

Dietary Knowledge and Attitudes of In-School Adolescents in Private Secondary Schools in Ifako-Ijaye Local Government, Lagos, Nigeria

Authors:

Abiola E. Aduroja¹ and Babasola O. Olugasa (PhD)¹
¹Babcock University, Ilishan Remo, Ogun state, Nigeria.

Affiliation: Department of Public Health, School of Public & Allied Health, Babcock University, Ilishan-Remo, Ogun State, Nigeria

Abstract:- Nutritional status of adolescents remains a global public health interest because of its importance towards preparing an individual nutritionally for a healthy adult life. Adolescents tend to indulge in explorative and convenience feeding behavior, yet at a crucial stage of life, with diverse manifestations of malnutrition due to poor diet and lack of health care service in some parts of Nigeria. This study aimed at assessing the knowledge, attitude and feeding practices of in-school adolescents in Ifako-Ijaye Local Government Area of Lagos State, Nigeria.

The study adopted a cross sectional survey approach. A total of 375 in-school adolescents of private Secondary Schools in Ifako-Ijaye Local Government Area of Lagos State were enlisted. A validated semi-structured questionnaire (Cronbach's alpha score of 0.78) was used to collect data on socio-demographic characteristics, dietary knowledge, attitude, practices, and the anthropometric measurement of participants. Data collected were analyzed using descriptive and inferential statistics. The study achieved a response rate of 97.7%.

The result shows that the respondents had fair knowledge, moderate attitude and moderate feeding practice. An association between nutritional knowledge and feeding practice, and between attitude towards nutrition and feeding practices exist among the students. Respondents' knowledge ($X^2=12.02$; $p=0.03$); was significantly associated with feeding practices. However, the respondent's age ($X^2= 0.44$, $p=0.56$); gender ($X^2=0.98$; $p=0.36$); religion ($X^2=3.71$; $p=0.56$), ethnicity ($X^2=0.90$; $p=0.83$) and no of persons in the family ($X^2= 4.62$, $p=0.09$) had no significant relationship with respondents feeding practices.

In-school adolescents' dietary knowledge and attitude influenced their feeding practices and nutritional status. It is recommended that school management should inculcate positive attitudes towards nutrition among in-school

adolescents. Parents should create a balanced meal menu that will improve healthy diet practices among their adolescents.

Keywords:- Dietary Knowledge, Attitudes, Nutritional Status, Feeding Practices, In-School Adolescents.

I. INTRODUCTION

Adolescents are young individuals that are between the ages of eleven (11) and eighteen 18 years (W.H.O 2010) Adolescence is a period of transition from childhood to adulthood and also an important and a critical stage of physical growth, mental and psychological development. Adolescence is a stage that represents a phase to prepare an individual nutritionally for a healthy adult life (Wang 2014). After the infant stage of a child, then comes the adolescence stage, which is the most crucial stage of an adolescent life, especially the adolescent girl; the adolescents are expected to be fed on right diet but malnutrition is a common nutritional problem due to poor diet and lack of health care service in some parts of the country – Nigeria (Omobuwa et.al 2014). Some households and in-schools diets are predominantly starchy staples combined with a few animal products and seasonal fruits and vegetables. The malnutrition of a child during his / her childhood can be corrected during the adolescence stage before his / her body systems are fully formed (W.H.O 2010). Adolescent malnutrition may be in the form of under-nutrition or over-nutrition. The two constitute serious public health problems affecting both developed and developing countries (UNICEF/WHO/WBG, 2016). The prevalence of overweight and obesity is increasing rapidly in some developing countries, while there is limited current information about some other developing countries to infer predominance of over-nutrition or under-nutrition (Aryeetey et al., 2017). The situation in Nigeria varies depending on the subset of the population, categorized as the affluent and the poor. Reports of increasing prevalence of overweight has been partly attributed to the nutrition transition which is characterized by systemic societal changes such as increased

urbanization, industrialization, trade liberalization, and economic growth. All these changes influence the food system in ways that then fuel behavior changes linked with increased energy-dense food consumption and reduced physical activity (Esimal et.al 2015).

This research study is very important to correct the problem or to reduce the problems to the minimum. Considering the transition of childhood to adulthood, adolescence is the transition stage between the childhood and adulthood. Adolescents may no longer benefit from the attention and care that usually go to children, but they may not get the protections associated with adulthood either. The adolescents are considered as having low risk of poor health and often receive few health care resources and less attention. However, this approach ignores the fact that many health problems later in life can be prevented by adapting healthier feeding life style habit during adolescence (Choudhary, et al, 2010)

Although the suggestion that knowledge is one of the determinants of food choice may seem intuitive, several psychological and environmental factors might play a role in such choice, leading to different attitude towards changing behavior for health reasons.

This study is conducted to determine the level of dietary knowledge and attitudes among the in-school adolescent students in private schools in Ifako-ijaye local government, Lagos State, Nigeria using the theory of reasoned action.

II. MATERIALS AND METHODS

Study design: A descriptive cross-sectional study survey was used. The study made use of quantitative data with the aid of questionnaires.

Study setting: The study was carried out in private Secondary Schools of Ifako-ijaye local government, Lagos State.

Study population: 375 in-school adolescents were selected in private Secondary Schools of Ifako-ijaye local government, Lagos State. The participants' age ranged from 11-18 years.

Sampling technique of participants: The sampling technique used in this study is a Multi-stage sampling technique. The instrument was administered to the target population through the researcher by questionnaires. Completed questionnaires

were then given back to the researcher in order to ensure privacy and confidentiality. The study spanned from February 2021 to March 2021.

Data collection: Data was collected using questionnaire with guidance from the researchers. All correctly filled questionnaires were returned to the researcher immediately which was be verified for accuracy.

Study instrument: The researcher developed a self-administered 25 item questionnaires focusing on Dietary Knowledge and Attitudes Of In-School Adolescents In Private Secondary Schools In Ifako-Ijaye Local Government, Lagos, Nigeria. The researcher designed the instrument based on the conceptual framework on the theory of reasoned action to address the research objectives and research questions of the study. The questionnaire was divided into four (3) sections, they include; socio-demographics characteristics, dietary knowledge and attitude of adolescents.

Ethical consideration: Ethical approval was obtained from the Babcock University Health Research and Ethics Committee (BUHREC) [Ref. no.: BUHREC 168/21]. Participation was voluntary and informed consent was obtained from the study participants. Confidentiality and anonymity was also maintained and ensured.

Data Analysis: The data entry was done for completeness and coded using a coding guide.

The selected socio-demographic variables were analyzed using the descriptive analysis. Multiple regression analysis was used in testing of hypothesis 1, 2, 3, 4 and 5.

III. RESULTS

Demographic characteristics.

The socio-demographic characteristics of respondents are shown in table 4.1. The respondent's ages ranged from 10 to 19 years with a mean of 14.35 ± 2.24 years. The ages of majority 188(50.1%) of the respondents fell within the 10 to 14 years age range. Slightly above half 194(51.7%) of the respondents were Yoruba's. Majority 306(61.3%) of the respondents were Christians. Slightly above half 190(50.7%) of the respondents were female. Less than half 75 (28%) of the respondents were in secondary senior school three (SSS 3). Most (71.2%) of the respondents were had between 5-8 persons in their family.

Table 4.1.1: Socio-Demographic Characteristics of respondents

Characteristics	Respondents in this study; N=375	
	Frequency(n)	Per cent (%)
Ages in years Mean age: 14.35 ± 2.24		
10-14	188	50.1
15 – 19	187	49.9
Gender		
Male	185	49.3
Female	190	50.7
Class		
JSS1	45	12.0
JSS2	40	10.7
JSS3	39	10.4
SS1	68	18.1
SS2	75	20.0
SS3	108	28.8
Religion		
Christianity	306	81.6
Islam	67	17.9
Traditional	2	0.5
Ethnic group		
Ibo	111	29.6
Yoruba	194	51.7
Hausa	12	3.2
Others	58	15.5
No of Persons in the family		
1-4	102	27.2
5-8	267	71.2
9-12	6	1.6

Respondents' Dietary Knowledge

As shown in table 4.2 below less than half 206(54.9%) of the respondents knew that healthy eating is not following a strict diet. Majority 358(95.5) of the respondents knew that good knowledge towards nutrition is essential in life. Most 272(73.3%) of the respondents knew that balanced diet does not sweets. Majority 361(96.3%) of the respondents knew that water intake is very good to flush out the toxic wastes from our body. Only 90(24%) of the respondents knew that Vitamins are not good source of energy.

Majority 357(95.2%) of the respondents knew that calcium is a mineral that makes the bones strong and healthy. More than half 231(61.6%) of the respondents knew that iodine deficiency can be a result of eating foods with salt that is not iodized. Most 264(70.4%) of the respondents knew that not eating enough food can causes of malnutrition. Less than

half 139(37.1%) of the respondents knew that malnutrition cannot be prevented by eating frequently.

Majority 345(92.0%) of the respondents knew that symptoms of malnutrition include fatigue, dizziness and weight loss. More than half 258(68.8%) of the respondents knew that retarded in adolescence is a sign of malnutrition. The respondents classified fresh salad 348(92.8%) and fruits 336(89.6%) as healthy foods while deep-fried 212 (56.5), soda 278(56.5%) and potato chips 131(34.9) were classified as unhealthy diet.

In addition, respondents' level of knowledge about solid waste was assessed with the aid of a 17-point knowledge scale. Respondents' mean knowledge score was 11.51±1.83. Slightly above half 188(50.1) of the respondents had fair dietary knowledge. Overall, one can infer that most of the respondents had fair dietary knowledge (See, Table 4.2.1.1)

Table 4.2.1 Respondents' Dietary Knowledge

Knowledge Variable	Respondents in this study; N=375	
	Yes (%)	No (%)
Healthy eating means following a strict diet	206(54.9)	169(45.1)
Good knowledge towards nutrition is essential in life	358(95.5)	17(4.5)
A balanced diet may include sweets	100(26.7)	272(73.3)
Water intake is very good to flush out the toxic wastes from our body.	361(96.3)	14(3.7)
Vitamins are good source of energy.	285(76.0)	90(24.0)
Calcium is a mineral that makes the bones strong and healthy	357(95.2)	18(4.8)
Iodine deficiency can be a result of eating or preparing foods with salt that is not iodized	231(61.6)	144(37.4)
One of the causes of malnutrition is not eating enough food	264(70.4)	111(29.6)
One of the ways by which malnutrition can be prevented is by eating frequently.	236(62.9)	139(37.1)
Vitamins are good sources of energy.	279(73.4)	96(25.6)
Some other symptoms of malnutrition are fatigue, dizziness and weight loss.	345(92.0)	20(8.0)
Retarded or Slow growth in adolescence is a sign of malnutrition.	258(68.8)	117(31.2)
Healthy foods		
Fresh salad	348(92.8)	27(7.2)
Fruits	336(89.6)	39(10.4)
Unhealthy foods		
Deep-fried	212(56.5)	163(43.5)
Soda/fizz drink	278(74.1)	97(25.9)
Alcohol	349(93.1)	26(6.9)
Potato chips	131(34.9)	244(65.1)

Respondents Attitudinal Disposition towards Healthy Diet

Less than half 127(33.9%) of the respondents strongly disagree that they do not eat late at night. Only 32 (8.5%) of the respondents strongly disagree that they prefer eat their meals without a soft drink. Few 73(18.5%) of the respondents strongly agree that they do not take into consideration the calorie content of the food they eat. More than half 201(52.6%) of the respondents strongly agree that they need to take breakfast, to perform better in school. Majority 280(74.7%) of the respondents strongly agree that they consume fruits and vegetables because it is good for their health. More than half 128(34.1%) of the respondents strongly

agree that they made the right food choices to keep them healthy. Many 217(57.9%) of the respondents strongly agree that eating a variety of food in moderation is key to balanced diet (See, Table 4.3).

Respondents' attitudinal disposition towards healthy diet was measured using a 21-point attitudinal scale; the mean attitudinal score was 14.37 ± 2.85 . Less than half 186 (49.6%) of the respondents had moderate attitudinal disposition towards healthy diet while, only 3(0.8%) had negative attitudinal disposition towards healthy diet (See, Table 4.3.1).

Table 4.3.1 Respondents Attitudinal Disposition towards Healthy Diet N=375

Statements	Strongly agree F (%)	Agree F (%)	Dis Agree F (%)	Strongly Disagree F (%)
I eat late at night and there is nothing wrong with it	55(15.0)	87(23.2)	105(28.0)	127(33.9)*
I prefer taking my meals with a soft drink	77(20.5)	165(44.0)	101(26.9)	32(8.5)*
I do not take into consideration the calorie content of the food I eat	73(18.5)	129(34.4)	104(27.7)	69(18.4)*
I need to take breakfast, to perform better in school.	201(53.6)*	91(24.3)	63(16.8)	20(5.3)
I consume fruits and vegetables because it is good for my health	280(74.7)*	85(22.7)	9(2.4)	1(0.3)
I make the right food choices to keep me healthy	220(58.6)*	128(34.1)	23(6.1)	4(1.1)
Eating a variety of food in moderation is key to balanced diet	217(57.9)*	114(30.4)	34(9.1)	10(2.7)

*Expected responses

IV. DISCUSSION OF FINDINGS

The mean of the respondents was 14.35 ± 2.24 years. This finding is at variance with the finding of Silva et al., 2017 that reported a mean age 16.32 ± 1.48 years. The majority of respondents in this study have a family size between 5-8 which is contrary to the study conducted in Ibadan, Nigeria, and West Bengal, India who reported majority ≤ 4 family members (Omobuwa et al, 2014; Pal et al 2017).

Respondents' Dietary Knowledge

Most of respondents had moderate dietary knowledge was moderate. This implies that adolescents in Lagos may have substantial knowledge and understanding of healthy food choices, energy and nutritive values of foods and dietary related diseases. Good nutritional knowledge is important because it usually has a positive influence on healthy food choices and health. The finding revealed that dietary knowledge had a significant relationship with feeding practices. The result shows that as nutrition knowledge increases adolescents had more dietary practices. These finding could be attributed by fact that as they advance in education nutrition is increased hence healthy food choices and feeding practices. This finding is not consistent with the report of Kigaru et al., (2015) ; Melaku et al., (2017) and Rathai et al., (2017), that nutrition knowledge had no significant relationship with dietary practices. Lack of nutrition knowledge has been implicated as a cause of poor dietary habits (Kostanjevec, Jerman, & Koch, 2013). However, knowledge alone may not be adequate to have proper dietary practices.

Respondents Attitudinal Disposition towards Healthy Diet

Less than half of respondents had moderate attitude towards healthy diet. This finding is in contrast to the results of the study by Ibrahim et al. (2010) that majority of the respondents had a positive attitude towards of healthy diet. Also Patimah et al, (2016) reported negative attitude among respondents towards healthy diet Some previous study has shown that students have average score in nutrition attitude (Sakamaki et al, 2005). This finding is similar to the findings of Patimah et al, 2016 that attitude had a positive correlation with dietary practices. Positive attitude toward healthy eating in adolescence contributes immensely in adopting healthy food habits

Respondents' Dietary Practices

Few of the respondents eat to fast food when they were not at home. Dietary intake of adolescents because traditional diets (predominantly cereal and tuber based, fresh fruits and vegetables and foods low in fat) are gradually giving way to more westernized diets which lack diversity and are high in calorie. The reason for increased consumption of snacks can be because the adolescents have some amount of money available to them for daily spending, and that these unhealthy snacks and soft drinks are relatively affordable and comfortably fits in their budget. .

The finding of this study showed that majority of respondent took breakfast before going to school. This is a good habit because children who take breakfast are able to concentrate in class and perform better than children who skip breakfast (Chen, 2012). This habit could be contributed by a fact that they lived with their parents. This findings is in contrast with a study done in Ghana that showed that majority of adolescents did not have breakfast before going to school (Buxton et al., 2014). Few of the respondents reported that they do skip meals and replace them with snacks. This is consistent with another report from Saudi-Arabia where skipped breakfast and other Nigerian studies where the rate of breakfast skipping is higher than lunch and dinner (Waseem, Nasser, & Ahmad, 2019; Onyiriuka, Ibeawuchi, & Onyiwuke, 2013). Adolescents commonly indulge in unhealthy dietary practices. When adolescents skip meals, they often make poor decisions such as consuming less fruits and vegetables, buying fast foods or unhealthy snacks which lead to weight gain and ultimately diabetes and heart disease later in life. The majority of the respondents had moderate feeding practices. This finding is at variance with the report of Essein et al., (2014) study in Sokoto that adolescents had poor habits of breakfast skipping irrespective of their geographical location. Some reasons for missing meals as explored by other studies include little time for meal preparation, ill health, lack of appetite, or disliking the food served. Less than half of the respondents reported that they do consume soft drinks a lot. These findings are similar to reports from Sokoto and Osun where students reported daily consumption of snacks. Less than half of the respondents in this study had 3–4 main meals per day. This could be because they lived with their parents who monitor their feeding. This finding is corroborated by another report from urban Baroda, India, the adolescents took regular meals 3 times a day, (Kotecha, Patel, & Bax, 2013) but contrasts with the report from adolescent girls in Saudi-Arabia (Waseem, Nasser, & Ahmad, 2019) where most of the adolescents had 2–3 main meals. The study showed that there was no significant relationship between feeding practices and gender. This finding is different from the report of Moreno et al, (2014) that reported that gender had a relationship with dietary practices.

V. CONCLUSION

Good dietary practices generally can improve the spirit and quality of life, can speed recovery from illness and prolong life. Adolescence is a unique interventions point of life cycle. It is a stage of new ideas and a point at which lifestyle choices may determine an individual's life course. The respondents had fair knowledge and moderate attitude. An association between nutritional knowledge and attitude towards nutrition and feeding practices exist among this study population. Educating the adolescents on nutrition and health aspects will go a long way to lead a better life.

Conflict of Interest: there was no conflict of interest in this study.

Ethical Approval: ethical approval to carry out this study was obtained from the author's institution research and health ethics committee. While informed consent forms were signed and parental assent forms were signed by parents of students in the Junior and Secondary classes.

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