

Original Research Article

## **Socio-Economic Background and Dietary Habits of Secondary School Adolescents with Psychological Counselling Implication for Healthy Living of Children of School Age in Calabar Education Zone of Cross River State, Nigeria**

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**Abstract:** Indeed, the influence of peer groups and the desire for independence which characterize adolescents' psychosocial development often leads to the development of high-risk nutritional behaviours. The situation in Cross River State, Nigeria is worse, in that the eating habits behaviour of school children has become of great concern to parents, school counsellors and health practitioners. This study was conducted to determine the influence of socio-economic background and residential location on dietary habits of secondary school adolescents in Calabar education zone of Cross River State, Nigeria. The descriptive survey design was employed. The population comprised of all secondary school students in public secondary schools in Calabar Education Zone. The simple and stratified sampling techniques were also used to select 24 secondary schools and 542 students constitute the sample for this study. A well validated and reliable four point Likert scale type instrument was used for data collection. The data collated were analyzed using analysis of variance (ANOVA) and independent t-test analysis and were tested at 0.05 level of significance. The result of the study revealed that residential area significantly influence adolescents' dietary habits ( $P > 0.05$  level of significance) whereas, socio-economic background do not significantly affect the dietary habits of adolescents ( $P > 0.05$  level of significance). Based on the findings, recommendations made included that the food safety unit of the state Ministry of Health should include in their schedule, school visits to inspect tuck shops and expunge all peddlers of unhealthy foods and that school administrators should employ the services of Nutrition Educators to provide sound nutrition information for the students and parents.

**Keywords:** nutritional behaviours, adolescents

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### **INTRODUCTION**

Healthy eating is vital for adolescents' health and wellbeing because they (adolescents) are in a stage of rapid growth and changes in body composition. This will enhance emotional, academic and physical health and prevent chronic illnesses in the future including obesity, heart disease, cancer and diabetes [1]. This also explained the psychological implication for healthy living because patterns of eating had been observed to be important for healthy living considering the proliferation of tin and snack food in the society. Wardlaw and Hampl [2] noted that, because most adolescents do not consume calcium rich foods to meet their body requirement, the problem of adolescent fracture and subsequent adult osteoporosis becomes a threat. Iron deficiency anemia with its consequences, such as increased fatigue, and decreased ability to

concentrate and learn can result as a follow-up to a poor dietary pattern such as adolescent vegetarianism without the addition of other rich sources of iron.

According to Basspro [3], good eating habits should incorporate food from all the food groups: grains, meats, dairy and fruits and vegetable group. They also explained that classic food pyramid demands that one eats about six (6-11) servings of grains, three (2-4) servings of fruits, three (3-5) servings of vegetables, two (2-3) servings of meat and two (2-3) servings from dairy group on a daily basis. According to them, foods from other groups such as "junk foods" (for example, highly processed foods or high-fat snacks) and other foods containing fat and sugars should be used sparingly and that it should not be part of a good diet plan. They added that the consumption

of foods should depend largely on metabolic rate and health goals of different individuals.

Socio-economic status and health are closely related thus, socio-economic status can have profound effects on a person's health due to differences in ability to access health care as well as dietary and other lifestyle choices [4]. Mathieson and Koller [5] submitted that healthy eating habits are largely determined by social, economic and cultural factors (such as place of residents) that influence access, availability and uptake. As a result, overweight and obesity have the greatest impact on the poorest people within communities and have significant long-term consequences for the society's most vulnerable groups, children and adolescents. A poor child according to them typically has increased exposure to unhealthy home and community environment, decreased access to quality education and health services and a higher probability of a clustering of trans-generational health problems and unhealthy dietary habits. These habits are reinforced by difficulty in accessing or affording the healthiest food choices.

Adeoye and Adeoye [6] observed that fruits consumption increases with family material wealth and higher parental occupational status. They particularly commented on a study which showed that the pupils of parents with higher occupational status reported lower mineral drinks consumption in Northern, Southern and Western European countries, but not in Central and Eastern European countries where a significant increase in soft drink consumption with increasing family affluence was observed.

Abudayya, Stigum, Shi, Abed, and Ottesen, [7] reported on a study on socio-demographic correlates of food habits among school adolescents in north Gaza Strip in 2005 which revealed that the meal and food consumption patterns of adolescents were strongly related to socioeconomic status, mothers' level of education and gender. Meal skipping was observed to be common, particularly among adolescents of low socioeconomic background and the intake of many nutritious foods such as animal food items, fruits and vegetables and foods rich in calcium seem to be low among adolescents of low socioeconomic background. Food frequency consumption patterns of adolescents were closely related to socio-economic status with the poor consuming less nutritious food than the rich. According to the study, meal skipping, especially dinner was common among adolescents with low socio-economic status and that only 40% consumed all the three daily meals. Intake of many nutritious foods such as animal food items, fruits and vegetables and foods rich in calcium were observed to be low among adolescents of low socio-economic status. The percentage of adolescents having breakfast daily among

students of high and low socio-economic background was observed to be 74.5% versus 55% in boys and 65.6% versus 45% in girls. The percentage of girls with refugee status who had lunch was higher (90.2%) compared to the local citizens girls (83.9%). Risk of skipping lunch was three times higher among adolescents living in the village compared to those in Gaza well off area. The study further revealed that skipping of lunch was positively associated with breakfast and dinner skipping. This implies that, adolescents who frequently skipped one meal were more likely to skip other meals, thus, they concluded that snacking did not seem to make-up for skipped meals.

Steyn [8] mentioned that the community and environment (urban/rural) in which the adolescent finds his/herself influences and impacts on the nutrition-related behaviour. She explained that outside influences such as availability and access to fast food outlets, school tuck-shop, food stores and vendors in the vicinity may play a role in decision making on food consumption. Furthermore, she stated that the macro-environment, also affects the adolescents' eating behaviour through the effects of mass media and advertisement. This she said was because: "advertisements on Television (TV) directed at children, are frequently a direct opposite of recommended diet. They are mainly in favour of fast foods and foods rich in sugar and fat.

Steyn reported on a study which found out the correlates of eating habits among in-school adolescents in Costa Rica and China. It revealed that high socio-economic status and urban residence were positively associated with intake of high energy foods such as foods of animal origin and a low intake of fruits and vegetables. It was observed that 40% of the foods of these people were from foods consumed away from home. In her study on food consumption pattern among adolescents in both developed and the developing countries, Steyn [8] observed that adolescents in developed countries frequently consume energy-dense diet which is of poor quality in terms of essential micro-nutrients more than those in developing countries. This, she attributed to factors such as frequent skipping of meals especially breakfast, high consumption of sweetened beverages, increased consumption of foods away from home and a low consumption of fruits and vegetables.

Adeoye and Adeoye [6] opined that unhealthy eating habits and sedentary lifestyles are closely bound not only to various socio-economic indicators but also to living in economically deprived areas. In the same vein, Savage, Macfarlane, Ball, Wesley and Crawford, [9] whose study was on the snacking behaviours of adolescents found out that snacking among adolescents

occurs more often in the urban than rural residents. Their study further revealed that adolescents from metropolitan regions were more likely than those from non-metropolitan regions to report that they often snacked in the middle of the night, while doing homework and while watching TV. They further explained that adolescents from non-metropolitan areas of China, Russia, US and Philippines had less opportunity after school to pursue other activities and snacks. They pointed out that; they are usually transported directly home thus reducing their period of hunger and the likelihood of snacking. Reiterating this fact, Mancino and Kinsey [13] found out that increasing the interval between meals has significant impact on consumption volume and diet quality. They observed that as the time interval between meals increases, (as evident in those who stay late in school) the calories consumed at the later meal increases, nutritional quality of that meal decreases and consumption of discretionary calories rises.

The aim of the study was to investigate the influence of socio-economic background on dietary habits of secondary school adolescents in Calabar education zone of Cross River State. Specifically, the study sought to:

- Find out the extent to which socio-economic background affects adolescents' dietary habits.
- Find out whether adolescents' dietary habits depend on their residential area (rural/urban).

#### **METHODOLOGY**

The research design for this study is the descriptive survey design. The study was carried out in the Calabar education zone of Cross River State, Nigeria. It comprised of seven Local Government Areas viz: Akamkpa, Biase, Odukpani, Calabar Municipality, Calabar South, Akpabuyo and Bakassi.

The population of the study consisted of all Secondary School students in Public Secondary Schools in Calabar Education Zone of Cross River State. The study was delimited to only SS2 students. Out of the 72 public secondary schools in Calabar Education zone, 24 were randomly selected for the study and these 24 schools had an enrollment figure of 2,709 for SSS 2 students.

The stratified and simple random sampling techniques were employed for the study. The selection of schools was based on the number of schools in the stratum. The researchers decided to select the schools in the ratio of 1:3 which is equivalent to 33%. Thus in each stratum, 33% of the secondary schools were

randomly selected for the study. For each school selected, 20% of the total SSS 2 students were used for the study; these all resulted to a total of 542 students drawn from 24 public secondary schools in Calabar Education Zone. The instrument for data collection was called the Adolescents' Dietary Habits Questionnaire (ADHQ). The response scale was four points Likert scale type rated as follows: 1 (strongly disagree), 2 (disagree), 3 (agree) and 4 (strongly agree). The split-half method was used to determine the reliability estimate of the instrument and the scores from the two halves (odd and even) were correlated using the Pearson Product Moment Correlation Coefficient while the Spearman, Brown prophecy formula was used to correct the result. The result yielded a reliability coefficient of 0.85.

#### **RESULTS**

The result presented in Table 1 shows the mean rating of respondents according to the different variables, dietary habits, residential area and socio economic status. For residential area, though the mean values for the two groups reveals positive dietary habits, the rural area with a mean of 43.12 with SD of 5.74 were observed to have better dietary habits than those who reside in the urban area who had a mean of 40.80 with SD of 6.52 while dietary habits yielded a mean of 41.72 with SD of 5.80. For socio-economic background (SEB), the mean for low socio-economic background was 41.24 with SD of 5.99; 42.28 with SD of 5.81 for medium SEB and 41.60 with SD of 5.45 for high SEB. This implies that the adolescents in the group with medium SEB possess better dietary habits than those in the groups with high and low socio-economic background.

From the result presented in table 2 below, the mean values and standard deviation of the three groups of respondents are shown in the upper part of the Table while the actual results of ANOVA are shown in the lower part. The comparison of the three mean values using ANOVA yielded an F-ratio of 1.5115 which is lower than the critical F-ratio of 3.020 at 0.05 level of significance with degree of freedom of 2 and 539. This result implies that socio-economic background does not significantly affect adolescents' dietary habits.

Independent t-test was used to analyze the data collected from the field. The data analysis result as presented in Table 3, indicates that the calculated t value of 4.387 is greater than the critical t value of 1.960 at 0.05 level of significance, implying that adolescents' dietary habits significantly depend on their residential locations.

**Table 1: Characteristics of the study subjects with their mean and standard deviation**

Characteristics	No	%	Mean	SD
Dietary habits	542	100	41.72	5.80
<b>Residential area</b>				
<b>Rural</b>	230	42.4	43.12	5.74
<b>Urban</b>	312	57.6	40.80	6.52
<b>Socio-economic background</b>				
<b>Low</b>	119	22.0	41.24	5.99
<b>Medium</b>	249	45.9	42.28	5.81
<b>High</b>	174	32.1	41.60	5.45

**Table 2: Result of analysis of variance (ANOVA) of the effect of socio-economic background on adolescents' dietary habits**

Group	N	Mean	SD		
<b>Low</b>	119	41.24	6.00		
<b>Medium</b>	249	42.28	5.81		
<b>High</b>	174	41.60	5.45		
<b>Total</b>	542	41.72	5.80		
Sources of variance	SS	DF	MS	F	Sig level
<b>Between group</b>	99.6052	2	49.8027	1.5115	.012
<b>Within group</b>	17759.4502	539	32.9489		
<b>Total</b>	17859.0554	541			

Not significant at 0.05, critical F = 3.020, df = 2 and 539

**Table 3: Result of t-test analysis on the extent to which adolescents' dietary habits depends on their residential area**

Variables	N	Mean	SD	t
Rural	230	43.12	5.74	4.387
Urban	312	40.80	6.52	

Significant at 0.05, df = 540, critical t=1.96.

## DISCUSSION OF FINDINGS

### Socio-economic background and adolescents' dietary habits

The result of one way ANOVA shows that socio-economic background does not significantly affect adolescents' dietary habits. The fact from this study is that socio-economic background, whether low, medium or high does not determine the dietary habits of adolescents. This is a surprising result; given that availability of finance provides the drive for purchasing most foods, snacks, drinks, to mention but a few. However, the result revealed that those with medium socio-economic background possessed the best dietary habits with a mean of 42.28, than those with high socio-economic background with a mean of 41.60 and those with low socio-economic background (mean 41.24).

The factors that gave credence to this current finding, of no significant influence as revealed by the first hypothesis tested, may be because the researchers used only public schools for the study. Public schools which are known to be for the "masses" do not really attract patronage from those in the high socio-economic cadre. If private schools were used, where most children of the affluent attend, who virtually compete at the schools' tuck shops, the researchers' opinion is that the

above result would have been significant given what is being obtained in the private schools.

This current finding is in consonance with Matheson and Koller [5] who found that healthy eating habits are largely determined by social, economic and cultural factors. According to them, socio-economic status influence accessibility, availability and uptake of foods. In the same vein, WHO [10] HBSC survey report explained that adolescents from poorer socio-economic background typically had less access to quality education and increased exposure to unhealthy eating habits. The survey also revealed that fruits and vegetable consumption increased with family material wealth and high parental occupational status.

In contrast with the result of this study, Bashour [11] in Damascus found out that food consumption, especially fruits could be determined by economic factors because these are rather expensive in the market. Again Abudayya *et al* [7] had contrary findings. They observed that food frequency consumption pattern of adolescents was closely related to socio-economic status with the poor consuming less nutrient-rich foods than the rich. According to their study, meal skipping especially dinner was common

among adolescents with low socio-economic status and that only 40% of the poor subjects consumed all three daily meals. Intake of many nutritious foods such as protein, fruits and vegetables and calcium rich foods were observed to be low among adolescents of low socio-economic status. In another dimension, their study, concluded that there was something more at play that influenced the buying and eating of healthy foods than just socio-economic status. According to them, people may be influenced to buy specific foods by a residual behaviour tendencies or family preferences which may have been built up due to the socio-economic background.

#### **Residential area and adolescents' dietary habits**

The second hypothesis states that, adolescents' dietary habits does not significantly depend on their place of residence, but the analysis of data revealed that the residential areas of adolescents determine the type of dietary habits they possess. Adolescents in the rural area with a mean of 43.12 were observed to have better dietary habits than those in the urban with a mean of 40.80. This result though consistent with the findings made by authors like Savige *et al* [9] and Abudayya *et al* [7], disagrees with the observation of Post-Staggard *et al* [12]. They did not observe any significant regional differences in the food frequency pattern of adolescents in Uppsala City and those in the industrial town of Trollhattan.

However, the findings of this study gives credence to the work of notable authors like Savige *et al* [9] and Steyn [8]. Among other things, Savige *et al* [9] found out that snacking among adolescents occurs more often among urban than rural residents. Supporting this finding they explained that adolescents from non-metropolitan areas (rural areas) of China, Russia, U.S. and Philippines had fewer opportunities after school to pursue other activities and snacks. The reason, according to them is that, these adolescents usually go home immediately after school thus reducing their period of hunger and likelihood of snacking. Mancino and Kinsey [13] explained that adolescents in the metropolis who stay longer in school or get busy with other activities (after school lessons) indirectly extend their period of hunger and stimulate in themselves a craving for snacks.

In the same vein, the study of Abudayya *et al* [7] revealed a significant relationship between the dietary habits of adolescents and their residential area. Those living in the well-off part of the city were observed to have significantly, higher mean frequency intake of all six food groups than those living in the non-well off area of the city and the villages. In line with the findings of Abudayya *et al* [7], Steyn [8] observed a significant association between urban residents and frequent intake of energy-dense foods in

adolescents. Besides, adolescents in urban areas are more exposed to the many fast foods joints proliferating on daily basis in the urban towns, thus they easily fall into the temptation of patronizing them. It is also a truism that those who live in the rural areas have more access to fresh fruits and vegetables either from their family farms or purchased at cheaper rates than those in urban areas. Therefore the current finding holds that adolescents' dietary habits significantly depend on their residential areas.

#### **Psychological counseling implication**

Malnutrition in school children remains a major public health and social problem in Nigeria, in that most children from low socio economic background who cannot afford the expensive boarding fees get engage in hawking and other "after school hours" job before they can be fed, this in a nut shell negatively affects children emotional-social and academic health in no small measures.

Nutritional status contributes significantly to the poor school attendance, obesity problems and poor academic achievements of students in schools. It is the belief of these researchers that poor dietary habits could lead to truancy, gangsterism and other social norms if the students are not properly taken care of by giving them the needed comfort especially good nutrition. To overcome this ugly phenomenon, parents should ensure that they monitor their children's intake of food by way of always providing adequate diet at home.

Schools should through food and nutrition classes teach children the recommended food intake while boarding schools adopt appropriate nutritional intervention programme as well as implement the comprehensive school health programme. It is needful to assert that most of the Government owned boarding schools have greatly deteriorated and depreciated in quality and service due to poor management, funding and share greed. They now live basically on past glory whereby both failure rate of external examinations and illnesses are on the increase.

Health and nutrition experts should embark on organizing seminars and symposium in secondary schools and on radio and television to educate both the youths and their parents on healthy eating patterns. Mothers should be taught several ways of making their youths eat at home and reduce the snacks taken outside.

#### **CONCLUSION**

In line with the findings of this study, the researchers concluded that students' place of residents significantly influence their dietary habits, and that students' socio-economic background does not significantly affect the dietary habits, that is, whichever social strata their

parents belong to does not necessarily affect the adolescents dietary habits.

### RECOMMENDATIONS

Based on the study findings, the following recommendations were made:

- i. The Cross River State government should take a step forward to implement the national policy on school health programme which include food and nutrition services in schools. This will help check the quality of foods/snacks sold in the schools as the case is in some states in Nigeria.
- ii. The food safety unit of the state Ministry of Health should include in their schedule, school visits to inspect tuck shops and expunge all peddlers of unhealthy foods.
- iii. School administrators should employ the services of Nutrition Educators to provide sound nutrition information for the students and parents.
- iv. School Administrators should enforce policies that will promote the availability of nutritious foods such as fruits and vegetables in schools' tuck shops instead of cake, sweets, minerals drinks and other sugar coated snacks.
- v. Parents should control amount of money given to children to spend at school and where possible, guidelines on how it should be spent should be given. On the alternative, (for day students) parents should procure lunch box and give their children food from home to eat during break at school.
- vi. Since breakfast is considered to be the most important meal of the day and that it contributes to the nutritional and intellectual well-being of the adolescents. The federal and state government should consider implementing a school meal programme, specifically breakfast as a component of school health programme.

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