(RESEARCH ARTICLE)

Bridging the Gap between nutrition knowledge and practice: A study of adolescents in Owerri municipal secondary schools Nigeria

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Abstract

Adolescence is a critical growth period demanding proper nutrition for optimal development, academic performance, and overall well-being. Adolescents are nutritionally vulnerable, facing growth spurts that, if unmet with adequate nutrition, can lead to future malnutrition. Studies show adolescents often engage in poor dietary practices despite increased awareness of healthy eating. This study assessed the nutrition knowledge and dietary practices of adolescents in selected public and private secondary schools in Owerri Municipal, Imo State. A cross-sectional design was employed, and data were collected from senior class students using a questionnaire adapted from the FAO KAP model (2014). Results showed that 91.5% of respondents had moderate to good nutrition knowledge, while only 0.6% had poor knowledge. Most students recognized the importance of breakfast (88.4%), adequate water intake (91.5%), and carbohydrates as an energy source (81.1%), though misconceptions persisted regarding certain foods. Despite relatively high knowledge, dietary practices were suboptimal, with only 28.4% demonstrating good practices. While 90.5% ate breakfast daily, regular consumption of sugary drinks (64.9%) and inadequate vegetable intake (40.5% consuming insufficient amounts) were common. Socioeconomic factors influenced dietary behaviour, with higher parental education and income linked to better practices, while larger family size was associated with poorer habits. Chi-square analysis revealed a significant relationship between knowledge and practice (p = 0.005), suggesting that higher knowledge slightly improved dietary behaviour; however, knowledge alone did not ensure healthy practices. No significant differences were observed between public and private school students in either knowledge (p = 0.389) or practice (p = 0.390), though public school students exhibited marginally better dietary habits. The findings highlight a gap between nutrition knowledge and actual eating behaviour, influenced by socioeconomic conditions. Interventions should therefore combine nutrition education with practical strategies to improve food accessibility and promote healthy choices among adolescents in Owerri Municipal.

Keywords: Nutritional knowledge; Dietary practices; Adolescents; Secondary schools; Public and private schools

1. Introduction

Adolescence is a crucial stage of growth and development, where adequate nutrition is necessary to support physical, cognitive, and emotional health (1). Proper nutrition during this period improves immune function, academic performance, and long-term health outcomes (2). Evidence indicates that adolescents' dietary behaviours are strongly shaped by their nutritional knowledge; however, studies reveal a notable gap between what they know and how this knowledge is put into practice (3). Furthermore, false beliefs about body image and popular diet trends often lead to poor eating patterns, such as restrictive dieting and frequent consumption of junk foods.

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Globally, malnutrition whether undernutrition or overnutrition affects approximately 20% of adolescents (1). In Nigeria, adolescent nutrition remains a significant concern, with many experiencing undernutrition, obesity, and micronutrient deficiencies (4). In Owerri Municipal, rapid urbanization may be intensifying these challenges due to lifestyle changes, peer pressure, and the widespread availability of unhealthy foods. Socioeconomic constraints and limited access to nutrition education programs also contribute to poor dietary choices, making adolescents more susceptible to preventable health problems (4).

Schools are key in shaping young people's nutrition knowledge and eating habits; however, there is limited evidence on how well secondary school students in Owerri understand and apply principles of healthy nutrition. Overall, Nigerian adolescents face persistent nutritional challenges, with unhealthy dietary habits contributing to both undernutrition and overnutrition. Studies indicate that while some adolescents recognize the importance of healthy eating, they do not consistently apply this knowledge in their daily diets. The increasing availability of processed foods, peer influence, and a lack of structured nutrition education further widen the gap between knowledge and practice. This study determined the nutritional knowledge and practices of adolescents in selected secondary schools and compared this between a public and private school in Owerri Municipal. Improving nutritional knowledge and practices can reduce the severity of stunting, increase weight, and support cognitive function.

1.1. Research Hypothesis

- H_0 (Null Hypothesis): There is no significant association between nutrition knowledge and practices among adolescents in secondary schools in Owerri Municipal.
- H_0 (Null Hypothesis): There is no significant difference in nutrition knowledge and practices between adolescents in public and private secondary schools in Owerri Municipal.

2. Materials and Methods

The study adopted a descriptive cross-sectional study design. Quantitative data collection method was used. Owerri Municipal is one of the local government areas in Imo State, Nigeria, set in the heart of Igboland. It is also the state's largest city followed by Orlu and Okigwe as second and third respectively. Some Secondary schools in Owerri Municipal include: Owerri City Secondary school, Domino International Secondary school, Goldsmith International Secondary school, Comprehensive Development Secondary school, Government Secondary school.

This study on the nutritional knowledge and practice of adolescents was targeted at students of Comprehensive Development Secondary school (Public School) and Domino International Secondary school (Private school), who were in senior secondary school, that is, students in SS1-3 (grade 10-12).

The study included all senior secondary students of Comprehensive Development Secondary school and Domino International secondary school, in Owerri Municipal, Imo state, who gave their consent to the study. The study excluded students of the selected schools who were sick before or during the course of the study or absent at the time of research.

The sample size was determined using Taro Yamane's formula,

$$n = \text{N}/1 + \text{N}(e^2)$$

Sample size calculated with 10% non-response rate was 332

The study used a multistage sampling method:

2.1. Stage 1: Selection of Schools

Purposive Sampling: a public and a private secondary school was selected. This is because there is the aim to compare and contrast the potential differences in nutritional habits and awareness that might exist between students from socioeconomically varied backgrounds.

2.2. Stage 2: Selection of Classes

Purposive Sampling: The senior secondary classes of each school was selected as a representative of the population. This is because they are expected to have taken more subjects on nutrition than the junior classes

2.3. Stage 3: Selection of Students

Two-third (2/3) of the sample which is 221 was assigned to the school with the larger population (Comprehensive Development Secondary School) while one-third (1/3) of the sample which was 111, was for the smaller school (Domino International Secondary school). The sample size for each school was divided equally among the 3 levels that is SS1, SS2 and SS3. Regrettably, 4 questionnaires were missing. Therefore, 328 questionnaires were recovered and used for the analysis.

A structured validated questionnaire with Cronbach's alpha value of 0.78 adapted from FAO publication guidelines for assessing nutrition-related knowledge, attitudes and practices (5) was used to collect data from the study participants. The questionnaire was divided into three sections; where Sections A and B comprised of demographic and socioeconomic information of both the adolescents and their parents. Section C was the assessment of the nutrition knowledge of the adolescents and Section D was assessment on nutrition practice.

A letter of Ethical clearance was gotten from the Ethics committee of Public Health Department, Federal University of Technology, Owerri, Nigeria before the research was conducted. An introductory letter was presented to the Schools Management before the study was conducted.

The purpose of the research was explained to the respondents and informed consent was obtained from them before inclusion. The anonymity of the respondents was ensured; as no names and personal identities were used. The confidentiality of the information they gave was maintained.

Collection of data from the students was carried out on school days in their classrooms supervised by the teachers.

Statistical Package for Social Sciences (SPSS version 24) was utilized for analyses of the collated data. Data obtained from the questionnaire was subjected to descriptive statistics of frequency and percentage to answer the research questions. The hypothesis were tested using inferential statistics of Chi-square at 0.05 level of significance at the appropriate degree of freedom.

3. Results

Table 1 The Sociodemographic characteristics of respondents

Sociodemographic characteristics	Frequency (n=328)	Percentage (%)
Age		
12-14	72	22.0
15-17	229	69.8
18-20	27	8.2
Total	**328**	**100**
Gender		
Male	122	37.2
Female	206	62.8
Total	**328**	**100.0**
Ethnicity		
Yoruba	10	3.0
Igbo	304	92.7
Others	14	4.3
Total	**328**	**100.0**

Grade level		
SS1	81	24.7
SS2	136	41.5
SS3	111	33.8
Total	**328**	**100.0**
School type		
Public	217	66.2
Private	111	33.8
Total	**328**	**100.0**
Parents'Monthly income		
<30,000	82	25.0
30,000-60,000	70	21.3
60,000-90,000	65	19.8
90,000-120,000	48	14.6
>120,000	63	19.2
Total	**328**	**100.0**
Number of siblings		
0-2	47	14.3
3-5	183	55.8
6-8	98	29.9
Total	**328**	**100.0**
Religion		
Islam	2	.6
Christianity	314	95.7
Traditional	6	1.8
Others	6	1.8
Total	**328**	**100.0**
Educational level of Mother		
No formal education	16	4.9
Primary education	12	3.7
Secondary education	138	42.1
Tertiary education	162	49.4
Total	328	100.0
Education Level of Father		
No formal education	16	4.9
Primary education	18	5.5
Secondary education	124	37.8
Tertiary education	170	51.8

Total	328	100.0
Occupation of Mother		
Unemployed	25	7.6
Self-employed	201	61.3
Public/private service employee	78	23.8
Retired	24	7.3
Total	328	100.0
Occupation of Father		
Unemployed	20	6.1
Self-employed	211	64.3
Public/private service employee	74	22.6
Retired	23	7.0
Total	328	100.0

Table 1 shows the result of the socio-demographic characteristics of the respondents. It showed that 229 (69.8%) respondents were aged 15-17, 72 (22%) were aged 12-14, and 27 (8.2) were aged 18-20. On the gender of the respondents, 206 (62.8%) were female, while 122 (37.2%) were male. On ethnicity, it was observed that 304 (92.7%) respondents were Igbo, 10 (3.0%) were Yoruba, while other ethnic groups were 14 (4.3%). The frequency count on religion showed that 314 (95.7%) respondents were predominantly Christian, 2 (0.6%) were Islamic, 6 (1.8%) were traditionalists. It was observed that majority, that is 82 (25%), of respondents' parents earned <30,000 while the least, that is 48 (14.6%), earned 90,000 -120,000 monthly. It could be seen that 81 (24.7%) of the respondents were in SS1, 136 (41.5%) were in SS2, while 111 (33.8%) were in SS3.

Table 2 shows the result obtained from determining the nutrition knowledge of respondents from the selected secondary schools. The statement that Carbohydrate is the main source of energy, 81.1% responded true, 14.3% responded false, while 4.6% had no idea. The statement that breakfast is the most important meal, 88.4% responded true, 8.8% responded false, while 2.7% had no idea. For the statement that drinking palm oil cures sickness 56.1% responded true, 31.4% responded false, while 12.5% had no idea. To the statement that one should drink at least 6 glasses of water daily, 91.5% responded true, 6.1% responded false, while 2.4% had no idea. To the statement that vitamins are good sources of energy, 78% responded true, 16.2% responded false, while 5.8% had no idea. To the statement that reusing oil used in frying until it changes colour is not bad, 32.9% responded true, 54.9% responded false, while 12.2% had no idea. To the statement that females need more iron in their diet than males, 51.5% responded true, 26.2% responded false, while 22.3% had no idea.

Table 2 Nutrition Knowledge of the Respondents

Characteristics	Responses	Frequency N=328 N (%)
Carbohydrate is the main source of energy	True	266 (81.1)
	False	47(14.3)
	I don't know	15(4.6)
Breakfast is the most important meal	True	290 (88.4)
	False	29 (8.8)
	I don't know	9 (2.7)
Beans is an excellent source of protein	True	272 (82.9)
	False	53 (16.2)

	I don't know	3 (0.9)
Unripe plantain is a great source for blood boost	True	243(74,1)
	False	61 (18.6)
	I don't know	24 (7.3)
Egg is not good for you	True	47 (14.3)
	False	272 (82.9)
	I don't know	9 (2.7)
Egg takes days to digest	True	80 (24.4)
	False	201 (61.3)
	I don't know	47 (14.3)
You should drink at least 6 glasses of water daily	True	300 (91.5)
	False	20 (6.1)
	I don't know	8 (2.4)
Eating snail is not good for a pregnant woman	True	110 (33.5)
	False	147 (44.8)
	I don't know	71 (21.6)
Eating carbohydrate makes you fat	True	125 (38.1)
	False	174 (53.0)
	I don't know	29 (8.8)
Drinking palm oil cures sickness	True	184 (56.1)
	False	103 (31.4)
	I don't know	41 (12.5)
Drinking coconut water will make you dumb	True	117 (35.7)
	False	168 (51.2)
	I don't know	43 (13.1)
An apple a day will keep you healthy	True	230 (70.1)
	False	73 (22.3)
	I don't know	25 (7.6)
Diluting my drink with water reduces the sugar content	True	199 (60.7)
	False	78 (23/8)
	I don't know	51 (15.5)
Zero coke is healthier than normal coca cola	True	132 (40.2)
	False	163 (49.7)
	I don't know	33 (10..1)
Table salt is essential when eating	True	188 (57.3)
	False	98 (29.9)
	I don't know	42 (12.8)
Seasonings like maggi, do not contain sodium	True	107 (32.6)

	False	126 (38.4)
	I don't know	95 (29.0)
Consuming noodles is healthy	True	115 (35.1)
	False	181 (55.2)
	I don't know	32 (9.8)
Reusing oil used in frying until it changes colour is not bad	True	108 (32.9)
	False	180 (54.9)
	I don't know	40 (12.2)
Taking supplements daily e.g. Vitamin C is alright	True	202 (61.6)
	False	103 (31.4)
	I don't know	23 (7.0)
Plants like Garden egg leaves have better iron content than meat/liver	True	196 (59.8)
	False	64 (19.5)
	I don't know	67 (20.4)
Vitamins are good sources of energy	True	256 (78.0)
	False	53 (16.2)
	I don't know	19 (5.8)
Balanced diet is essential for good health	True	300 (91.5)
	False	19 (5.8)
	I don't know	9 (2.7)
Skipping meals is not good for health	True	256 (78.0)
	False	55 (16.8)
	I don't know	16 (4.9)
Egg is a complete protein	True	254 (77.4)
	False	64 (19.5)
	I don't know	10 (3.0)
Females need more iron in their diet than males	True	169 (51.5)
	False	86 (26.2)
	I don't know	73 (22.3)
Anaemia is due to the deficiency of Vitamin C	True	178 (54.3)
	False	63 (19.2)
	I don't know	87 (26.5)

Table 3 below shows the result obtained from determining the nutrition practice of respondents from the selected secondary schools. In practicing regular consumption of fresh fruits, 93.0% responded yes, 6.4% responded no, while 0.6% were not sure. In practicing daily intake of 6 glasses of water, 83.5% responded yes, 15.2% responded no, while 1.2% were not sure.

For eating breakfast daily, 90.5% responded yes, 8.5% responded no, while 0.9% were not sure. To eat at least 1 serving of fruit a day, 73.5% responded yes, 25% responded no, while 1.5% were not sure. For low overall sugar intake, 25.3% responded yes, 50.9% responded no, while 23.8% were not sure.

Table 3 Nutrition Practices of the Respondents

Characteristics	Responses	Frequency N (%)
Regular consumption of fresh fruits	Yes	305 (93.0)
	No	21 (6.4)
	Not sure	2 (0.6)
Daily intake of 6 glasses of water	Yes	274 (83.5)
	No	50 (15.2)
	Not sure	4 (1.2)
Eat breakfast daily	Yes	297 (90.5)
	No	28 (8.5)
	Not sure	3 (0.9)
Eat at least 1 serving of fruit a day	Yes	241 (73.5)
	No	82 (25.0)
	Not sure	5 (1.5)
Low overall sugar intake	Yes	83 (25.3)
	No	167 (50.9)
	Not sure	78 (23.8)
Eat takeaway meals regularly	Yes	99 (30.2)
	No	223 (68.0)
	Not sure	6 (1.8)
Eat at least 5 tablespoonfuls of vegetables a day	Yes	195 (59.5)
	No	122 (37.2)
	Not sure	11 (3.4)
Avoid eating fried snacks	Yes	96 (29.3)
	No	226 (68.9)
	Not sure	6 (1.8)
Regular taking of soft drinks	Yes	213 (64.9)
	No	109 (33.2)
	Not sure	6 (1.8)

Table 4 shows the respondents' level of nutrition knowledge across the type of schools. It is shown that in the public school, respondents had 61% moderate knowledge, 4.6% good knowledge and 0.6% poor knowledge. Also, in the private school, 30.5% of respondents had moderate knowledge, 3.4% had good knowledge, and none (0.0%) had poor knowledge. Most students (91.5%) had moderate knowledge, with no significant difference between public and private schools (p = 0.389). Private school students had slightly higher good knowledge scores (3.4%) compared to public school students (4.6%), but this difference is not statistically significant.

Table 4 Comparison of the Level of Knowledge of the Respondents between Public and Private schools

Level of knowledge	Response score	School type		Total N (%)	P-value
		Public Secondary School N (%)	Private secondary school N (%)		
Poor knowledge	<9	2 (0.6)	0 (0.0)	2 (0.6)	0.389
Moderate knowledge	9.00-17.99	200 (61.0)	100 (30.5)	300 (91.5)	
Good knowledge	≥18-26	15 (4.6)	11 (3.4)	26 (7.9)	
Total	26	217 (66.2)	111 (33.8)	328 (100.0)	

Table 5 shows the respondents' level of knowledge across grade level and it could be seen that SS1 and SS3 simultaneously had 3.4% good knowledge, while SS2 had 1.2%. Also, 39.9% of SS2 students had moderate knowledge, SS3 students following with 30.2%, and then SS1 with 21.3%. Lastly, SS2 and SS3 each had 0.3% poor knowledge. SS1 had no poor knowledge. In other words, SS2 students had the lowest good knowledge score (1.2%), while SS1 and SS3 had the highest (3.4%). SS2 students had the highest proportion of moderate knowledge (39.9%), suggesting that knowledge acquisition may peak before final-year studies. There is no significant difference in knowledge levels across grade levels ($p = 0.052$).

Table 5 Comparison of the Level of Knowledge of the Respondents across Grade Level

Level of knowledge	Response score	GRADE LEVEL			Total N (%)	P-value
		SS1 N (%)	SS2 N (%)	SS3 N (%)		
Poor knowledge	< 9	0 (0.0)	1 (0.3)	1 (0.3)	2(0.6)	0.052
Moderate knowledge	9.00-17.99	70 (21.3)	131 (39.9)	99 (30.2)	300 (91.5)	
Good knowledge	≥18	11(3.4)	4 (1.2)	11 (3.4)	26 (7.9)	
Total	26	81 (24.7)	136 (41.5)	111 (33.8)	328 (100.0)	

Table 6 contains nutrition practice level of respondent across school type. It is shown that good nutritional practice of the public school (18.3%) was better compared to the private school (10.1%). For moderate practice, the public school has a higher percentage 43.3% compared to the private school 20.1%. Again, in poor nutritional practice the public school bypasses the private school with 4.6% as against 3.7%. Public school students had slightly better dietary practices than private school students, however, p-value (0.390) indicates no significant difference between public and private schools in terms of nutrition practice.

Table 6 Comparison of Nutrition Practice Level of Respondents between Public and Private schools

SCHOOL TYPE	RESPONSE SCORE	LEVEL OF NUTRITION PRACTICE		Total N (%)	P-value
		Public secondary school N (%)	Private secondary school N (%)		
Poor practice	< 4	15 (4.6)	12 (3.7)	27 (8.2)	0.390
Moderate practice	4-6.99	142 (43.3)	66 (20.1)	208 (63.4)	
Good practice	≥7-9	61.5 (18.3)	31.5 (10.1)	93.0 (28.4)	
Total	9	217 (66.2)	111 (33.8)	328.0 (100)	

Table 7 below, shows level of nutrition practice of respondents across grade levels. It could be seen that SS2 students had good practice (12.8%), while SS1 and SS3 were close at 7.3% and 8.2%. For moderate practice, SS2 respondents performed better (24.4%) compared to those in SS3 (23.2%) and SS1 (15.9%). SS1 respondents (1.5%) had the lowest poor practice level, SS3 with 2.4%, while SS2 was 4.3%. Chi-square test (p = 0.532) shows no significant difference in practice levels across grade levels.

Table 7 Comparison of Nutrition Practice of Respondents across Grade Level

Level of Practice	Response score	GRADE LEVEL			Total N (%)	P-value
		SS1 N (%)	SS2 N (%)	SS3 N (%)		
Poor practice	< 4	5 (1.5)	14 (4.3)	8 (2.4)	27 (8.2)	0.532
Moderate practice	4-6.99	52 (15.9)	80 (24.4)	76 (23.2)	208 (63.4)	
Good practice	≥7-9	24 (7.3)	42 (12.8)	27(8.2)	93 (28.4)	
Total	9	81 (24.7)	136 (41.5)	111 (33.8)	328 (100.0)	

Table 8 below tests association between level of nutrition knowledge and nutrition practice. It reveals that a significant relationship exists between knowledge and practice (p = 0.005). Most students with good knowledge had better dietary practices (4.3%), while those with moderate knowledge mostly had moderate practices (60.1%). Students with poor knowledge demonstrated the lowest level of good practice (0.3%). This finding supports the idea that better nutritional knowledge increases the likelihood of better dietary practices, although other factors like economic constraints still play a role. The significant relationship (p = 0.005) suggests that educational interventions can positively impact nutrition behaviour. Chi-square test significant means knowing more about nutrition is likely to lead to good nutrition practice.

Table 8 Association between Level of Nutrition Knowledge and Nutrition Practice

LEVEL OF NUTRITION KNOWLEDGE	LEVEL OF NUTRITION PRACTICE			Total	P-value
	Poor practice	Moderate practice	Good practice		
Poor knowledge	1 (0.3)	0 (0.0)	1 (0.3)	2 (0.6)	0.005
Moderate knowledge	25 (7.6)	197 (60.1)	78 (23.8)	300 (91.5)	
Good knowledge	1 (0.3)	11 (3.4)	14 (4.3)	26 (7.9)	
Total	27 (8.2)	208 (63.4)	93 (28.4)	328 (100.0)	

4. Discussion

4.1. Nutrition knowledge of adolescents from the selected secondary schools

The study conducted amongst adolescents in the senior classes of the selected private and public secondary schools revealed that 91.5% had moderate knowledge, while only 0.6% had poor knowledge. 88.4% knew that breakfast is the most important meal, 91.5% correctly identified that at least six glasses of water should be consumed daily, and 81.1% understood that carbohydrate is the main source of energy. On the other hand, misconceptions were also prevalent: 35.7% believed that drinking coconut water makes one dumb, 38.1% thought eating carbohydrates makes one fat, and 56.1% believed that drinking palm oil cures sickness.

This result is not comparable to a study conducted in 2022 aimed at investigating nutritional knowledge, attitude, and practices of adolescents towards healthy eating in secondary school in Sheema municipality, Uganda. (6). It was found that 50.1% of students had good nutritional knowledge, lower than the 91.5% found in this study. This suggests that adolescents in this study may have greater exposure to nutrition education, possibly from school curricula or media sources. However, the persistence of cultural misconceptions about food items suggests a need for improved school-based nutrition education.

The cross-sectional study by Moaadeli et al (7) aimed at examining the knowledge, attitude, and nutritional practices of secondary school boy and girl students in Darab city, Iran revealed that 61.5% of students had good nutrition knowledge, which is significantly lower than the 91.5% of the respondents from this current study in selected secondary schools in Owerri Municipal. This suggests that Nigerian adolescents may have a greater exposure to nutrition education, possibly through school curricula or media sources. The private school respondents had higher knowledge scores than public school students, although the difference was not statistically significant (p = 0.389).

4.2. Nutrition Practices of Adolescents

The findings showed that the nutritional practice of the respondents was poor despite their high knowledge levels. 90.5% ate breakfast daily, which is good. Only 25.3% maintained a low sugar intake, while 64.9% consumed soft drinks regularly. Only 59.5% ate sufficient vegetables daily, indicating an imbalance in diet quality.

This is similar to the study Gadanya et al (8) aimed to assess the nutritional status, knowledge, attitude and practices of secondary school girls in Kano that showed that only 1.46% of students had good nutritional practices, significantly lower than the 28.4% observed in this study. Approximately 56% of the students had bad eating practices. While this suggests that students in this study have better dietary habits, the majority still fail to meet recommended dietary guidelines. The study by Moaadeli et al (7) reported that only 9.3% of students had good nutritional practices, which was lower than the 28.4% recorded in this study. This suggests that while poor practices are a global issue, the respondents in this study had slightly better habits.

Socioeconomically, students from higher-income households (earning ₦120,000 and above) had better dietary practices than those from lower-income families, who relied more on cheap, processed foods. Adolescents from larger families (four or more siblings) had poorer dietary practices, likely due to food-sharing constraints. Moreso, public school students had better dietary practices (18.3%) than private school students (10.1%), possibly due to structured school meal programs in public schools.

4.3. Relationship between Nutrition Knowledge and Practices

Chi-square analysis showed a statistically significant relationship between nutrition knowledge and practice, meaning that higher knowledge slightly improved dietary behaviours. This study is contrary to the study by Moaadeli et al (7) which found that while nutrition knowledge was high (61.5%), practice was poor, and parental education by far influenced behaviour. Gadanya et al. (8) in Kano, Nigeria found no significant correlation between knowledge and practice, reinforcing the idea that factors beyond knowledge, such as affordability and availability of food choices, influence dietary habits. Adesola et al. (9) in a study found a similar weak association between knowledge and dietary habits (practice), further supporting the idea that education alone does not always translate into better behaviour, but there is need for practical interventions.

4.4. Nutrition Knowledge and Practices between Public and Private Schools

The study found no major differences between public and private school students regarding nutrition knowledge. However, there were notable variations in practices; public school students had better nutritional practices (18.3% good practice) than private school students (10.1%), private school students had better knowledge, but this did not translate this into better eating habits. In comparison to this is the study by Ratala et al. (10) that examined parental nutrition knowledge in Nepal and found that parents of private school students had better nutrition knowledge but lower dietary adherence than public school students. Similarly, in Owerri Municipal, though the focus was on the students, private school respondents showed high knowledge but poor eating habits, reinforcing that education alone does not ensure healthy practices. This study confirms that while adolescents in Owerri Municipal have good nutrition knowledge, their dietary practices remain poor to moderate. Socioeconomic factors such as income levels, parental education level, and occupation play a role in shaping food accessibility and eating behaviours.

4.5. Comparison of Results and Hypothesis statement

The results showed that 91.5% of students had moderate to good nutrition knowledge, but only 28.4% demonstrated good dietary practices, indicating a gap between knowledge (awareness) and actual behaviour (practice). Chi-square tests confirmed a significant relationship between knowledge and practice, indicating that students with higher nutrition knowledge are more likely to exhibit better dietary habits. However, since many students with good knowledge still had poor practices, it suggests that factors beyond knowledge, such as socioeconomic status and food availability, influence eating habits. Based on this, the null hypothesis (that there is no relationship between nutrition knowledge and practice) is rejected.

The results showed no significant difference in nutrition knowledge (p = 0.389) or dietary practices (p = 0.390) between public and private school students. While public school students had slightly better dietary practices (18.3% good practice) than private school students (10.1%), the difference was not statistically significant. Since the p-values are greater than 0.05, the null hypothesis (that there is no significant difference in knowledge and practice between public and private school students) is accepted, meaning that school type does not majorly influence nutrition-related behaviours.

5. Conclusion

The findings revealed that while 91.5% of the students had moderate knowledge, and 7.9% good nutrition knowledge, only 28.4% practiced good dietary habits, highlighting a significant knowledge-practice gap. Statistical analysis confirmed a significant relationship between nutrition knowledge and dietary practices, suggesting that higher knowledge levels slightly improve dietary choices. However, many adolescents with good knowledge still engaged in unhealthy dietary habits, indicating that factors beyond knowledge, such as socioeconomic status, food availability, and peer influence, play a crucial role in shaping eating behaviour. Additionally, the study found no significant difference in knowledge (p = 0.389) or dietary practices (p = 0.390) between public and private school students, reinforcing that school type does not majorly impact nutrition-related behaviours.

Compliance with ethical standards

Disclosure of conflict of interest

There is no conflict of interest to be disclosed.

Statement of ethical approval

The study conformed to the provisions of the Declaration of Helsinki. Ethical clearance was obtained from the Department of Public Health Ethical clearance committee in Federal University of Technology Owerri (FUTO) before the research was conducted.

Statement of informed consent

The purpose of the research was explained to each respondent and verbal informed consent obtained from them before inclusion into the study. Also, anonymity of the respondents were assured and ensured. The confidentiality of the information they gave was also maintained.

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