

ASSESSMENT OF NUTRITIONAL STATUS OF SCHOOL CHILDREN IN EHA-AMUFU TOWN IN ENUGU STATE, NIGERIA

*Chukwuemeka E.N. and Ojike-Chijioke E.P.

Department of Home Economics, Federal College of Education, Eha-Amufu Enugu State Nigeria

*Corresponding author: nenyebishop@gmail.com

ABSTRACT

Background: Poor nutrition is one of the leading causes of malnutrition worldwide. A proper assessment of the nutritional status of children is necessary for the development of prevention and intervention plan for malnutrition in the population.

Objectives: The study determined the socio-demographic characteristics, breakfast pattern and nutritional status of the children in Eha-Amufu town in Enugu state, Nigeria.

Methodology: A total of 597 primary school children were randomly selected using the class registers. A structured pre-tested interviewer-administered questionnaire was used to elicit information on socio-demographic characteristics of the school children. Anthropometric status was assessed with weight and height measurements using standard procedures and compared with recommended standards. Data obtained were analyzed using Statistical Package for Social Science (SPSS) version 15.0. The result was presented using descriptive statistics.

Results: Result shows that the proportion of male to female children was 52.1% to 47.9%. Majority of the children came from monogamous families (60.5%) and those that live with their parents were (41.7%). The percentage of fathers that were artisans were 60.6% while (35.8%) of mothers are traders, 80.9% of the children had their breakfast on the day of data collection, 45.7% consumed breakfast on daily basis while 12.9% usually eat their breakfast for only one or two times a week. The proportion of wasting, stunting and underweight among the school children were 18.8%, 18.3% and 22.3% respectively.

Conclusion: This study depicted high prevalence of wasting, stunting and underweight among school children thus, undernutrition exists among school children in the Eha-Amufu Town.

Keywords: *Assessment, Nutritional status, School children, Malnutrition*

INTRODUCTION

Nutritional assessment is an in-depth evaluation of both objective and subjective data related to an individual's food and nutrient intake, life style and medical history (1). Nutritional status is determined by the intake of nutrients from foods both in quantity and in quality and the body's capability to utilize them appropriately to meet its metabolic needs of health and fitness (2). Fetuga, et al (3) defined nutritional status as an interpretation of information obtained from dietary, biochemical, anthropometric and clinical studies. Assessment of nutritional status of school children helps in detecting malnutrition among them early enough before irreparable damage or hospitalization results.

Childhood is a stage of life when all the body tissues and cells are growing rapidly and organs are developed for specific functions (4). During childhood stage, children in school exert a lot of energy physical, psychomotor and cognitive domain. Therefore, good nutrition is paramount during this stage of life. If malnutrition occurs at this stage, it could result to serious negative effect on the health, intellectual development and academic performance of the affected child. School aged children constitute an important segment in any society because they represent the future of that generation. They comprise between 20% and 30% of the population (5). It has been reported that because of the substantial reduction in child death rates, more than 90% of the world's children are now surviving beyond the age of 5 years and as a result, there are now more children attending school than ever

before (6). In spite of improvement in the survival of school age children, there is still a major burden of disease and ill health among this group as a result of poor nutrition practices.

Poor nutrition practices precipitates micronutrient deficiencies. These compromises children's development, school attendance and ability to take advantage of the opportunity to obtain a good formal education. It is important to monitor the nutritional status of the school age children especially with the emerging double burden of malnutrition in developing countries like Nigeria (7). Unfortunately, there is limited data on the nutritional status of school children in Eha-Amufu Town Enugu State, Nigeria (8). The need for the data on school children is important so as to identify at risk communities that would benefit from nutrition interventions if such issue arises in Nigeria. This study therefore determined the sociodemographic characteristics, breakfast pattern and nutritional status of the children in Eha-Amufu town in Enugu state, Nigeria.

MATERIALS AND METHODS

Area of the study

This study was carried out in Eha-Amufu town, Enugu state. Eha-Amufu is a border town in Isi-Uzo local government area of Enugu State and one of the oldest railway towns in the state. The predominant occupation of the people includes farming, artisanship, trading and civil servants.

Study Design

The study was a descriptive cross-sectional survey

involving primary school children in Eha-Amufu town in Enugu state, Nigeria.

Study Population

The study population comprised of 597 primary school children randomly selected using the class registers. Among the eight primary schools that are situated within the town, two schools were selected by balloting without replacement (one from the public schools and one from the private school but federal government owned school) a total of 214 from public school and a total of 383 from the other school.

Data Collection

A structured pre-tested interviewer-administer questionnaire was used for data collection. The questionnaire was designed to elicit information on socio-demographic characteristics of the school children. This includes child's gender, age, family type, living arrangement, father's and mother's occupation and each child's breakfast consumption pattern.

Anthropometric measurements

The nutritional status of the school children, weights and heights were measured. The weight was measured to the nearest 0.5kg with a bathroom scale (Hana, made in China) with children wearing only light clothing without shoes. The height was measured to the nearest

0.5cm with a wooden standiometer placed on a flat surface. The child stood erect without his or her shoes and with eyes looking horizontally and the feet together on horizontal level before reading was taken. The data on weight, height and age of the children were used to compute Z- score and compare with National Center for Health Statistics (NCHS) growth standards (9). Wasting was defined as weight- for-height Z-score below minus two standard deviation (-2 SD) of the mean of NCHS standard. Stunting was defined as height-for-age Z-score below minus two standard deviation (-2SD) of the mean of NCHS, National Center for Health Statistics standard. Underweight was defined as weight-for-age Z-score below minus two standard deviation (-2SD) of the mean of NCHS standard.

Data Analysis: Data collected was categorized and analyzed using Statistical Package for Social Science (SPSS) version 15.0. The result was presented using descriptive statistics.

Results

Table 1 shows the socio-demographic characteristics of the school children; the mean age of the school children ranges from 8.54

Table 1: Socio-Demographic Characteristics of the School Children

Variables	Frequency (n-597)	Percentage
Gender		
Male	311	52.1
Female	286	47.9
Total	597	100
Family type		
Monogamy	361	60.5
Polygamy	236	39.5
Total	597	100
With both parents	249	41.7
With father alone	23	3.9
With mother alone	237	39.7
With grand parents	17	2.8
With other	71	11.9
Total	597	100
Father occupation		
Trading	51	8.5
Farming	107	17.9
Civil servant	63	10.6
Artisans	364	61.0
Others	12	2.0
Total	597	100
Mothers occupation		
Trading	214	35.8
Faming	158	26.5
Civil servant	85	14.3
Artisans	125	20.9
Others	15	2.5
Total	597	100

Table 2 shows the consumption pattern of breakfast by the school children. Most of them had breakfast (80.9%). The children that consumed breakfast on daily basis were 45.7% while 12.9% had it one or two times a week.

Table 2: Breakfast Consumption Pattern of the Children

Variable	Frequency (n= 597)	Percentage
Consumed breakfast		
Yes	483	80.9
No	114	19.1
Total	597	100
Frequency of consumption of breakfast daily		
5 times/week	273	45.7
3-4 times/week	150	25.2
1-2 times/week	97	16.2
Total	597	100

Table 3 shows the nutritional status of the school children, proportions of those wasted stunted and underweight were 18.8%, 18.3% and 22.3% respectively.

Table 3: Nutritional Status of the School Children

Nutritional status	Frequency (n=597)	Percentage
Wasting (less than -2z scores)	112	18.8
Normal	485	81.2
Total	597	100
Stunting (less than -2z score)	109	18.3
Normal	488	18.7
Total	597	100
Underweight (less than -2z score)	133	22.3
Normal	464	77.7
Total	597	100

Discussion

Children living their full potentials in life include achieving a child's targeted goal in his/her school which will depend on the child's nutritional status. The undernutrition assessed among the children were wasting, underweight and stunted respectively. The data obtained in this study is a clear evidence that this town even though an urban area is characterized by low socio-economic status, low literacy level that results in limited resources. These are some of the basic and underlying causes of malnutrition. A similar finding was reported on the dietary habits and nutritional status of rural school age children in Ebonyi State (8). Some of the children in this study area do not consume breakfast on a daily basis (19.1%), Basiotis, Lino and Anand (10) reported similar result (16.3%) among children on their study on "eating breakfast greatly improves school children's diet quality" (10). There is a possibility that these children may not eat anything till they get back to their homes in the afternoon, and this may promote malnutrition and poor cognitive development as well as poor attention span (11, 12). Reports have indicated that children that miss their breakfast do not make-up the defects at later meal and experience poor academic performance (11, 12). The

percentage of children that consumed breakfast 1-2 times per week (12.9%) is a sign that the school children in this study area are in dire need of help so that the ugly situation will not continue from the first year of life which may be very difficult for the gap to be filled. This is because stunting is a cumulative effect of under nutrition over a long period (chronic malnutrition). The prevalence rate of wasting, stunting and underweight is among the school aged children was quite alarming. Wasting in this study (18.8%) is higher than previous study by Ene-obong and Ekweagu (8) in rural community. Stunting also was higher than the report on the "assessment of nutritional status of school children in Oyo West Local Government Area, Oyo State, Nigeria" by Dada (12). Stunting is a sign of chronic malnutrition which may come as a result of carryover of malnutrition from the first year of life, which may be very difficult for the gap to be filled. Stunting could starts in-utero and progresses into childhood and the children can exhibit catch up growth if their environment improves and the first three years of life is an opportunity for such catch up growth after which it becomes too difficult (8). The prevalence of stunting in this study suggest a high prevalence of chronic food insecurity which could also be associated

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