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Sources of information available to senior secondary school student on the nutritional practices adopted in Delta State, Nigeria

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Abstract
Promoting healthy eating among youth is hindered by limited access to reliable dietary guidance, which often leads to poor nutritional practices and adverse long-term health outcomes among adolescents. This study adopted an ex-post facto, descriptive survey design in Delta State, Nigeria. Out of a population of 14,819 public senior secondary students across three senatorial zones, a sample of 390 students from 18 schools was selected using Slovin's formula and multistage sampling. Data was collected via a validated, 4-point Likert scale questionnaire (Cronbach's Alpha = 0.81) with a 100% retrieval rate. Analysis involved percentages, mean scores, standard deviations, and t-test statistics using SPSS version 22. Based on 390 respondents, senior secondary students agreed that television (M = 3.47), friends/classmates (M = 3.26), radio (M = 2.90), and social media (M = 2.76) are available nutritional information sources, exceeding the 2.50 cut-off. Conversely, they disagreed on home economics textbooks, newspapers, and fiction books (M = 2.23 – 2.40). Standard deviations ranged from 0.63 to 0.99. Hypothesis testing revealed a significant locational difference in information sources between urban (N = 219, M = 21.42, SD = 2.62) and rural (N = 171, M = 12.35, SD = 2.38) students. With t-cal = 35.32 and p = 0.00 (at alpha = 0.05), the null hypothesis was rejected. In conclusion, secondary students rely heavily on electronic and social media for nutritional knowledge, while print media remains ineffective. Significant urban-rural disparities highlight the urgent need for equitable, localized nutritional interventions.

1. Introduction

Adequate nutrition is important for human survival, proper physical and mental development, as well as good health. Nutrition is an important aspect of the growth development and total functioning of an individual. Good nutrition provides the energy and all necessary nutrients required by the body to sustain life and improve physical, social, emotional, and cognitive development. The United States National Library of Medicine (2012) described nutrition as the sum processes by which a human obtains and utilizes materials known as nutrients, for its existence and survival. Nutrition involves eating food and other factors that are related to consumption such as food choices, food habits, exercise, rest, and other healthy nutritional practices.

Good nutritional practices lead to a stronger immune system, less ailment, and improved health status as well as reduce the incidence of nutritional disorders. (European Food Investigation Council, 2011). The relationship between nutrition and health cannot be over-emphasized, especially during infancy and adolescence. Nutrition during these critical formative years has both immediate and long-term impacts. It is therefore of great importance that every individual to an extent is abreast with the knowledge of nutrition and healthy nutritional practices that are vital for the development of positive food habits and choices. Good nutrition practices help one to be healthy, prevent disease

and increase the quality of life. This according to Isobel (2015) can be achieved through adequate food choices and dieting patterns.

Food is any nutritious substance in a solid or liquid state that people eat or drink to maintain life and growth. This suggests that food is any substance when consumed provides nutritional support because of its essential nutrients. Nwanbah (2015) defined nutrients as components of food that are necessary to the functioning of the body. This means that food nutrients such as carbohydrates, protein, vitamins, fats, and minerals are broken down and synthesized during the process of nutrition to supply the body with its needs. Nutrition is the science that interprets the interaction of nutrients and other substances in food, examples are phytonutrients, anthocyanin, and tannins for maintenance, growth, reproduction, health, and diseases of an organism. It includes food intake, absorption, assimilation, biosynthesis, catabolism, and excretion. According to Perry (2014), nutrition is the process by which the body nourishes itself by transforming food into energy and body tissues. The Science of Nutrition concerns everything the body does with food to carry on its functions.

Food and Nutrition is a major area in the field of Home Economics that deals with food, its nutrients, functions, and consumption. Food and Nutrition is concerned with any set of learning experiences designed to facilitate the voluntary adoption of eating and other nutritionally related behaviours that are conducive to health and well-being (Luluski, 2001). It is an integral part of providing nutrition services to everyone. Food and Nutrition knowledge is a process of teaching the science of nutrition to an individual or group. The objectives of food and nutrition education for the Senior Secondary Schools Students provide them with correct information on the nutritional value of foods, food quality, and safety, methods of preservation, processing, and handling, food preparation, and eating to help them make the best choice of foods for better health (Thomas, 2001).

At the secondary school level, the objectives of food and nutrition include: helping individuals develop an understanding of the underlying scientific principles upon which current issues in nutrition are based, be informed about methods of food production and processing in domestic and commercial situations, to encourage an awareness of social, economic and cultural aspects of food choice among others. It is also to reinforce specific nutrition-related practices or behaviours to change habits that contribute to poor health; this is done by creating motivation for change among people, to establish desirable food and nutrition behaviours for the promotion and protection of good health (Miller, 2014).

Food and Nutrition education requires being sensitive to the changing needs of school children due to the setting in which they learn, live, and play. It should provide meaningful learning activities which will help them assimilate the knowledge, nurture the motivation and acquire the skills to make food choices and behavior, this will not only promote their well-being but also empower them to be agents of change, taking action where necessary to create an environment which is more conducive to healthier eating. Food and nutrition education should be forward-looking, anticipating the future needs of school children due to ongoing globalization and technological innovation (Ukpore, 2018). This knowledge has a critical role in enabling access to sufficient quality and quantity of foods for their households and communities. Food and Nutrition education is taught in the senior secondary school classes. It exposes students to food choices and habits, nutritional composition, and healthy food handling practices. Shirley (2019) remarked that sound nutritional knowledge acquired in school has the potential of impacting the needed attitude toward dietary practices. This means that information about nutritional practices from the teacher is important to generate the right attitude or else students could source information from unlikely sources. Sourcing the right information about adequate nutrients is vital for the students' well-being.

Students at the Senior Secondary School level are mostly adolescents, thus adequate nutrient intake during this stage is very important for many reasons. Adolescence is a unique period of life because it is a time of intense physical, psychological, and cognitive development. Adolescence is a transitional phase to adulthood. The age of adolescence encapsulates a window of time when bodies are metamorphosing and evolving into that of an adult. It is a time when the adolescent tries to establish his own identity yet desperately seeks to be socially accepted by his peers (Luluski, 2001). During adolescence, hormonal changes accelerate growth in height. Growth is faster than at any other time in an individual's life except in the first year. The increase in nutritional needs at this juncture

relates to the fact that adolescents gain up to 50% of their adult weight, more than 20% of their adult height, and 50% of their adult skeletal mass during this period (Begum, 2013).

The adolescent, therefore, faces a series of serious nutritional challenges which would impact their rapid growth as well as their health as an adult (Suri, 2004). Many Senior Secondary School Students are adolescents and they encounter numerous health risks along the path to adulthood, many of which affect their quality of life. These students must get the right information about nutrition and its practice. This is because many students often depend on information from arrays of sources such as television programme, radio programme, peer groups, internet among others for their nutritional awareness, food choices, and nutritional practices. Furthermore, the habit of eating junk such as soft drinks egg rolls, meat pies, biscuits, chin-chin, bread, and puff-puff among others can make students vulnerable to poor nutritional practices. These students have a low intake of fruits and vegetables and consume a lot of fast foods that are often high in fat (World Health Organization, 2014).

Nutritional practice includes observable actions or behaviour of dietary habits and can be classified as good nutritional practices which are healthy or poor nutritional practices that are unhealthy. Nutritional practices are a person's choices of food consumption. Nutrition education programs are designed to improve nutritional knowledge to support sound dietary intake. Students in secondary schools are exposed to education on nutritional guidelines, food groups, food intake, food selection, and preparation among others. Amato and Rogers (1997) emphasized that nutrition knowledge is important in shaping nutritional patterns as well as the basis for the determination of nutrition-related behavior. Nevertheless, the place of nutrition knowledge shapes a student's perception of food and the behavior they might have about the food (Okoro, 2019).

Ezema (2017) remarked that poor nutritional practices can likely increase the risk of osteoporosis, obesity, hyperlipidemia, diabetes, and cancer later in life. It is unfortunate to observe that an unhealthy lifestyle or poor nutritional practices are even linked to other demographic factors such as age, sex, location, and sources of information (media) among others related to an individual's nutritional status. All of these associations suggest that it is important to establish a good nutritional practice at an early age. A good nutritional practice is a significant factor in the growth, development, and overall functioning of an individual. Malaspina and Rabinowite (2017) believed that adequate nutritional knowledge and nutritional practice can result in good health and can also provide the individual with the nutrients essential to sustain life and promote physical, social, emotional, and cognitive development. Malaspina and Rabinowite (2017) stated further that good nutritional practices can help the students to build a stronger immune system, less illness, and better health. The relationship between nutritional knowledge and health cannot be over-emphasized, especially among secondary school students. It is a fundamental basis for students' survival and prevention of malnutrition. It is during infancy and early childhood adolescence that irreversible faltering in linear growth and the cognitive deficit are associated with anemia (Gillapsy, 2015).

Consistent dietary practices that are based on a well-articulated nutrition education programme should be encouraged among Secondary School Students. Students' nutritional practices during the crucial adolescent stage have both immediate and long-term impacts on their health. Unhealthy nutritional practices such as eating snacks for breakfast and lunch, skipping meals, and not drinking plenty of water during the day could increase the susceptibility of students to undernutrition or malnutrition. This habit has inhibitory effects on the bio-availability of these basic nutrients which are essential to growth and development during adolescence (Perry, 2014). Dietary and other lifestyle behavior formed during adolescence contributes to adulthood behavior.

Ukpore (2016) suggested that a healthy food diet for Secondary School Students whether boys or girls who are between the ages of 14-16 should include the consumption of oil, fish, seeds, and nuts. The Omega-3 fatty oil in certain fish especially salmon, mackerel, herring, sardines, pilchards, and kippers is good for healthy brain function. As these boys and girls transit from home to secondary school life, nutritional knowledge becomes more important because food options change and dietary challenges arise. Students have the liberty of choosing a variety of healthy and unhealthy food options. If the Secondary School Students are unaware of the nutritional requirements to maintain healthy body weight, they can make poor nutritional decisions, which can cause poor weight

management and health problems, which may be required to meet the daily nutritional requirement for one's body to function properly and to maintain one's health to the optimal level.

Without proper nutritional knowledge and guidance, adolescents are susceptible to falling into long-lasting poor nutritional practices that may lead to several health risks including childhood obesity and diabetes (Okeke, 2010). Obesity not only has harmful effects on one's health but can also cause emotional stress among adolescents. Thus, teachers who are responsible for teaching food and nutrition should expose students to relevant knowledge on proper nutritional practices that can have an impact on the food choices of adolescents in secondary schools. Importantly, providing adequate food and nutrition knowledge at an early age will greatly influence the dietary practices adopted by these Secondary School Students. In-depth nutritional knowledge provided in secondary school is one of the keys to actualizing positive nutritional habits by students in secondary school. No wonder, Ezema (2017) reported that adequately impacted nutrition knowledge will facilitate healthy dietary practices and food choices by students. Nutritional knowledge has been taught by various educators through multiple venues and involves the activities of the individual, school, community, and policy levels. Despite the increasing accessibility of nutrition information in Nigeria, adolescents in Senior Secondary Schools seems to continue to adopt unhealthy nutritional practices.

Senior Secondary School Students in Delta State between the ages of 14 and 16 are in the single or mixed schools located in urban or rural areas and are expected to acquire Food and Nutrition education in schools to enable them develop healthy food choices and habits. The secondary schools located in urban areas are characterized by higher human population density and vast human-built features in comparison to the area surrounding it. While the secondary schools in the rural area are geographically located outside the cities and towns with sparse population and agricultural activities. In the Senior Secondary School in Delta State, the time devoted to food and nutrition practical during school hours is limited; this no doubt may affect the interest of the students in the study of food and nutrition. For students to acquire knowledge and skills in food and nutrition, students need to be exposed to theory and practice.

Secondary School Students who are adequately taught and exposed to skills needed for making healthy food choices will adopt good nutritional practices that can encourage good health. Several factors can affect the nutritional practices adopted by Senior Secondary School students in both rural and urban settings such as sex, food customs, nutritional knowledge, family background, food accessibility, and availability. Determinants such as hunger appetite, taste, satiety, palatability, cost, and income, accessibility and availability, constraints, social context, and stress go a long way to determining the nutritional practices of students (Okeke, 2010). Ezema (2017) pointed out that higher levels of nutrition knowledge have been reported in students whose parents possess a high level of education, and high socioeconomic status and greater levels of nutrition knowledge have been typically found in female students as against their male counterparts. Family size is an integral factor in adopting nutritional practices. The specific contribution of nutrition knowledge to the overall quality of food intake is considered to be complex and is influenced by the interaction of many demographic and environmental factors. Possessing knowledge about food and proper food handling practices is valuable at any age, because it is critical to sustainable health.

Malaspina and Rabinowitz (2017) observed that exposure of students to healthy eating practices tends to shape a permanent food behavior later in life. In other words, being exposed to certain nutritional knowledge practices has several implications for a student's physical well-being as well as what forms his or her food habits, food choices, and nutritional diet. This study is vital for addressing a critical gap in adolescent health by shifting focus from food science to information accessibility. While extensive research details food composition and processing such as fortified cakes (Ogbonyomi et al., 2023), wheat-garri cupcakes (Aniemena et al., 2024), fermented Bambara groundnut milk (Chude et al., 2023), and the nutritional effects of cooking on yam beans (Okpalanma et al., 2025) and leafy vegetables (Okpalanma et al., 2024a) these scientific innovations remain underutilized if adolescents lack the channels to learn about them.

Furthermore, research by Ogbanu et al. (2026) emphasizes the curriculum competencies of teachers but overlooks how students actually acquire day-to-day dietary habits outside formal classrooms. This study bridges these gaps by identifying exactly where students get their nutritional information. Understanding these sources is essential for policymakers and educators to design

targeted interventions. Discovering that students rely heavily on digital and broadcast media rather than traditional textbooks, can help stakeholders to effectively package laboratory-proven dietary insights into accessible, media-driven public health campaigns, ensuring that nutritional science directly translates into healthier adolescent lifestyles.

The research question focuses on the sources of information available to Senior Secondary School students on the nutritional practices adopted in Delta State, Nigeria. The hypothesis states that there is no significant difference between urban and rural Senior Secondary School students regarding the sources of information available on the nutritional practices adopted in Delta State, Nigeria.

2. Method

2.1. Area of Study

The area of this study is Delta State. Delta state is located in the South-South geopolitical zone of Nigeria, lying approximately between 5^0 00 and 6^0 45/ E and 5^0 00 and 6^0 30/ N. Delta State, Nigeria is bounded in the North by Edo State, North West by Ondo State, the east by Anambra and Imo States, southeast by Rivers States, on the south by Bayelsa State, and on the Southern extreme by the Bight of Benin. The state is divided into three senatorial districts/zones namely: Delta North, Delta Central, and Delta South.

2.2. Research Design

This study adopted an ex-post facto research design and used a descriptive survey research method. This is deemed suitable for this study because it seeks to describe, explain and analyze the situations or events as they have occurred without the researcher introducing her own opinion or manipulating the events. Nworgu (2015) affirmed that the descriptive survey reveals conditions and shows the need for change.

2.3. Population of the Study

The population of the study is 14,819 Senior Secondary Schools students in 370 public Secondary Schools in Delta State comprising 6169, 4926, and 3724 Senior Secondary Schools Students in Delta Central, Delta North, and Delta South senatorial districts respectively. The choice of senior secondary school students for this study is informed by the fact that they are the main subject of the study. The secondary source of data were materials collected from the Post Primary Education Board, Asaba Delta State. Data drawn from this source shall include the demographic characteristics of the Senior Secondary School Students in Delta State, based on Local Government Areas (LGA) and senatorial districts in Delta State.

2.4. Sample and Sampling Techniques

The Slovin's 1960 sample size formula [$n=N/1+N\ (0.05)^2$] was adopted to obtain a sample size of 390 Secondary Schools Students from 370 public secondary schools in Delta State. A multistage sampling technique was employed to sample the population of the study in stages. Firstly, the 25 Local Government Areas (LGAs) in Delta State were stratified into 3 zones namely Delta Central (Ethiope East, Ethiope West, Okpe, Sapele, Udu, Uvwie, Ughelli North, and Ughelli South), Delta North (Aniocha North, Aniocha South, Ika North-East, Ika South, Ndokwa East, Ndokwa West, Oshimili North, Oshimili South, and Ukwuani), and Delta South (Bomadi, Burutu, Isoko North, Isoko South, Patani, Warri North, Warri South, and Warri South-West).

Secondly, three (3) LGAs each in Delta Central (Sapele, Uvwie, and Ughelli North), Delta North (Aniocha North, Ika North-East, and Oshimili North), and Delta South (Bomadi, Isoko South, and Warri South) were purposively selected. This represents 36% of LGAs selected in Delta State. Thirdly, from each LGA area, 6 secondary schools were randomly selected, representing 4.86% of schools in Delta State. Fourthly, from each selected school, 22 students were randomly selected (132 students per zone) representing 33.33% of the sample population per zone. Table 1 shows the multi-stage sampling procedure that was adopted for schools/students in Delta State Public Secondary Schools.

Table 1. A Multi-Stage Sampling of Schools/Students in Delta State Public Secondary Schools

Senatorial Zones	Population	Sampled LGAs	Schools Sampled Per LGA	Sampled Subject
Delta Central	6169	8 (3)	3 (6)	130
Delta North	4926	9 (3)	3 (6)	130
Delta South	3724	8 (3)	3 (6)	130
Total	14,819	25 (9)	9 (18)	390

Data in this study were collected from both primary and secondary sources. The instrument for collecting data from the primary source consisted of the researcher's self-structured closed-ended questionnaire tagged "Questionnaire on Knowledge and Nutritional Practices Adopted by Senior Secondary School Students in Delta State, Nigeria" (QKNPASSSSDSN). The instrument was self-developed based on recognized processes from the literature reviewed for the study. The research instrument consisted of two (2) parts, 1 and 2. Part 1 solicited information on the demographic characteristics of the respondents which include their location, gender, and age among others. Part 2 will comprise sections A – E with each section designed to address a specific research question that was answered by all the respondents.

The research instrument for data collection solicited information about the level of agreement or disagreement with the instrument items using a four (4) point rating scale of Strongly Agree (SA) = 4, Agree (A) = 3, Disagree (D) = 2 and Strongly Disagree (SD) = 1. Section A was intended to identify the main source of information about nutritional practices adopted by students, section B seeks to determine the level of students' knowledge on nutritional practices, section C seeks to identify the prevailing nutritional practices adopted by students, section D attempted to ascertain the factors hindering the adoption of good nutritional practices, and section E seeks to identify the ways of improving the Student adoption of good nutritional practices in Delta State.

2.5. Validation of the Instrument

The instrument went through the face and content validity to ensure it contains the right items that were needed to elicit information from the respondents. Two (2) experts from the Department of Vocational Education (Home Economics Unit), and one (1) from the Department of Guidance and Counselling (Test and Measurement unit) all from Delta State University, Abraka validated the instrument for face and content validity. The experts checked through the instrument to make necessary corrections on items to reflect what is to be measured. Comments from the three (3) assessors was used to make necessary adjustments to the questionnaire to ensure that only the required information is obtained from the respondents.

2.6. Reliability of the Instrument

The reliability of the instrument was established by administering it to (30) respondents who were drawn from secondary schools in Delta state who were not part of the study. The data generated from the thirty (30) administered instrument was used in establishing the reliability of the instrument by using the Cronbach Alpha. The computation yielded an internal consistency estimate of 0.81. This is shown in the output as indicated in Appendix C. Since the instruments internal consistency estimate of 0.81 is high, the instrument is thus deemed reliable and therefore appropriate for the study.

2.7. Method of Data Collection

Data in this study were collected by the researcher with the help of four (4) research assistants who were briefed. Three hundred and ninety (390) copies of the questionnaires were administered to the respondents by the researcher and the four (4) research assistants after permission was granted by the sampled School Principals. The respondents responded to the items in the questionnaire by ticking the appropriate columns which corresponded with their choices. To ensure compliance to the instrument instruction and retrieval, the various school principals and class teachers aided the researcher and the four (4) research assistants to completely retrieve all three hundred and ninety (390) copies of the questionnaires. All the questionnaire copies were completely filled and returned representing 100% retrieval rate.

2.8. Method of Data Analysis

Data collected were analyzed using simple percentages and frequency counts, bar chart, mean $\bar{x}$ and Standard Deviations. The t-test statistics was employed in testing the hypotheses. The demographic characteristics of the Secondary Schools Students were analyzed using simple percentages and frequency counts. The data that was obtained from Part 2 were analyzed using mean $\bar{x}$ and Standard Deviations to answer the research questions. A mean $\bar{x}$ score of 2.50 was set as the cut-off point for agreement or disagreement. Any mean $\bar{x}$ score greater than 2.50 was regarded as Agreed (A) while any mean $\bar{x}$ score less than 2.50 was regarded as Disagreed (D) by the respondents. An Alpha of 0.05 level of significance was used to determine the level of acceptance or rejection of the stated hypotheses.

2.9. The Decision Rule

The testing of hypotheses was conducted using the t-test statistics. The Social Science Statistical Package (SPSS) software version 22 was used. A null hypothesis (Ho) was accepted if the p-value [Sign (2-tailed)] is greater than the t-calculated value. A null hypothesis was rejected if the p-value [Sign (2-tailed)] is less than the t-calculated value.

3. Results and Discussion

The sources of information available to senior secondary school students on the nutritional practices adopted in Delta State, Nigeria are presented in Table 2. The table summarizes responses from 390 students and shows the different channels through which students obtained information on nutritional practices.

Table 2. Sources of Information Available on the Nutritional Practices Adopted in Delta State, Nigeria (n=390)

No	Items	Mean $\bar{x}$	SD	Decision
1	Radio	2.90	0.83	Agree
2	Television Programmes	3.47	0.63	Agree
3	Newspaper	2.33	0.99	Disagree
4	Fiction books	2.23	0.91	Disagree
5	Home Economics Textbooks	2.40	0.96	Disagree
6	Social media (internet)	2.76	0.86	Agree
7	Friends-class mates	3.26	0.72	Agree

Table 2 presents the mean $\bar{x}$ scores of the respondents on their sources of information on the nutritional practices adopted in Delta State, Nigeria showing that three (3) out of seven (7) items had a mean $\bar{x}$ value range of 2.23 – 2.40. These values are less than 2.50 indicating that the respondents disagreed that Home Economics textbooks, Newspaper, and Fiction books as sources of information on the nutritional practices adopted. While the items 1, 2, 6 and 7 had mean $\bar{x}$ values ranging from 2.78 – 3.47 indicating that they are above the cut-off mark of 2.50 signifying that the Senior Secondary Students agreed that television programmes, friends and classmates, radio, and social media (internet) are sources of information on the nutritional practices adopted. The values of Standard Deviation range from 0.63 – 0.99, these values showed that the respondents were close to the mean $\bar{x}$ and to one another in their responses.

The result in Table 2 showed that the Senior Secondary School students' sources of information available on the nutritional practices adopted include among others television programmes, friends and class mates, radio, and social media (internet). However, the study also indicates that Home Economics textbooks, Newspaper and Fiction books are not sources of information available on the nutritional practices adopted by the students. This study is in line with Bandura (1997) that watching a movie or television programme, listening, reading and charting with friends on social media are some ways student source information about nutritional practices through imitation. In Agreement Cherry (2021) reported that students usually replicate what they see others do, particularly if they like it. Miller (2014) remarked that information is critical to the promotion of good nutritional practices among adolescent. This finding demonstrates that information is vital to behavioural change in Senior Secondary School students' learning when they are exposed to good nutritional practices. This imply that adopting positive choices at the school and homes, students will learn good nutritional practices because they are good copy-learners (Crain 2013).

The difference between urban and rural Senior Secondary School students regarding the sources of information available to them on the nutritional practices adopted in Delta State, Nigeria is presented in Table 3. The table shows the t-test analysis of the mean responses of urban and rural Senior Secondary School students on the sources of information they have on the nutritional practices adopted.

Table 3. T-Test Analysis of Students' Sources of Information on Nutritional Practices by Location

Location	N	Mean $\bar{x}$	SD	Difference	t-cal	Sig. (2-tailed)	Decision
Urban	219	21.42	2.62	388	35.32	0.00	Reject Ho
Rural	171	12.35	2.38				

Alpha = 0.05, SD = Standard Deviation, t-cal = table calculated

Table 3 shows a t-calculated value of 35.32 and a p-value of 0.00. Testing at an alpha level of 0.05, the p-value is less than t-calculated value so the null hypothesis which states that "there is no significant difference between urban and rural senior secondary school students on the sources of information they have on the nutritional practices adopted in Delta State, Nigeria" was rejected. This implies that there is significant difference between urban and rural Senior Secondary School students on the sources of information they have on the nutritional practices adopted in Delta State, Nigeria. This result, therefore, means that location has influence on the sources of information the senior secondary school students have on the nutritional practices adopted in Delta State, Nigeria.

The finding of hypothesis 1 further showed that a significant difference exists between urban and rural Senior Secondary School students on the sources of information available on the nutritional practices adopted in Delta State, Nigeria. This conforms with Ezema (2017) who stated that unfortunate nutritional practices could likely lead to ill health later in the future and this could be linked to demographic factors such location and sources of information (media). It implies that the divided opinion about the sources of information students have on the nutritional practices adopted in Delta State, Nigeria is essential to communication and information delivery. Since location of the students is a factor to put into consideration in information delivery, it is critical to ensure that the right information about good nutritional practices are passed to all category of students irrespective of where the school is located.

3.1. Educational and Socio-Cultural Implications of the Findings

The results imply a modern paradigm shift in information dissemination among adolescents in Delta State, where broadcast and digital media have eclipsed academic texts. The heavy reliance on television (mean $\bar{x}$ =3.47), peer networks (mean $\bar{x}$ = 3.26), radio (mean $\bar{x}$ 2.90), and social media (mean $\bar{x}$ 2.76) reflects the pervasive, persuasive nature of contemporary performance and media-driven communication. This digital dominance aligns with findings on social media skits and Neo-Nollywood (Ilukwe, 2026), media's psycho-social influence during economic shifts (Onyemaechi et al., 2025), and performance art tools like Theatre for Development (Ilukwe & Ume, 2026). Just as comedy skits critique power dynamics (Agoha et al., 2026), child abuse in films (Agoha et al., 2024), and piracy challenges business models (Nwadigwe & Ilukwe, 2023), digital interfaces heavily shape adolescent behavioral landscapes. However, the significant urban-rural gap (t=35.32, p=0.00) reveals a stark disparity in information accessibility, mirroring how socioeconomic hardships alter community coping structures (Onwuka et al., 2022) or how specific legal ethics create systemic divides (Okosa et al., 2025).

Historically, information flowed through indigenous performance vectors, such as revolutionary theater narratives (Ilukwe & Ume, 2025; Ume & Agoha, 2025) and specific cultural symbols embedded within traditional dances (Utoh-Ezeajugh & Ume, 2025; Ume & Akas, 2021; Utoh-Ezeajugh & Ume, 2025; Okeke & Akunne, 2023). Yet, the complete rejection of textbooks (mean $\bar{x}$ = 2.40) proves that scientific breakthroughs like optimized Bambara groundnut fermentation (Chude et al., 2021), starch hydrolysis techniques (Okpalanma et al., 2024b), or spice-driven oil preservation (Nwagbo et al., 2020) fail to reach students if confined to print media. Consequently, to bridge the urban-rural divide and foster equitable public health, lab-proven dietary science must be strategically embedded directly into mass media and digital performance channels.

4. Conclusion

Based on the findings of this study, it is concluded that mass media and interpersonal networks serve as the primary conduits of nutritional information for senior secondary school students in Delta State, Nigeria. Students heavily rely on modern and accessible channels—specifically television, peer interactions, radio, and social media to inform their nutritional practices. Conversely, traditional print media and academic literature, such as newspapers, fiction books, and even specialized Home Economics textbooks, are significantly underutilized and ineffective as information sources. Furthermore, the study establishes that geographic location plays a critical role in information accessibility. A stark, statistically significant disparity exists between urban and rural students, with urban students possessing substantially higher access to these nutritional information channels. Consequently, while contemporary media holds immense potential for promoting healthy habits, the existing digital and infrastructural divide leaves rural school environments disadvantaged, highlighting an urgent need for targeted, localized nutritional education interventions.

Data Availability

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Conflicts of Interest

All authors in this publication declare no conflict of interest regarding the title, data, location, and results of the research.

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Supplementary Materials

This study does not include any supplementary materials.

Declaration on AI Use

The authors declare that no artificial intelligence (AI) or AI-assisted tools were used in the preparation of this manuscript. AI were used only to improve readability and language under strict human oversight; no content, ideas, analyses, or conclusions were generated by AI.

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