

ASSESSMENT OF THE NUTRITIONAL STATUS OF ADOLESCENT STUDIES IN FEDERAL COLLEGE OF EDUCATION (TECHNICAL), UMUNZE

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Abstract

The research was conducted to investigate the nutrient intake and anthropometric status of adolescent students in Federal College of Education (Technical), Umunze. The sample size was obtained by randomly selecting 20 students each from the six schools in Federal College of Education (Technical) Umunze. The weights, height, middle Upper Arm circumference (MUAC) of the selected adolescent students were taken. The results revealed that the body mass index (BMI) confirmed nutritionally sound with mean BMI of 18.3kg/m² while those with overweight had 28.1kg/m² and underweight with mean of 13.0. the mean of MUAC showed that respondents with age range 16 -19 years had mean of 10.7 as moderate under nutrition, the results reveals normal nutrition with mean (MUAC) of 28.8 while those with mild under nutrition had mean MUAC of 81.1. The nutritional status of the adolescent subjects in the study reflects a high percentage of overweight. The research also revealed high consumption rate of plant foods and so recommended the need to consume more of fruits and vegetables.

Adolescents comprise a significant proportion of the world's population. Adolescent is that period in every person's life which lies between the end of childhood and the beginning of adulthood. It is also the beginning of the second decade of life. It varies in length from nation to nation, from culture to culture, from one socio-economic level to another and from family to family. An adolescent represents a period of rapid development, rapid learning and critical acquisition which to a large extent determine the style of an individual life.

Information about this group of people is very limited so also about their nutritional data. The little information from researches available reveals an increase in their population all over the world. With this assertion of increase in population of the adolescents, still much is not known about their nutritional status. This is because priority is not given to their nutritional services but directed primarily to the infants, young children, pregnant women and lactating mothers.

The lack of attention for this population must be combated as they equally play very vital role in the society. To be able to perform their roles effectively, special attention must be given to their nutritional status. Carol Byrd identifies overweight and deficiency in micro nutrients as a common nutritional disorder among the adolescents. This is ascribed to high intake of energy foods like snacks, spaghetti etc. and low intake of minerals vitamins. Nzeagwu et al assesses the nutritional status and energy intake of adolescents in Umuahia Nigeria and found prevalence of overweight. Obesity in children and adolescents is a major concern not only because of the health and social problems but because of the increased risk of it continuing into adulthood. The dearth information on the nutritional status of adolescents in Federal College Education (Technical) Umunze served as a motive for carrying out this work. Specifically the study involved assessment of Body Mass Index of Adolescents Students in Federal College of College of Education (Technical) Umunze, Nigeria.

Subjects and Methods

Study Area

The study was carried out in Federal College of Education (Technical) Umunze Anambra State, Nigeria. Federal College of Education (Technical), Umunze is located in Orumba South L.G.A. of Anambra State and it comprises of six schools namely: School of Agric/Home Economics, Business Education Science Industrial Technical, Languages, Fine and Applied Arts and School of Edu

Study Subjects

The study subjects comprised of students (80 females and 40 males) randomly selected from six schools in Federal College of Education (Technical) Umunze. The students were selected based on interest and willingness to participate in the study. All participants were Igbo, appeared apparently healthy. The subjects were aged 16-24 years.

24 Hour Dietary Recall

This tool provides information on the exact pattern of foods and beverages consumption of the respondent for the previous twenty four hours. The food frequency questionnaire consists of a list of foods and beverages consumed with the quantity either in cups, tumblers or slices and later converted to weights. The foods and beverages are converted to nutrients using standard food composition table. The nutrients intakes were later compared with recommended dietary allowance to determine the percentage contribution to RDA.

Anthropometric Measurements

The anthropometric measurements used were weight, height and Middle Upper Arm Circumference (MUAC). The weight and height were determined by using bathroom weighing scale and tape measure respectively. Body weight was measured to the nearest 0.25kg. The weight was carried out with light clothing without shoes and head gears. The height was measured to the nearest 0.01cm and later converted to meter.

Measure was taken with the subject bare footed, standing erect with parallel and heels put together. The weights and height were then used to compute the Body Mass Index (BMI) using the formula $BMI = \frac{weight}{height^2}$. The BMI of 25 and above was regarded as overweight, while below 18 indicated underweight and values between 18 and 24.9 were regarded as normal body weights.

Middle Upper Arm Circumference (MUAC)

The MUAC of the respondents was determined by using non-stretch flexible tape calibrated in millimeter. Measurement was taken subject standing erect with legs apart and left arm free from any obstruction. MUAC reading 23.5cm and above means normal while 19-22.6cm means mild under nutrition and 15.3-18.2cm moderate under nutrition.

Statistical Analysis

All the collected data from different tools were analyzed using descriptive statistics under which results were expressed in means. In some case percentages were used.

Result

Results in table 1 revealed that majority of the adolescents within age range of 16-19 with 70% and the least within age range of 23-25 years with 5%. The Body Mass Index (BMI) for the studied population segment ranged from 13.0 to 18.3. Those that are nutritionally sound had mean BMI of 18.3 (Table 2) with age range of 23-25 years while those with overweight had mean BMI of 28.1 ranging from 20-22 years. The underweight had mean of 13.0 ranging from 16-19 years.

Table 1: Percentage Distribution of Adolescent Students by Age

Age Range	No of Respondents	Percentage %
16-19	84	70
20-22	30	25
23-25	6	5
Total	120	100

Table 2: Percentage Distribution of Adolescent Students BMI

Age Range	No of Respondents	BMI	Mean BMI
16-19	84	1099	13.0
20-22	30	844	28.1
23-25	6	156	18.3
Total	120	2099	59.4

Table 3: Distribution of Mean MUAC for Adolescent Students by Age

Age Range	No of Respondents	MUAC	Mean MUAC
16-19	84	8111	10.7
20-22	30	866	28.8
23-25	6	106	18.1
Total	120	3083	57.6

Table 3: shows the result of the Middle Upper Arm Circumference (MUAC) of the adolescent students under investigation. The MUAC for the respondents range from 18.1 to 28.8cm, the result reveals mean MUAC of 10.7 meaning the age range 16-19 years as moderate under nutrition. Furthermore, the result reveals normal nutrition with mean MUAC of 28.8 which those with under nutrition had mean of 18.1

Table 4: 24 hour's Contribution of Adolescents to RDA

Sample	K-cal Energy	RDA	(Mg)cal	RDA	Mg Iron	RDA	%
16-19	1822	1900	222	1200	7.7	10	77
20-22	1933	1900	612	1200	11	10	110
23-25	1501	1900	48	1200	13	10	130

Discussion

The finding from study revealed the BMI of 28.1 of the respondents with overweight and obesity. Obesity in Adolescents is major concern not only because of the health and social problems but also because of the increase risk of continuing into adulthood with associated long term effects MG, U et al examined early stages of atherosclerosis in the arteries and tissues from about 3000 people aged 15-34 years who had died from injuries. They found that obesity (BMI >30) & thick peninsulas adipose (central pattern of obesity) were revealed to accelerated coronary atherosclerosis in adolescents.

Also the overweight and Obesity was observed with a high percentage of respondents with high energy intake as revealed by 24 hours dietary recall. These overweight could be attributed to the fact that most of the students trek short distances from the hostel to the classroom for lectures. It was also revealed that there is low calcium intake for the respondents. Adolescence is a crucial time for bone development and the requirement for calcium reaches a peak during these years. Low calcium intake during times of active growth especially if paired with physical inactivity compromise the development of peak bone mass.

Finally, MUAC revealed that majority do not meet the reference standard for normal range showing malnutrition.

Conclusion and Recommendation

The study revealed that the majority of the respondents have poor nutritional status. This could be due to the fact that with a multitude of after school, social and job activities, they almost inevitably fall into irregular eating habits, they may be skipping a meal, eating snacks.

It is recommended that Intensive Nutrition Education Programme should be included in the curriculum of Adolescent Students in School.

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