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THE RELATIONSHIP BETWEEN ANTHROPOMETRIC MEASUREMENT AND ACADEMIC PERFORMANCE OF SECONDARY SCHOOL STUDENTS IN EDO SOUTH SENATORIAL DISTRICT, EDO STATE.

ALUYOR, PATIENCE

DEPARTMENT OF VOCATIONAL AND TECHNICAL EDUCATION,
AMBROSE ALLI UNIVERSITY, EKPOMA, EDO STATE.
GSM NO ; 07063149091, EMAIL; PATALUYOR2YAHOO.COM

Abstract

The study examined the relationship between anthropometric measurement and academic performance of secondary school students in Edo state. One research question and one hypothesis guided the study. Correlational survey design was used for the study. The population of this study comprised all secondary school students in public schools. Achievement test and Body Mass Index were used for data collection. Z-test was used in testing the null hypotheses at 0.05 level of significance. The findings of the study revealed among others, that: there was no significant different between Body Mass Index and academic performance of secondary school students in rural and urban areas. Based on the findings, it was recommended among others that there should be increased consumption of vitamins rich foods, especially fruits and vegetables and protein; reduction in the intake of carbohydrate to prevent obesity. Students should be encouraged to consume right proportion of food, both in quality and quantity to maintain normal weight.

Introduction

Anthropometry is the study and technique of taking body measurements. It can help in identifying nutritional problems such as under nutrition and over nutrition. Anthropometric assessments provide a simple and practical way of describing the overall nutritional status of the population groups (Tontisrin and Henry 2004). Anthropometric measurements include body height, body weight, hip circumference, Waist - to - hip , tricept or skin fold thickness, scapular skin fold thicknes, and wrist girth (Chuang and Pam, 2009) For growth and research purposes weight and height are measured more precisely and for clinical work other measurement are made (Trustwell, 2007). Measuring body weight and height provides useful data for analyzing growth, the measurement of weight for height indicates thickness, acutely under nourished persons generally lose body weight but not height, weight for height, decreases with acute under nutrition (Woodruff and Duffield, 200). Body mass index has been conventionally used to define and classify overweight and obesity. Body mass index is calculated from height and weight to determine body fitness (Cham, 2003).

BMI number is plotted on the BMI for-age-growth charts for either boys and girls to obtain a percentile ranking, Thereafter, BMI is calculated for teens and children and classified as normal, obese, overweight or under weight. The BMI -for-age percentile is used to interprete the BMI number because BMI includes both sex and age specifies for teens and children. As adolescent and children grow their body changes resulting in changes in BMI, (Kuczmarsk ; 2001, Maruf , A, Aronu and Akinpelu 2011). Academic performance is used to measure success in Education, it's a tool used for promoting students from one level to the next level . Janseen cited in Linde (2005) Sharma (2010) also explained that academic performance has been considered as an important factor in educational life of students to work hard and learn more.

.Most urban students learn in a conducive environment and are highly motivated by their parents. These factors could motivate urban schools to perform better than schools in a rural area Bulala et al, 2013.

Considine and Zapper la (2002) stated that students from rural areas are more likely to have higher educational outcomes in terms of academics performance and retention than students from urban areas. School in rural areas remains disadvantaged by several factors, such as lack of adequate teacher, lack of transportation to their schools environment, some of the students sitting on the floor, windows to learn. Rural schools tend to be smaller than urban schools and this carries a number of benefits for rural students, class sizes tend to be smaller and teacher often know most of the students. Despite these advantages small rural schools face different challenges that can lead to unfavourable Educational outcomes for their students. Khattri, Riley and Kane (2007), stated that English proficiency, poverty, geographic location and economic disadvantage are some of the factors affecting students in rural areas which result to Educational failure, or low academic performance. Sheriff (2000) revealed that weight for height did not differ significantly according to child, school factors, weight for-age and height-for age different significantly by gender. Hamid revealed from his study that girls have significantly higher scores in all the academic test but lower cognitive scores compared to boys. Aziz and Devi (2012) carried out a study on nutritional status and eating practices among children aged 4-6years old in selected urban and rural kindergarten in Selangor, Malaysia His findings revealed that rural children had higher prevalence of under nutrition compared to the urban children. Adolescent stage is a critical period, where the body system changes. .Nutrition is needed for proper development both mental and physical development, this this study sought to investigate the nutrional status of secondary school students by using anthropometric measurement specifically using BMI Index, which is an

instrument used for nutritional assessment, its used to asses nutritional status of an individuals. Nutrition play a vital roles in life of an individuals ,good nutrition in proper functioning of the brain, which can assists the students to achieve good academic performance. Therefore, the study south to investigate the relationship between nutritional status and academic performance of secondary school students in Edo South Senatorial District, Edo State'

Purpose of the study

The purpose of this study was to determine the relationship between Body Mass Index (BMI) of secondary school students in urban and rural areas, in Edo South Senatorial District.

Research Question

The following research questions were raised to guide this study.

What is the difference in the relationship between body mass index, and academic performance of rural and urban secondary school students.

Hypothesis

H_1: There is no significant difference in the relationship between body mass index of secondary school students in rural and urban areas.

Methodology

Correlational survey design was adopted for this study, sometimes treated as a type of descriptive research, primarily because it does describe an existing condition, correlational research involves collecting data in order to determine whether or to what degree, a relationship exists between two or more quantitative variables. The population for the study comprised all senior secondary school students in public school. The sample of this study consisted of three hundred and ninety six students from senior secondary schools 1 (SSS1) in Edo South senatorial district. . Multistage sampling was used for the study, stratified random sampling technique was used in selecting schools from location. Random sampling technique was used to select six schools from Edo South. Three schools each were randomly selected from urban and rural areas. Proportional sampling technique was used to select students from each of the selected schools. Test – retest method was used to establish the reliability of the instrument Pearson product moment correlation was used to obtained reliability coefficient of 0.77. Body mass index is standardized hence, no need to test for its reliability.

The instruments used for the study were achievement test and body mass index measurement. Achievement test was administered to the student by the researcher to determine their academic performances. Body mass index was used to determine the

nutritional status of the students. Weight and height were measured according to established standards. The calculated BMI and age were related to the World Health organization recommended percentile chart to classify the result obtained as normal weight, under weight, over weight and obesity. The data collection was carried out by the researcher and two reach assistants, the instrument were administered and retrieved immediately three hundred and ninety instrument were administered, three hundred and seventy two were retrieved The hypothesis was tested at 0.05 level of significant using fisher -Z for the analysis.

Result

Hypothesis one: There is no significant difference in the relationship between body mass index and academic performance of Home economic students in urban and rural areas.

Table I : Fisher z of Body Mass Index of academic performance by location

Location	N	R	Zr	Zcal	Z table
Urban	318	.111	0.1105		
Rural	54	.227	0.2237	0.749	1.96

Table 1 above shows a calculated value of 0.749 and a table z value of 1.96, testing at an alpha level of .05, the calculated value falls within the acceptance region. Hence, the null hypothesis which states that there is no significant difference in the relationship between body mass index and academic performance of secondary school Home Economics students in rural and urban areas is retained. Meaning the relationship is equally for rural and urban areas.

Discussion of finding

The finding is supported by Aziz and Devi (2012) who carried out a study on nutrition/status and eating practices among children aged 4-6 years in selected urban and rural kindergarten in Selangor Malaysia, his study revealed that the prevalence of obesity was the same in rural and urban areas.

This finding is not supported by dap, Movedoovi, tenlery and Hanglin (2005) who carried out a study on adolescent food habit and nutritional status in urban and rural areas in Cameroon. His study revealed that body mass index was higher in rural than urban adolescents although not significant (20.6 vs 19.4).

Conclusion

The study investigated the relationship between Anthropometric index and academic performance of secondary school students in rural and urban areas in Edo South senatorial district. The following conclusion was drawn that there is no significant difference in the

relationship between body mass index and academic performance of secondary school students in rural and urban areas, meaning The relationship is equally for rural and urban areas.

Recommendations

Based on the findings of this study the following recommendations were made.

1. Students with normal weight performed better than students with overweight and underweight both for boy and girls including rural and urban areas, therefore students should be encourage to eat balance diet in right proportion ,over nutrition can result to overweight while under nutrition can result to underweight. Parents should spend more money and time on providing adequate food to the family both in quality and in quantity. .
2. There should be increase consumption of fruits and vegetable proteins little of carbohydrate and frying foods to avoid obesity.

Reference

Aziz, M. F. A., and Devil, M.N. (2012) Nutritional status and eating practices among children aged 4-6 years old in selected urban and rural kindergarten in Selangor, Malaysia, Asia journal of Clinical Nutrition, 4.116-131.

Chan, D. C. Watts G. F. Barret, P. H. R & Burke,U. (2003), Waist circumstance, Wast for Hip ratio and Body Mass Index as predictors of Adipose tissue compartments in men Oxford journal of Medicine (96) 6: 441-447.

Chuang, S., & Pan, W. (2009). Predictability and Implication of Anthropometric indices for metabolic Abnormalities in Children/. Nutrition and Health survey in taiwan Elementary children, 2001-2002. Asia pacific journal.

Considine, G., Zappala, G. (2002). Factors influencing the Education performance of students from Disadvantaged backgrounds. In T. Bradley and B. Bradbhury.eds, competing visions. Referred proceedings of the National Social Policy Conference 2001, SPRC Report 1/02, Sydney, 91-107.

Khattri, N. Riley K. W., & Kane, M. B. (1997) students at risk in poor, rural areas. A review of the research journal of research in rural education 13(2) 79-100.

Kuczmarski, M. F. (2001) Effects of age on validity of self-reported height, weight and body mass Index. Findings from the National Health and Nutrition

Linder, G. J. (2005). The Role of Environmental Quality and Time perspective on the Academic Performance of Grade 2 Leaners MSS (psychology) Thesis, University of Free State South Africa.

Maruf. F. A. Akinpelu, A. O., Aronu, U, C, & Akinpelu, A. O (2011) Socio -Economic Differentials in Height, Weight and Body Mass Index of school Adolescents in Nnewi, South-Eastern Nigeria. The Internet Journal of Biological Anthropology 4 (2): 1-8.

Sharma (2010). A study of Academic Achievement of Elementary School Students in Relation to their Nutrition status. Available at http;/bemcollege./ege.blogspot.com/2010/10/study-of-academic – achievement - of .html. Assessed in December2011. Htpp ;/www.nald.ca/library/research/ccl/rural urban gap ed.pdf,RtrievedMay,2016.

Sheriff Z . M; Bond, J. T., and Johnson, N.E. (2000). Nutrition and Educational achievement of urban primary school children in Malaysia. Asia Pacific journal of clinical nutrition, 9 [4) 264-273.

Survey, 1988-1994 "Journal of the American Dietetic Association (0)(1):28-34

Tontisirin. V., Henry. F. J. (2004) uses of food consumption and Anthropometric surveys in the Caribbean. How to transform Data into Decision making tools.

Truswell, S. (2007) Assessment of Nutritional status and Biomarkers

Woodruff. B. A & Diffield A. (2000). Assessment of Nutritional status in Emergency – Affected population - Adolescents. Report of the UN Acc/sub committee on nutrition.