that, nutritional intake as a pivotal element contributing to human health and well-being is of great importance and its role in childhood and adolescence is more prominent and of greater concern. Nutritional intake has a special direct effect on children's health due to their physical and mental growth as well as cognitive development [5]. A study on "Mother's nutrition-related knowledge and child nutrition outcomes: Empirical evidence from Nigeria" revealed that, knowledge of health and nutrition may substitute for education in reducing undernutrition in young children among populations [6].

School child nutritional status is known to have important long-term effects on the work capacity, intellectual performance and life-time earnings of adults. This implies that, proper diet has holistic development in the growth of young ones since it was evidenced that quality of food pupils eat were questioned [7]. At this wavelength, Nutrition education, such as nutrition facts panel reading and interpretation, should be introduced preferably to adolescents before they enter young adulthood where they experience more freedom to make their own choices than prior life stages [1].

The nutritional status of kids under the age of five years is a critical indicator of the country's economic condition and health status. An understanding of the influencers of the nutritional status of children can act as a catalyst in combatting all forms of malnutrition [8]. Nutrition has been defined as the study of the totality of the relationship between the functional (metabolic, behavioral) characteristics of the organism and its dietary environment where the emphasis is on nutrients and the diet as a whole [9]. British Nutrition Foundation? Also defines nutrition as the study of nutrients in food, how the body uses the nutrients and the relationship between diet, health and diseases. Nutrition of school children has a direct and short-term influence on physical and mental growth and an indirect long-term influence on the growth and health during adolescence and the general lifetime. Malnutrition during the period of school going age can decrease the physical and mental learning abilities of the child [9]. It was contended that proper dietary guidance for children and establishment of desirable dietary habits, are very important for the maintenance of a healthy mental status. Nutritional knowledge as reflected in the individual's knowledge of the nutrient contents of food and an awareness of health effects relating to various food choices is vital in the study of malnutrition and its relation to educational consequences [10].

Nutritional knowledge activists argue that perceptions and awareness of the relationship between diet and disease, the nutritional contents of certain food and healthy eating habits should result in healthier food choices [11]. Sufficient knowledge in the nutritional values of basic food items, their deficiency complications as regards cognitive functions is imperative in the study of the influence of malnutrition on academic performance of the school child. Offering students, the right food choices and helping them develop positive, healthy eating habits will support optimal functioning of the brain [12]. Health, education and nutrition should form an integral part of the early childhood education programme. Until recently, this kind of

education was seen as less significant in early childhood education. Its importance, however, cannot be over emphasised. Early Childhood Education lays a foundation for creativity, integration, self-reliance and survival [12]. Provision of this education has been integrative, which means that it nurtures the personality of the child as well as developing him/ her mentally, socially and emotionally [13]. The provision of security, adequate nutrition and promotion of good health is recognised as constituting the foundation of proper growth of these children.

The nutritional status of a population is used to determine the magnitude of malnutrition that is prevailing at a particular time in the population. Malnutrition refers to disorders resulting from an inadequate (under-nutrition) or excessive diet (over-nutrition) or from failure to absorb or assimilate dietary elements. Several parameters are used to assess the nutritional status of a population or an individual [13]. Stunting, underweight and wasting are common anthropometric indicators of under-nutrition. Stunting is a physical indicator of chronic or long-term malnutrition and is often linked to poor mental development. It is a cumulative process that is not easily reversed. Underweight is an indicator of both chronic and acute under-nutrition while wasting is an indicator of acute under-nutrition. On the other hand, over-nutrition is measured by overweight and obesity.

Several dietary components support brain function and neurotransmitter activity, and that scientists recommend a wide range of foods as nutrient sources; the most important known today are protein, fat, B vitamins, iron, chlorine, and antioxidants [12]. Eating breakfast helps students to eliminate or reduce stomach pain, headache, muscle tension, and fatigue, all which lead to an interference with learning. School personnel have the perfect access to students' breakfast eating habits and need to utilize the opportunity to teach students good breakfast eating habits, whether at school or home. The negative impact of skipping a meal is also highlighted by researchers stating that without an adequate daily intake of nutrients from food, the body puts learning on a lower shelf below its need to sustain life-support functions [12]. Therefore, in many cases, skipping a meal negatively affected the body and its learning functions. Wolf & Burkeman concluded that as many as half of low-income basic school students skipped breakfast and that children who eat a good breakfast at school perform better on standardized tests. They found that children who eat breakfast have improved attention in late-morning performance tasks, retrieve information more quickly and accurately, make fewer errors in problem-solving activities, and concentrate better and perform more complex tasks [12].

This implies that, nutritional knowledge has a direct impact on the nutritional status of individuals and also on their habits. Therefore, it is necessary that the importance of nutritional education should be taken into consideration in the maintenance and development of health. As nutrition is an indispensable part of human being, it is also required that students should be made to review their nutritional knowledge. It is thought that nutrition education programs for young is needed not only to get correct nutrition knowledge but also to promote affirmative dietary behaviour and the volition to practice nutritionally balanced meals and to induce changes in nutritional behaviour. It is known that schools provide to various opportunities to increase consciousness awareness of nutritional among students. Including nutrition courses in the programs of higher education, placing it in the state politics and providing its maintenance is believed to have a considerable contribution to the awareness of the issue [14]

The main problem then is simply lack of knowledge about the importance of nutrition among school going children in line with academic performances. There is the need to find nutrition knowledge base among school going children of Enchi College of Education Demonstration Basic School. The purpose of this study was to examine the nutritional knowledge base of students of Enchi College of Education Demonstration Basic School. The study sought to answer the research question - What is the level of nutritional knowledge among students of Enchi College of Education Demonstration Basic School?

2. Methodology

The survey approach used in this study is a non-experimental research. The population for this study consisted of all the JHS students of Enchi College of Education Demonstration School in the Aowin municipality in the Western North Region of the Republic of Ghana. A random sampling technique was used to select a sample size of 60 respondents from the school made up of 35 boys and 25 girls for the survey. The main instrument for data collection was Close ended questionnaire, and eight (08) items were used to explore the nutritional knowledge of Basic School Students of Enchi College of Education Demonstration in Aowin Municipality in the Western North Region of Ghana. The Likert measuring scale was used to determine the extent of agreement or disagreement on some issues about the problem. The scales used for the items were A.- Agree, D. - Disagree, U. –Uncertain. Mean. In this regard, data on level of nutritional knowledge among pupils were captured. The responses were analysed with the use of the SPSS to achieve the research objective.

3. Findings and Discussions

The level of nutritional knowledge of Enchico Demonstration JHS pupils was elicited under this research question “*The level of nutritional knowledge among students of Enchi College of Education Demonstration School*”? Simple percentages and weighted averages were used in analysing the data. (Table 1)

Table 1. Level of Nutritional knowledge among pupils.

Items	Responses from Questionnaire				
	A	D	U	Weight	Weight
	4	3	2		Mean
1. The major function of protein is for growth and repair of body tissue	59	0	0	2.36	3.93
2. Calcium functions for bone development and hardening	58	1	1	2.32.	3.87
3. Major source of carbohydrate is cereals and tubers	56	4	0	2.35	3.93
4. The main function of carbohydrate is to provide energy	52	8	0	2.20	3.41
5. Dietary fibre enhances digestion and absorption of food nutrients	33	20	7	2.06	3.43
6. Iron can chiefly be found in fruits and vegetables	23	34	3	2.00	3.33
7. A balance diet should have the right proportion of major food nutrients	58	2	0	2.38	3.97
8. Nutritional knowledge guides my food choices	56	3	1	2.35	3.92

A- Agree, D. - Disagree, U. –Uncertain. Mean Figures in bracket are percentages.

All the 60 (100%) respondents were agreed that the major function of protein is for growth and repair of the body. This implies that all the pupils agree with Erickson (2006) that physiologically protein known to functions to maintain tissue synthesis and repairs. This implies that protein should be part of our diet to help nourish the body. Ninety-six point seven percent (96.7%) of the students also know that Calcium functions to develop and harden the bone.

Again 93.3% of the students agreed that the major source of carbohydrate was cereals and tubers while 87.3% maintained that the main function of carbohydrate is to provide energy. A 1 also support that majority of the pupils agreed to the Item 5 which reads “*Dietary fibre enhances digestion and absorption of food nutrients*” shows that out of the 60 respondents from the Enchi College of Education Demonstration School, 33 (55.0%) agreed, 7 (11.7%) were not certain, whilst respondents who disagreed were 20 (33.3%). The 33 (55.0%) agreeing out of the respondents of 60 implies that greater percentage of the pupils agreed that dietary fibre enhances digestion and absorption of food nutrients. A weighted average of 1.6 supports that majority of the pupils agreed to the assertion.

Item 6 reads “*Iron can chiefly be found in fruits and vegetables*” shows that out of the 60 respondents from the Enchi College of Education Demonstration School, 23 (38.3%) agreed, 3 (5.0%) were not certain, whilst 34 (56.7%) disagreed. The 34 (56.7%) disagreeing out of the 60 respondents indicate that greater percentage of the pupils disagreed that iron can chiefly be found in fruits and vegetables. A weighted average of 2.0 also shows that majority of the pupils disagreed to the assertion.

At this wavelength Item 7 which reads “*A balance diet should have the right proportion of major food nutrients*” shows that out of the 60 respondents from the Enchi College of Education Demonstration School, 58 (96.7%) agreed, whilst 2 (3.3%) of the respondents disagreed. The 58 (96.7%) agreeing out of the 60 respondents implies that greater percentage of the pupils agreed that a balance diet should have the right proportion of major food nutrients. The outcome of the weighted average of 1 also show that majority of the pupils agreed to the assertion. The study on “*Nutrition knowledge, attitude and practices among urban primary school children in Nairobi City, Kenya: a KAP study*” supported the findings that, dietary habits learnt in early life are likely to be carried to adulthood. Nutrition knowledge and positive attitude are known to influence dietary practices [11].

Item 8 which reads “*Nutritional knowledge guides my food choices*” shows that out of the 60 respondents the Enchi College of Education Demonstration School, 56 (93.3%) agreed, 1 (1.7%) was not certain, whilst 3 (5.0%) disagreed. The 56 (93.3%) agreeing out of the 60 respondents implies that greater percentage of the pupils agreed that nutritional knowledge guides my food choices. A weighted average of 1.1 also shows that majority of the pupils agreed to the assertion. Concluding this section on the level of nutritional knowledge among students of Enchi College of Education Demonstration School it was realized that pupils were having a fair knowledge about the concept nutrition.

4. Conclusions and Recommendations

The study concluded that, pupils have fair knowledge and a common knowledge base on the concept nutrition. They agreed that, the major function of protein is for growth and repair of body; calcium functions for bone development and hardening;

the major source of carbohydrate is cereals and tubers; the main function of carbohydrate is to provide energy; dietary fibre enhances digestion and absorption of food nutrients; and a balance diet should have the right proportion of major food nutrients. The study also revealed that, Greater percentage of the pupils disagreed that iron can chiefly be found in fruits and vegetables. Pupils believe that nutritional knowledge guides their food choices. There was lesser degree of prevalence of malnutrition among students. Most pupils agreed taking breakfast always; that they enjoy three square meals each day; eat fruits and vegetables every day. Since the knowledge base of pupils were not in line with the content of the syllabus, it is recommended that, teachers of nutrition component of the subject basic design and technology should be asked to intensify the knowledge impartation of pupils in the basic schools.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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