Prevailing Nutritional Practices Adopted by Senior Secondary School Students in Delta State, Nigeria

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ABSTRAK

Penelitian ini menyelidiki praktik nutrisi yang umum diadopsi oleh siswa Sekolah Menengah Atas di Negara Bagian Delta, Nigeria. Penelitian ini menggunakan desain survei deskriptif dengan pendekatan ex-post facto. Populasi terdiri dari 14.819 siswa dari sekolah menengah negeri di tiga distrik senatorial Negara Bagian Delta. Sampel sebanyak 390 siswa dipilih melalui pengambilan sampel bertahap menggunakan rumus Slovin. Data dikumpulkan menggunakan kuesioner yang telah divalidasi dengan koefisien reliabilitas 0,81 dan dianalisis menggunakan statistik deskriptif dan analisis uji-t pada tingkat signifikansi 0,05. Hasil penelitian menunjukkan bahwa siswa sebagian besar terlibat dalam praktik nutrisi yang tidak sehat, termasuk makan karena emosi (M = 3,38), mengonsumsi porsi makanan besar (M = 3,07), sering ngemil (M = 3,06), dan melewatkan makan (M = 2,92). Perilaku sehat seperti konsumsi buah dan sayur setiap hari (M = 2,28) dan olahraga teratur (M = 2,41) tidak umum dipraktikkan. Selanjutnya, hasil uji t menunjukkan tidak ada perbedaan signifikan antara siswa laki-laki dan perempuan terkait praktik gizi (t = 0,20, p = 0,85). Studi ini menyimpulkan bahwa perilaku diet yang tidak sehat tersebar luas di kalangan siswa tanpa memandang jenis kelamin, menyoroti perlunya pendidikan gizi yang tepat sasaran dan program intervensi kesehatan berbasis sekolah.

Keyword: Praktik Nutrisi; Siswa Sekolah Menengah Atas; Survei Deskriptif; Makan karena Emosi; Delta State

ABSTRACT

This study investigated the prevailing nutritional practices adopted by Senior Secondary School students in Delta State, Nigeria. The study employed a descriptive survey design using an ex-post facto approach. The population comprised 14,819 students from public secondary schools across the three senatorial districts of Delta State. A sample of 390 students was selected through multistage sampling using Slovin's formula. Data were collected using a validated questionnaire with a reliability coefficient of 0.81 and analyzed using descriptive statistics and t-test analysis at a 0.05 significance level. The findings revealed that students predominantly engaged in unhealthy nutritional practices, including emotional eating (M = 3.38), consuming large food portions (M = 3.07), frequent snacking (M = 3.06), and meal skipping (M = 2.92). Healthy behaviors such as daily fruit and vegetable consumption (M = 2.28) and regular physical exercise (M = 2.41) were not commonly practiced. Furthermore, the t-test result indicated no significant difference between male and female students regarding nutritional practices (t = 0.20, p = 0.85). The study concludes that unhealthy dietary behaviors are widespread among students regardless of gender, highlighting the need for targeted nutrition education and school-based health intervention programs.

Keyword: Nutritional Practices; Senior Secondary Students; Descriptive Survey; Emotional Eating; Delta State

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1. INTRODUCTION

Adolescence is a critical period of development characterized by rapid physical growth, physiological changes, and the gradual development of behavioral independence. An examination of adolescents' dietary habits reveals that senior secondary school students exhibit diverse nutritional practices influenced by environmental, social, and economic factors. Their eating behaviors reflect a complex interaction between traditional food systems and the increasing adoption of modern convenience-oriented dietary patterns. Meal skipping is a common behavior among adolescents worldwide, particularly among secondary school students. A significant proportion of adolescents regularly miss important meals due to academic pressure, limited time in the morning, or concerns related to body image, while others maintain a structured pattern of consuming three regular meals per day (Falak et al., 2025; Igbokwe & Ndubuka, 2023). Breakfast and lunch are the meals most frequently skipped by school-aged children (Igbokwe & Ndubuka, 2023; Otinwa et al., 2023). Habitual breakfast skipping has been associated with nutritional deficiencies and reduced academic concentration because students are deprived of a steady supply of glucose required for optimal cognitive functioning during school hours (Otinwa et al., 2023).

Alongside meal-skipping behaviors, snacking has become a prominent feature of adolescent dietary patterns. Senior secondary school students often prefer energy-dense and nutrient-poor foods such as biscuits, pastries, savory snacks, and sugar-sweetened beverages rather than more nutritious alternatives (Igbokwe & Ndubuka, 2023; Otinwa et al., 2023). The high consumption of processed foods is influenced by peer pressure, media advertising, and the easy availability of such products around school environments (Falak et al., 2025). For many students, these commercial snacks are not merely supplementary foods but are frequently used as substitutes for regular meals because they provide a convenient means of alleviating hunger between meals or in place of proper meals altogether (Omotoso et al., 2025; Otinwa et al., 2023).

The nutritional status of adolescents is further affected by inadequate consumption of fresh fruits, vegetables, and high-quality protein sources. Research indicates that many secondary school students fail to meet recommended dietary intakes for fiber, vitamins, and minerals (Ninh et al., 2025; Otinwa et al., 2023). At this developmental stage, food choices are often guided by convenience and accessibility rather than nutritional value (Igbokwe & Ndubuka, 2023). Consequently, carbohydrate-rich foods such as rice and noodles frequently dominate daily diets, while vegetables and lean protein sources remain under-consumed (Uba et al., 2020). Such imbalances in macronutrient and micronutrient intake may compromise immune function and contribute to hidden hunger resulting from micronutrient deficiencies (Otinwa et al., 2023).

Parental education and socioeconomic status also exert significant influence on adolescents' nutritional practices. Students from low-income households often experience limited access to nutritious foods and therefore rely more heavily on inexpensive, highly processed, calorie-dense products that provide limited micronutrient value (Falak et al., 2025). In contrast, adolescents whose parents possess higher levels of education are generally more likely to have access to regular meals, structured eating patterns, and a more diverse range of food groups (Omotoso et al., 2025). Furthermore, unrealistic body-image standards promoted through social media may encourage adolescents to engage in restrictive dieting behaviors or unhealthy weight-control practices based on distorted perceptions of their physical appearance (Falak et al., 2025).

These dietary patterns have important implications for long-term public health. Poor nutrition during adolescence contributes to the dual burden of malnutrition, characterized by both undernutrition and increasing rates of overweight and obesity among secondary school students (Uba et al., 2020; Żwirska et al., 2025). If left unaddressed, inadequate nutrition during this critical developmental stage may increase the risk of metabolic disorders, cardiovascular diseases, type 2 diabetes, and reduced bone density later in adulthood (Falak et al., 2025; Żwirska et al., 2025). Consequently, structured nutrition education programs within secondary school curricula remain essential for improving food literacy, promoting healthy eating attitudes, and safeguarding long-term health outcomes (Igbokwe & Ndubuka, 2023; Omotoso et al., 2025).

The present study was motivated by the need to investigate the prevailing nutritional practices among senior secondary school students in Delta State, Nigeria, with the aim of identifying dietary behaviors that may affect students' health and development. This localized investigation is particularly important because notable gaps remain within the existing literature. While national-level studies on adolescent nutrition are widely available, limited research has explored the specific interactions among local economic conditions, peer influences, and dietary behaviors within the context of Delta State. Recent studies suggest that general nutrition education programs often fail to address the practical economic decisions students make when choosing between nutritionally balanced foods and inexpensive calorie-dense alternatives (Agofure et al., 2025). Moreover, factors such as the structure of local food vending markets and school-related time constraints, which may contribute to meal-skipping behaviors, are rarely examined within conventional public health frameworks (Gabriel et al., 2024). Therefore, this study seeks to generate context-specific evidence that can bridge the gap between students' nutritional knowledge and their actual dietary practices, thereby providing

empirical insights for policymakers and educational stakeholders seeking to design culturally appropriate school-based nutrition interventions.

Guided by these concerns, the study addresses the following research question: *What are the prevailing nutritional practices adopted by senior secondary school students in Delta State, Nigeria?* In addition, the study tests the null hypothesis that there is no significant difference between male and female senior secondary school students regarding the prevailing nutritional practices adopted in Delta State, Nigeria.

2. RESEARCH METHOD

This study was conducted in Delta State, Nigeria, which is geographically bordered by Edo, Ondo, Anambra, Imo, Rivers, and Bayelsa States, as well as the Bight of Benin. The state is administratively divided into three senatorial districts: Delta North, Delta Central, and Delta South.

The study adopted an ex post facto research design and a descriptive survey approach. These methods were considered appropriate because the study sought to investigate existing nutritional practices among senior secondary school students without manipulating any variables. The target population comprised 14,819 senior secondary school students enrolled in 370 public secondary schools across the three senatorial districts of Delta State. Specifically, 6,169 students were from Delta Central, 4,926 from Delta North, and 3,724 from Delta South. Demographic data relating to the population were obtained from the Post Primary Education Board (PPEB), Asaba.

The sample size was determined using Slovin's formula, resulting in a sample of 390 students. A multistage sampling procedure was employed. First, the 25 Local Government Areas (LGAs) in Delta State were stratified into the three senatorial districts. Subsequently, three LGAs were randomly selected from each district, resulting in a total of nine LGAs. From each selected LGA, two public secondary schools were randomly chosen, yielding a total of 18 schools. Finally, approximately 22 students were randomly selected from each school to participate in the study, giving a total sample size of 390 respondents.

Data were collected from both primary and secondary sources. The primary data collection instrument was a self-developed structured questionnaire consisting of two sections. Section A elicited respondents' demographic information, while Section B contained items measuring nutritional practices using a four-point Likert scale ranging from Strongly Agree (4) to Strongly Disagree (1).

To ensure the validity of the instrument, face and content validation procedures were conducted by three experts from Delta State University, Abraka. Reliability was established through a test–retest procedure involving 30 senior secondary school students who were not included in the main study sample. The instrument demonstrated satisfactory internal consistency, with a Cronbach's alpha coefficient of 0.81, indicating a high level of reliability.

The questionnaires were administered by the researcher and four trained research assistants with the cooperation of school principals and teachers. All 390 copies of the questionnaire were successfully completed and retrieved, resulting in a 100% response rate.

Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 22. Descriptive statistics, including frequency counts, percentages, means, and standard deviations, were used to answer the research question. A criterion mean of 2.50 was adopted as the benchmark for determining agreement or disagreement with questionnaire items. Inferential analysis was conducted using the independent samples t-test to examine differences in nutritional practices between male and female students. All hypotheses were tested at the 0.05 level of significance, and decisions regarding the acceptance or rejection of the null hypothesis were based on the corresponding p-values.

3. RESULTS AND DISCUSSION

A. Prevailing Nutritional Practices among Senior Secondary School Students in Delta State, Nigeria

Table 1. Prevailing Nutritional Practices Adopted by Senior Secondary School Students in Delta State, Nigeria (n=390).

S/N	Items	Mean $\bar{X}$	SD	Decision
1	Always eat food from fast food-restaurants	2.04	0.84	Disagree
2	Eat only my cooked food	3.11	0.78	Agree
3	Like snacks such as cakes, meat pie, cookies among others	3.06	0.83	Agree
4	Always eat fruits-vegetables daily	2.28	0.93	Disagree
5	Like skipping meals	2.92	0.83	Agree
6	Like eating snacks during school	2.89	0.93	Agree
7	Drink plenty of water daily	2.79	0.85	Agree
8	Eat more eba-fufu-starch with soup daily	2.81	0.95	Agree
9	Eat emotionally	3.38	0.69	Agree
10	Eat a large portion of food always	3.07	0.76	Agree

S/N	Items	Mean $\bar{X}$	SD	Decision
11	Always do physical exercise every day	2.41	0.92	Disagree
12	Eat my food slowly and thoroughly	1.81	0.79	Disagree

The study investigated the prevailing nutritional practices adopted by senior secondary school students in Delta State, Nigeria. The findings presented in Table 1 reveal varying dietary behaviors among the respondents. Based on the criterion mean of 2.50, eight out of the twelve nutritional practice items were rated above the benchmark and were therefore considered prevalent among the students.

The highest-rated practice was emotional eating (M = 3.38, SD = 0.69), indicating that many students tend to consume food in response to emotional states rather than physiological hunger. Other prominent practices included eating only home-cooked meals (M = 3.11, SD = 0.78), consuming large portions of food (M = 3.07, SD = 0.76), and frequently eating snacks such as cakes, meat pies, and cookies (M = 3.06, SD = 0.83). Students also reported a tendency to skip meals (M = 2.92, SD = 0.83), consume snacks during school hours (M = 2.89, SD = 0.93), drink plenty of water daily (M = 2.79, SD = 0.85), and regularly consume staple carbohydrate-based foods such as eba, fufu, and starch with soup (M = 2.81, SD = 0.95).

Conversely, four nutritional practices were not commonly adopted by the respondents. These included eating food from fast-food restaurants (M = 2.04, SD = 0.84), consuming fruits and vegetables daily (M = 2.28, SD = 0.93), engaging in daily physical exercise (M = 2.41, SD = 0.92), and eating food slowly and thoroughly (M = 1.81, SD = 0.79). These findings suggest that although students tend to rely on home-prepared meals, their overall dietary habits are characterized by unhealthy behaviors such as meal skipping, excessive snacking, emotional eating, and inadequate consumption of fruits and vegetables.

The standard deviation values ranged from 0.69 to 0.95, indicating a relatively low dispersion of responses and suggesting a considerable level of agreement among respondents regarding their nutritional practices.

These findings support previous studies which reported that adolescents frequently engage in meal skipping and excessive snacking while failing to consume adequate quantities of fruits and vegetables (Igbokwe & Ndubuka, 2023; Otinwa et al., 2023). The high prevalence of emotional eating observed in this study may reflect the influence of academic stress, peer pressure, and psychosocial challenges commonly experienced during adolescence. Similarly, the low consumption of fruits and vegetables raises concerns regarding micronutrient deficiencies and the potential long-term health consequences associated with poor dietary quality. The findings further suggest that nutritional awareness alone may not be sufficient to promote healthy eating behaviors among adolescents without supportive environmental and educational interventions.

B. Gender Difference in Nutritional Practices

Table 2. t-test Analysis of Mean Responses of male and female Senior Secondary School students on the prevailing nutritional practices adopted

Gender	N	Mean $\bar{X}$	SD	Difference	t-calc	Sig. (2-tailed)	Decision
Male	197	40.72	4.04	388	0.20	0.85	Accept Ho
Female	193	40.64	4.06				

The study also examined whether significant differences existed between male and female students regarding their nutritional practices. The results of the independent samples t-test presented in Table 2 indicate that male students recorded a mean score of 40.72 (SD = 4.04), while female students recorded a mean score of 40.64 (SD = 4.06). The difference between the two group means was minimal.

The t-test analysis yielded a calculated t-value of 0.20 with a corresponding p-value of 0.85. Since the p-value exceeded the significance level of 0.05 ($p > 0.05$), the null hypothesis was retained. Therefore, there was no statistically significant difference between male and female senior secondary school students regarding the nutritional practices adopted in Delta State, Nigeria.

This finding suggests that nutritional behaviors among adolescents in the study area are largely similar regardless of gender. The result implies that environmental, cultural, and socioeconomic influences may play a more substantial role in shaping dietary habits than gender-related factors. Consequently, nutrition intervention programs designed for secondary school students in Delta State may be implemented broadly without the need for significant gender-specific modifications.

The finding is consistent with studies reporting that adolescent dietary behaviors are often influenced more strongly by family environment, food accessibility, peer influence, and school contexts than by gender differences alone. This emphasizes the need for comprehensive school-based nutrition education programs and community-level interventions that address the broader determinants of adolescent eating behaviors.

C. Discussion

The findings of this study revealed that the prevailing nutritional practices among senior secondary school students in Delta State, Nigeria, include emotional eating, consuming predominantly home-cooked meals, eating large portions of food, frequent consumption of snacks such as cakes, meat pies, and cookies, skipping meals, snacking during school hours, consuming carbohydrate-based staple foods such as eba, fufu, and starch with soup, and drinking adequate amounts of water daily. Among these practices, emotional eating, meal skipping, excessive snacking, and consuming large food portions may be considered unhealthy dietary behaviors that could negatively affect adolescents' nutritional status and overall well-being.

The prevalence of these dietary habits supports previous findings that adolescents often adopt eating behaviors influenced by convenience, emotional factors, and lifestyle demands rather than nutritional considerations. In particular, the tendency to skip meals and rely on snacks as meal substitutes is consistent with the findings of Scagloni et al (2008), who reported that a substantial proportion of teenagers regularly skip breakfast before school. Such behaviors may increase students' susceptibility to nutritional deficiencies, reduced concentration, lower academic performance, and long-term health complications.

The present findings also partially support the observations of Perry (2014), who argued that unhealthy eating habits such as excessive snacking and irregular meal consumption may hinder adequate nutrient intake required for healthy growth and development. Although respondents reported drinking sufficient water and consuming home-cooked meals, the low consumption of fruits and vegetables and the tendency toward meal skipping suggest that their overall dietary pattern remains nutritionally imbalanced. Consequently, these nutritional practices may expose adolescents to both immediate and long-term health risks, including micronutrient deficiencies, obesity, and other diet-related conditions.

Furthermore, the study revealed that healthy nutritional practices such as daily physical exercise, regular consumption of fruits and vegetables, and eating food slowly and mindfully were not commonly adopted by the respondents. This finding indicates that many senior secondary school students maintain lifestyle behaviors that may not adequately support optimal growth, physical fitness, and disease prevention. The limited engagement in healthy dietary and lifestyle practices highlights the need for targeted nutrition education and health promotion programs within secondary schools.

The findings relating to the hypothesis showed that there was no statistically significant difference between male and female senior secondary school students regarding the nutritional practices adopted in Delta State, Nigeria. This suggests that both male and female students exhibit similar dietary behaviors and share comparable perceptions of their nutritional practices. The result implies that gender is not a determining factor in shaping nutritional practices among the respondents.

This finding is consistent with the study conducted by Najib et al. (2022), which reported that food choices among adolescents are influenced by broader psychological and sociological factors, including economic conditions, food availability, market influences, and perceptions of food quality, rather than by gender alone. Similarly, previous studies have emphasized that adolescents' eating behaviors are shaped by a combination of environmental, social, and economic influences that affect both male and female students in comparable ways (Achebe & Onyemaechi, 2023; Nwokolo et al., 2022; Okosa, 2022; Udensi & Okosa, 2025).

Overall, the findings suggest that the nutritional practices adopted by senior secondary school students in Delta State are largely driven by common environmental and social influences that transcend gender differences. Therefore, interventions aimed at improving adolescent nutrition should focus on promoting healthy eating behaviors, increasing access to nutritious foods, strengthening school-based nutrition education, and creating supportive environments that encourage healthier lifestyle choices among all students.

4. CONCLUSION

This study examined the prevailing nutritional practices among senior secondary school students in Delta State, Nigeria. The findings revealed that students commonly engage in nutritional practices such as consuming home-cooked meals, drinking adequate amounts of water, eating large portions of food, snacking during school hours, consuming carbohydrate-based staple foods, emotional eating, and skipping meals. While some of these practices may contribute positively to health, others, particularly emotional eating, excessive snacking, and meal skipping, may expose adolescents to nutritional and health-related challenges.

The study further found that healthy lifestyle behaviors, including regular consumption of fruits and vegetables, daily physical exercise, and mindful eating practices, were not widely adopted among the respondents. These findings suggest that although students demonstrate certain positive nutritional behaviors, their overall dietary pattern reflects a combination of healthy and unhealthy practices that may affect their long-term health and well-being.

In addition, the study established that there was no statistically significant difference between male and female students regarding the nutritional practices adopted. This indicates that gender does not significantly

influence the nutritional behaviors of senior secondary school students in Delta State, Nigeria, and suggests that similar environmental, social, and lifestyle factors shape the dietary habits of both groups.

Based on these findings, the study concludes that there is a need for strengthened school-based nutrition education, health promotion initiatives, and behavioral intervention programs aimed at encouraging healthier dietary choices and active lifestyles among adolescents. Such interventions may contribute to improved nutritional outcomes and support the overall health and development of secondary school students.

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