

Assessment of Senior Secondary School Students' Knowledge of Nutritional Practices in Delta State, Nigeria

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ABSTRACT

This study assessed the knowledge of nutritional practices among Senior Secondary School students in Delta State, Nigeria. An ex-post facto research design and descriptive survey method were adopted. A sample of 390 students was selected from a population of 14,819 using Slovin's formula and multi-stage sampling techniques. Data were collected through a validated questionnaire with a reliability coefficient of 0.81 and analyzed using mean, standard deviation, and t-test statistics at a 0.05 significance level. The findings revealed that students possessed a high level of nutritional knowledge, with mean scores ranging from 2.78 to 3.28, indicating strong awareness of healthy dietary practices and the importance of Food and Nutrition education. The study also found a significant difference between urban and rural students' nutritional knowledge ($t = 35.15$, $p < 0.05$), suggesting that location influences access to nutrition-related information. The study concludes that nutrition knowledge among students is generally high, although efforts are needed to address urban-rural disparities.

Keyword: Nutritional Practices; Nutritional Knowledge; Secondary School Students; Nutrition Education; Delta State

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1. INTRODUCTION

The assessment of senior secondary school students' knowledge of nutritional practices has become increasingly important because nutrition plays a vital role in adolescents' growth, cognitive development, academic performance, and overall well-being. Adolescence is a critical stage of development characterized by rapid physical and psychological changes that require adequate nutritional support. Proper nutritional practices contribute to healthy body development, improved concentration in academic activities, enhanced immunity, and a reduced risk of chronic diseases. Despite growing awareness campaigns promoting healthy lifestyles, many adolescents continue to exhibit inadequate nutritional knowledge and unhealthy eating habits, such as consuming junk food, skipping meals, and insufficiently consuming fruits and vegetables (Apaokueze, 2025).

Knowledge of nutritional practices encompasses an understanding of balanced diets, essential nutrients, healthy eating patterns, food hygiene, and the importance of adequate nutrient intake for optimal body functioning. Healthy nutritional practices include eating breakfast regularly, consuming balanced meals, increasing fruit and vegetable intake, drinking sufficient water, and limiting the consumption of sugary and highly processed foods. Adequate nutritional knowledge is particularly important during adolescence because this developmental stage is associated with increased autonomy in food selection. Factors such as peer influence, media advertising, and the growing fast-food culture significantly affect adolescents' dietary choices. Previous studies have shown that adolescents with better nutritional knowledge are more likely to adopt healthier dietary behaviors than those with limited knowledge (Edin et al., 2024).

Several factors influence the nutritional knowledge of senior secondary school students. Educational exposure remains one of the most significant determinants. School-based nutrition education helps students understand the relationship between food and health. A study conducted among secondary school students in Delta State, Nigeria, revealed that structured nutrition education significantly improved students' nutritional knowledge and dietary behaviors. The study also reported that female students demonstrated slightly greater

improvements in dietary habits than their male counterparts (Apaokueze, 2025). Similarly, research conducted in Ethiopia found that senior secondary school students possessed higher nutritional knowledge than junior secondary students due to greater educational exposure and access to health information (Edin et al., 2024).

Family environment also plays a crucial role in shaping students' eating habits. Parents influence the types of food available at home and contribute significantly to the development of healthy eating attitudes among adolescents. Students whose parents encourage healthy eating behaviors are more likely to adopt positive dietary practices. Socioeconomic status further affects nutritional practices, as low-income households may experience difficulties in consistently providing nutritionally balanced meals. In many developing countries, the increasing cost of nutritious foods often leads adolescents to consume less diverse and more energy-dense diets (Abubakar et al., 2024).

The school environment likewise affects students' nutritional practices. Easy access to unhealthy foods, such as sugary drinks, pastries, and fried snacks, can encourage poor dietary habits. Consequently, nutritional knowledge alone may not guarantee healthy eating behaviors when unhealthy food environments persist. A study conducted in Ekiti State, Nigeria, reported that students' food choices were influenced by environmental, economic, and social factors (Çam et al., 2021). Furthermore, peer pressure and social media exposure can negatively influence adolescents' dietary decisions, as students often imitate the eating behaviors of their peers and online influencers.

Assessing students' nutritional knowledge is essential for identifying knowledge gaps and designing effective intervention programs. Various assessment methods, including questionnaires, interviews, observations, and dietary evaluations, can be used to measure students' understanding of food groups, nutrient functions, healthy eating guidelines, and nutrition-related disease prevention. Evidence from Umuahia North Local Government Area in Abia State indicated that although many students possessed moderate nutritional knowledge, several unhealthy dietary practices remained prevalent, including irregular meal consumption and inadequate fruit intake (Igbokwe & Ndubuka, 2024).

Poor nutritional knowledge among adolescents may result in several adverse consequences, including fatigue, poor academic performance, obesity, undernutrition, reduced immunity, and increased susceptibility to diseases. Excessive consumption of foods high in fat, sugar, and salt can contribute to long-term health conditions such as hypertension, diabetes, and cardiovascular diseases. Since dietary habits established during adolescence often persist into adulthood, improving adolescent nutrition has become a major global public health concern (Abubakar et al., 2024).

Addressing these challenges requires collaborative efforts from schools, parents, governments, and health professionals. Nutrition education should be integrated into school curricula and supported through practical activities such as healthy meal planning and food hygiene education. Parents should reinforce healthy eating habits at home, while policymakers should strengthen public health initiatives and regulate the marketing of unhealthy foods to children. In addition, schools should create supportive food environments that encourage healthy dietary choices. Ademiluyi et al. (2026) emphasized the effectiveness of collaborative nutrition education programs in improving adolescents' nutritional knowledge and dietary quality.

The present study was motivated by concerns regarding unhealthy dietary practices and limited nutritional awareness among adolescents in Nigeria, particularly among senior secondary school students. Although previous studies have examined nutrition education and dietary behaviors in different regions of Nigeria and other countries, empirical evidence focusing specifically on students' knowledge of nutritional practices in Delta State remains limited (Edin et al., 2024). While Apaokueze (2025) investigated nutrition education and dietary practices among students in Delta State, a comprehensive assessment of students' knowledge of nutritional practices was not conducted. This gap in the literature highlights the need for further investigation. Therefore, this study seeks to assess the level of knowledge of nutritional practices among Senior Secondary School students in Delta State, Nigeria, and to determine whether differences exist between urban and rural students. Specifically, the study addresses the following research question: What is the level of knowledge of nutritional practices among Senior Secondary School students in Delta State, Nigeria?

2. LITERATURE REVIEW

A. *Theoretical Framework: Albert Bandura's Social Learning Theory*

This study is anchored on Albert Bandura's Social Learning Theory, which explains how individuals acquire knowledge and behaviors through observation, imitation, and modeling (Bandura, 1963). The theory posits that learning occurs within a social context and is influenced by interactions between environmental, cognitive, and behavioral factors. According to Bandura, individuals can learn not only through direct experience but also by observing the actions and outcomes of others' behaviors.

Social Learning Theory identifies four key processes involved in observational learning: attention, retention, reproduction, and motivation (Kurt, 2020). Attention refers to focusing on relevant information,

retention involves remembering the observed information, reproduction is the ability to apply learned behaviors, and motivation provides the reinforcement necessary to sustain those behaviors. In nutrition education, these processes enable students to acquire knowledge about healthy eating habits through classroom instruction, demonstrations, parental guidance, peer interactions, and media exposure.

Bandura further emphasized that learning can occur through live models, verbal instructional models, and symbolic models (Bandura, 1997). Consequently, students may develop nutritional knowledge by observing teachers, parents, peers, and media figures who demonstrate healthy dietary behaviors. Positive reinforcement and supportive learning environments can further strengthen the adoption of desirable nutritional practices.

The theory is relevant to this study because students’ knowledge of nutritional practices is shaped by what they observe, hear, and experience in both school and social environments. Through nutrition education and social interactions, students learn the importance of balanced diets, healthy food choices, and proper eating habits. Therefore, Social Learning Theory provides a suitable framework for explaining how educational and environmental influences contribute to the nutritional knowledge of Senior Secondary School students in Delta State, Nigeria.

B. Hypothesis

H₀: There is no significant difference between urban and rural Senior Secondary School students regarding their level of knowledge of nutritional practices in Delta State, Nigeria.

3. RESEARCH METHOD

This study was conducted in Delta State, Nigeria, which is administratively divided into three senatorial zones: Delta North, Delta Central, and Delta South. The study adopted an ex-post facto research design using a descriptive survey approach to assess Senior Secondary School students’ knowledge of nutritional practices.

The target population consisted of 14,819 Senior Secondary School students enrolled in 370 public secondary schools across the state. Using Slovin’s formula, a sample size of 390 students was determined. A multi-stage sampling technique was employed. First, the 25 Local Government Areas (LGAs) were stratified into the three senatorial zones. Second, three LGAs were purposively selected from each zone. Third, six public secondary schools were randomly selected from each chosen LGA. Finally, 22 students were randomly selected from each school, resulting in a total sample of 390 respondents, with 130 students representing each senatorial zone.

Data were collected using a self-developed structured questionnaire consisting of two sections. Section A obtained respondents’ demographic information, while Section B measured students’ knowledge of nutritional practices using a four-point Likert scale. The instrument was validated by three experts from Delta State University, Abraka, and its reliability was established through a pilot study involving 30 students outside the study sample. Cronbach’s Alpha analysis produced a reliability coefficient of 0.81, indicating satisfactory internal consistency.

The questionnaires were administered by the researcher and four trained research assistants, achieving a 100% response rate. Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 22. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to answer the research question. A criterion mean of 2.50 was adopted for decision-making. The hypothesis was tested using an independent samples t-test at a 0.05 level of significance.

4. RESULTS AND DISCUSSION

A. Knowledge of Nutritional Practices Among Senior Secondary School Students

Table 1. Knowledge on Nutritional Practices Among Senior Secondary Students in Delta State, Nigeria (n=390).

S/N	Items	Mean \bar{x}	SD	Decision
1	Nutritional diet helps to maintain good health	2.81	0.76	Agree
2	Good nutritional practices are taught under Food and Nutrition class	3.16	0.77	Agree
3	Food and Nutrition helps acquire knowledge to choose the right food to eat	2.85	0.89	Agree
4	Food and Nutrition knowledge helps to maintain good nutritional practices	3.28	0.71	Agree
5	Food and Nutrition knowledge create awareness of good nutritional practices	2.78	0.87	Agree

Table 1 presents the respondents’ level of knowledge regarding nutritional practices. The mean scores ranged from 2.78 to 3.28, exceeding the criterion mean of 2.50. This indicates that the respondents possessed a high level of knowledge of nutritional practices. The highest-rated item was “Food and Nutrition knowledge

helps to maintain good nutritional practices” ($M = 3.28$, $SD = 0.71$), followed by “Good nutritional practices are taught under Food and Nutrition class” ($M = 3.16$, $SD = 0.77$). The lowest-rated item was “Food and Nutrition knowledge creates awareness of good nutritional practices” ($M = 2.78$, $SD = 0.87$), although it remained above the acceptance threshold.

The standard deviation values ranged from 0.71 to 0.89, indicating relatively low variability in respondents’ answers and suggesting a high degree of consistency in their perceptions regarding nutritional practices.

B. Difference Between Urban and Rural Students’ Knowledge of Nutritional Practices

Table 2. t-test Analysis of Mean Responses of urban and rural Senior Secondary School

Location	N	Mean \bar{x}	SD	Difference	t-calc	Sig. (2-tailed)	Decision
Urban	219	17.62	2.231				
Rural	171	10.20	1.840	388	35.15	0.00	Reject Ho

Table 2 presents the results of the independent samples t-test conducted to determine whether a significant difference existed between urban and rural students’ knowledge of nutritional practices. Urban students recorded a higher mean score ($M = 17.62$, $SD = 2.231$) than rural students ($M = 10.20$, $SD = 1.840$).

The analysis revealed a statistically significant difference between the two groups, $t(388) = 35.15$, $p < .05$. Since the p-value (0.00) was lower than the significance level of 0.05, the null hypothesis was rejected. This finding indicates that location significantly influences students’ knowledge of nutritional practices in Delta State, Nigeria. Specifically, urban students demonstrated significantly higher levels of nutritional knowledge than their rural counterparts.

C. Discussion

The findings revealed that Senior Secondary School students in Delta State possess a high level of knowledge regarding nutritional practices. The high mean scores obtained across all questionnaire items suggest that students understand the importance of balanced diets, healthy eating habits, and the role of Food and Nutrition education in promoting good health. This finding supports the view that nutrition education plays a significant role in shaping adolescents’ awareness and understanding of healthy dietary practices.

The result is consistent with Okoro (2019), who reported that nutrition knowledge positively influences the dietary habits of secondary school students, particularly adolescents. Similarly, Brown and Ogden (2004) argued that providing nutrition education at an early age contributes to improved lifelong nutritional outcomes. The finding also aligns with Iwu (2018), who emphasized the importance of nutrition education in improving dietary quality and nutrient intake. These studies collectively suggest that educational exposure remains a key determinant of adolescents’ nutritional knowledge and behavior.

The study further revealed a significant difference between urban and rural students’ knowledge of nutritional practices. Urban students demonstrated significantly higher knowledge levels than their rural counterparts, indicating that location influences access to nutrition-related information and educational opportunities. This disparity may be attributed to differences in educational resources, exposure to health information, availability of trained teachers, and access to nutrition awareness programs between urban and rural communities.

This finding supports Shirley (2019), who emphasized that adequate nutritional knowledge acquired through education can foster healthier dietary attitudes and behaviors. It also aligns with Social Learning Theory, which suggests that knowledge acquisition is influenced by environmental exposure and social interactions. Students in urban settings may benefit from greater access to educational resources, media information, and health promotion initiatives, thereby enhancing their nutritional awareness.

Overall, the findings indicate that while Senior Secondary School students in Delta State possess commendable knowledge of nutritional practices, inequalities in access to nutrition education remain evident. Therefore, targeted interventions aimed at strengthening nutrition education and awareness programs in rural schools are necessary to reduce the knowledge gap and promote healthy dietary behaviors among all students.

5. CONCLUSION

This study assessed the knowledge of nutritional practices among Senior Secondary School students in Delta State, Nigeria. The findings revealed that students generally possessed a high level of nutritional knowledge, particularly regarding the importance of balanced diets, healthy eating habits, and Food and

Nutrition education. The results suggest that nutrition education plays an important role in promoting awareness of healthy dietary practices among adolescents.

The study also found a significant difference between urban and rural students' nutritional knowledge, indicating that location influences access to nutrition-related information and educational opportunities. This highlights the need for targeted interventions to reduce knowledge disparities and strengthen nutrition education, particularly in rural schools.

It is therefore recommended that schools, policymakers, and health educators enhance nutrition education programs and improve access to nutrition information for all students. Such efforts will contribute to healthier dietary behaviors, improved student well-being, and better academic outcomes.

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