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FOOD INSECURITY, DIETARY DIVERSITY, AND ASSOCIATED FACTORS AMONG ADOLESCENTS ATTENDING PUBLIC SECONDARY SCHOOLS IN ILORIN, KWARA STATE, NIGERIA

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Abstract

Food insecurity can compromise adolescent nutrition, yet little is known about it among public secondary school adolescents in Ilorin, Kwara State, Nigeria. To assess food insecurity and its association with attitude, subjective norm, perceived behavioural control, and intention to consume a diversified diet. A cross-sectional survey used a structured questionnaire based on the Household Food Insecurity Access Scale and the Theory of Planned Behaviour. Data from 202 adolescents were analysed using descriptive statistics and Pearson correlation. Respondents were mostly female (98.5%) and aged 15–17 years (55.4%). Attitudes, norms, perceived behavioural control, and intention were generally favourable. Milder food insecurity experiences were commoner than severe ones. Food insecurity correlated negatively with attitude ($r = -.376$, $p < .001$) and subjective norm ($r = -.161$, $p = .022$), but not with perceived behavioural control ($r = -.066$, $p = .349$) or intention ($r = -.040$, $p = .575$). Favourable dietary intentions coexisted with food insecurity, which was linked to less favourable attitudes. Nutrition education should be paired with measures improving food access. Findings are limited by the cross-sectional design and an almost entirely female sample.

Keywords: food insecurity; adolescents; Theory of Planned Behaviour; public secondary schools; Nigeria

Introduction

Adolescence is a period of rapid physical, cognitive, and psychosocial change in which dietary adequacy matters greatly. Food insecurity, understood as limited or uncertain access to sufficient, safe, and nutritious food, is now treated as a multidimensional problem spanning availability, access, utilisation, stability, and affordability (FAO et al., 2024). Globally, 2.33 billion people experienced moderate or severe food insecurity in 2023 (FAO et al., 2024), and among school-going adolescents in 31 countries the average prevalence was 52.2% (Smith et al., 2023). In Nigeria, the prevalence of moderate or severe

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food insecurity was 74.8% in 2023 (World Bank, 2025).

Nigerian evidence on adolescents remains uneven. Adeomi et al. (2022) reported household food insecurity in 47.3% of children and adolescents aged 6–19 years in two states, while Gabriel et al. (2024) found that adolescent nutrition studies in Nigeria were concentrated in the south, leaving North-Central Nigeria under-represented. In Ilorin, Ibrahim (2026) examined household food insecurity among households with children, but adolescents attending public secondary schools were not separately studied.

Dietary choices in adolescence are also shaped by psychosocial factors. The Theory of Planned Behaviour proposes that attitude, subjective norm and perceived behavioural control influence intention and, in turn, behaviour (Ajzen, 2020). A systematic review and meta-analysis found that these constructs are useful in explaining dietary patterns (McDermott et al., 2015). In Nigeria, adolescent nutrition studies have largely focused on food insecurity, dietary diversity, dietary patterns and nutritional status (Adeomi et al., 2022; Sholeye et al., 2024), while Gabriel et al. (2024) identified important geographic gaps in the evidence base. However, little is known about how food insecurity relates simultaneously to attitude, subjective norm, perceived behavioural control and intention to consume a diversified diet among public secondary school adolescents in North-Central Nigeria. This study therefore assessed food insecurity and its association with these Theory of Planned Behaviour constructs among adolescents attending public secondary schools in Ilorin, Kwara State.

Materials and Methods

Study design, setting, and population

A descriptive cross-sectional, quantitative design was used. The study was conducted among adolescents aged 10–19 years attending public secondary schools in Ilorin, Kwara State, Nigeria. Potential participants were identified from class registers in the selected schools and screened against the eligibility criteria. Adolescents were eligible if they were aged 10–19 years, were present in school during data collection, and provided assent with parental or guardian consent. Those who were acutely ill or unable to participate because of a physical or psychological condition at the time of data collection were excluded. The total number of eligible adolescents across the selected schools was not documented in the available study records and therefore could not be reported reliably.

Sample size and sampling

The minimum sample size was calculated with Cochran's formula, using an assumed prevalence of food insecurity of 45% (Sholeye et al., 2024), a 95% confidence level, and a 5% margin of error, giving 380 respondents; adding 10% for non-response gave 418. A multistage sampling procedure was planned, with stratification by junior and senior secondary class, selection of classes by simple random sampling, and selection of respondents from class registers by systematic random sampling. Data from 202 respondents were available for analysis

Instrument and measures

A structured, English-language questionnaire collected socio-demographic data, household food insecurity, and Theory of Planned Behaviour constructs. Household food insecurity was measured with the nine-item Household Food Insecurity Access Scale, which has occurrence and frequency questions over the previous four weeks and a total score of 0–27, with higher scores indicating greater food insecurity (Coates et al., 2007). Attitude (seven items), intention (five items), subjective norm (six items), and perceived behavioural control (six items) were rated on four-point Likert scales (strongly disagree to strongly agree). Dietary diversity was planned to be assessed by 24-hour recall following Kennedy et al. (2011) guidelines. Content and face validity were reviewed by the supervisor and departmental lecturers, and the instrument was pretested among 22 participants in Ilorin East.

Data analysis

Data were checked, coded, and analysed with descriptive statistics (frequencies and percentages). Internal consistency was assessed with Cronbach's alpha, and associations between food insecurity and the Theory of Planned Behaviour constructs were examined with Pearson correlation at a significance level of $p < .05$.

Ethical Consideration

Ethical approval was obtained from the Kwara State Ministry of Health Ethical Research

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Committee, with approval number ERC/MOH/2026/07/820, dated 3 August 2026. Permission was also obtained from the participating institutions. Participation was voluntary, informed consent was obtained before data collection, and anonymity and confidentiality were maintained throughout the study.

Results

Socio-demographic characteristics

Data from 202 adolescents were analysed (Table 1). Their ages ranged from 10 to 19 years; the most frequent single age was 15 years (n = 46, 22.8%), and 112 respondents (55.4%) were aged 15–17 years. One respondent had no recorded age. Almost all respondents were female (n = 199, 98.5%), and only two (1.0%) were male. Senior secondary students formed the larger share (SSS2, 29.7%; SSS1, 23.3%; SSS3, 9.4%) compared with junior secondary students (JSS3, 17.3%; JSS2, 13.4%; JSS1, 6.4%). Most respondents were Yoruba (81.7%) and Muslim (81.2%).

Half of the respondents (50.0%) reported that their fathers were in civil occupations, 25.2% that they were traders, and 19.8% that they were farmers. Half (50.0%) reported that their mothers were servants (as recorded), 34.7% that they were traders, and 10.9% that they were farmers. Secondary education was the most frequently reported level for fathers (36.6%) and mothers (67.8%), while tertiary education was reported for 5.4% of fathers and 12.4% of mothers. Substantial proportions of parental education responses (54.0% for fathers and 11.9% for mothers) were recorded under occupational labels rather than educational levels (Table 1).

Table 1

Socio-Demographic Characteristics of Respondents (N = 202)

Characteristic	n	%
Age (years)		
10–14	44	21.8
15–17	112	55.4
18–19	45	22.3
Missing	1	0.5
Sex		
Female	199	98.5
Male	2	1.0
Invalid/unlabelled	1	0.5
Class		
JSS1	13	6.4
JSS2	27	13.4
JSS3	35	17.3
SSS1	47	23.3
SSS2	60	29.7
SSS3	19	9.4
Invalid/unlabelled	1	0.5

ISSN:3141-5571
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Characteristic	n	%
Ethnicity		
Yoruba	165	81.7
Hausa	18	8.9
Igbo	16	7.9
Other	1	0.5
Unlabelled	1	0.5
Religion		
Islam	164	81.2
Christianity	33	16.3
Traditional	4	2.0
Unlabelled	1	0.5
Father's occupation		
Civil	101	50.0
Trader	51	25.2
Farmer	40	19.8
Self-employed	3	1.5
Driver	2	1.0
Alfa	1	0.5
Bricklayer	1	0.5
Teacher	1	0.5
Traditional	1	0.5
Mother's occupation		
Servant (as recorded)	101	50.0
Trader	70	34.7
Farmer	22	10.9
Civil	4	2.0
Employed	3	1.5
Doctor	1	0.5
Unlabelled	1	0.5
Father's education		
Secondary	74	36.6
Tertiary	11	5.4
No formal education	6	3.0

ISSN:3141-5571
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Characteristic	n	%
Recorded under occupational labels*	109	54.0
Unlabelled	1	0.5
Mother's education		
Secondary	137	67.8
Tertiary	25	12.4
Primary	6	3.0
"Formal" (level not specified)	6	3.0
No formal education	2	1.0
Recorded under occupational labels*	24	11.9
Unlabelled	1	0.5

Source: researcher's survey (2026).

Note. Percentages are of N = 202. Category totals for ethnicity, father's occupation, father's education and mother's education sum to 201 because one response was not categorised in the analysis output. *Responses recorded as "Trader" (n = 81), "Civil" (n = 23), "Servant" (n = 4) and "Self-employed" (n = 1) for father's education, and "Servant" (n = 23) and "Employed" (n = 1) for mother's education.

Reliability of the Theory of Planned Behaviour scales

Cronbach's alpha was .854 for the seven-item attitude scale, .920 for the five-item intention scale, .845 for the six-item subjective norm scale, and .891 for the six-item perceived behavioural control scale (Table 2). Standardised-item alpha values were .858 for subjective norm and .864 for perceived behavioural control.

Table 2

Internal Consistency of the Theory of Planned Behaviour Scales

Construct	Items	Cronbach's α	Standardised α
Attitude	7	.854	—
Intention	5	.920	—
Subjective norm	6	.845	.858
Perceived behavioural control	6	.891	.864

Source: researcher's survey (2026).

Attitudes toward healthy and diversified food choices

Attitudes were generally favourable (Table 3). Agreement (agree or strongly agree) was highest for the statement that variety makes meals more enjoyable (89.0%), followed by eating fruits and vegetables daily being beneficial (85.5%), a diversified diet making respondents feel healthier and more energetic (83.1%), and a diversified diet helping to prevent illness (81.6%). Agreement was lower for the statements that a wide variety of foods is a healthy habit worth practising (76.2%), that it is necessary to include different food groups in daily meals (71.6%), and that eating a variety of food groups every day is important for health (62.4%). Disagreement was most frequent for the last statement (31.4% disagreed or strongly disagreed).

ISSN:3141-5571
E-ISSN:3141-558X

Table 3

Responses to Attitude Items (%)

Statement	Strongly disagree	Disagree	Agree	Strongly agree	Agree + strongly agree
Eating a variety of food groups every day is important for my health	15.2	16.2	52.8	9.6	62.4
Consuming a diversified diet makes me feel healthier and more energetic	5.5	4.5	69.2	13.9	83.1
Eating fruits and vegetables daily is beneficial to my body	3.5	0.5	70.6	14.9	85.5
Having a variety of foods in my meals makes eating more enjoyable	3.0	8.0	74.1	14.9	89.0
Eating a diversified diet helps prevent illness and disease	0.5	17.9	67.7	13.9	81.6
It is necessary to include different food groups (grains, proteins, fruits, vegetables, dairy) in my daily meals	—	28.4	59.7	11.9	71.6
Consuming a wide variety of foods is a healthy eating habit worth practising	—	23.9	66.7	9.5	76.2

Source: researcher's survey (2026).

Note: no responses in the category. Row percentages for the first three statements sum to 93.8%, 93.1% and 89.5%, respectively; the remainder is not accounted for in the source output. Item-level valid n could not be established for N = 202.

Intention to consume a diversified and nutritious diet

Intention was uniformly high (Table 4). Between 95.6% and 99.5% of respondents agreed or strongly agreed with each of the five statements. Agreement was highest for planning to eat fruits and vegetables regularly (99.5%) and lowest for intending to eat a variety of foods every day (95.6%). Agreement was 96.0% for willingness to try new and different foods and 96.5% each for intending to reduce eating the same food repeatedly and for making a deliberate effort to consume a balanced and diversified diet in the coming weeks.

Table 4

Responses to Intention Items (%)

Statement	Strongly disagree	Disagree	Agree	Strongly agree	Agree + strongly agree
I intend to eat a variety of foods every day	0.5	4.0	85.6	10.0	95.6
I plan to eat fruits and vegetables regularly	0.5	0.0	76.6	22.9	99.5

ISSN:3141-5571
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Statement	Strongly disagree	Disagree	Agree	Strongly agree	Agree + strongly agree
I am willing to try new and different foods	0.5	3.5	77.1	18.9	96.0
I intend to reduce eating the same food repeatedly	0.0	3.5	72.6	23.9	96.5
I will make a deliberate effort to consume a balanced and diversified diet in the coming weeks	0.5	3.0	77.6	18.9	96.5

Source: researcher's survey (2026).

Subjective norms

Subjective norms were generally favourable (Table 5). Agreement was 94.5% for teachers encouraging healthy and diversified eating and 94.5% for important people thinking the respondent should eat a diversified diet. It was 94.0% for friends or peers influencing the type and variety of foods consumed, 91.5% for parents or guardians encouraging variety, and 87.1% for the family's eating habits influencing dietary choices. The lowest agreement was for health workers or school programmes encouraging diversified diets (65.7%; 34.3% disagreed or strongly disagreed).

Table 5

Responses to Subjective Norm Items (%)

Statement	Disagree / strongly disagree	Agree / strongly agree
Parents/guardians encourage me to eat a variety of foods	8.5	91.5
Friends/peers influence the type and variety of foods I consume	6.0	94.0
Teachers encourage healthy and diversified eating	5.5	94.5
Important people think I should eat a diversified diet	5.5	94.5
My family's eating habits influence my dietary choices	12.9	87.1
Health workers/school programmes encourage diversified diets	34.3	65.7

Source: researcher's survey (2026).

Perceived behavioural control

Perceived behavioural control was high (Table 6). Agreement was 97.0% for being able to choose a variety of foods when these were not readily available at home and 96.5% for each of the statements that affordability makes diversified eating easy, that the respondent has control over the food eaten at home or school, and that availability of different food groups makes diversified eating easy. Agreement was lower for accessing a variety of foods regardless of household income (89.6%) and

ISSN:3141-5571
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for obtaining a diversified diet elsewhere when food was scarce at home (84.6%; 15.4% disagreed or strongly disagreed).

Table 6

Responses to Perceived Behavioural Control Items (%)

Statement	Disagree / strongly disagree	Agree / strongly agree
I am able to choose a variety of foods when they are not readily available at home	3.0	97.0
Affordability makes diversified eating easy	3.5	96.5
I have control over the food I eat at home or school	3.5	96.5
Availability of different food groups makes diversified eating easy	3.5	96.5
I can access a variety of foods regardless of household income	10.4	89.6
I can obtain a diversified diet elsewhere when food is scarce at home	15.4	84.6

Source: researcher's survey (2026).

Food insecurity

Less severe food insecurity experiences were reported more often than severe ones (Table 7). For eating foods they did not want because of a lack of resources to obtain other foods, 50.3% reported no occurrence, while 38.7%, 9.5% and 1.5% reported successively higher levels of occurrence. Among those who experienced this, 58.2% reported the lowest frequency, 24.9% the second, 15.9% the third and 1.0% the highest. For eating a smaller meal than needed because there was not enough food, 57.3% reported no occurrence, and 39.7% and 3.0% reported successively higher levels; frequency was 46.8%, 26.9%, 21.9% and 4.5% across successively higher levels.

Table 7

Occurrence and Frequency of Selected Food Insecurity Experiences (%)

Response level	Occurrence: ate unwanted foods	Occurrence: ate smaller meal	Frequency: ate unwanted foods	Frequency: ate smaller meal
Level 1	50.3	57.3	58.2	46.8
Level 2	38.7	39.7	24.9	26.9
Level 3	9.5	3.0	15.9	21.9
Level 4	1.5	—	1.0	4.5

Source: researcher's survey (2026).

Association of food insecurity with Theory of Planned Behaviour constructs

Food insecurity was negatively and moderately correlated with attitude ($r = -.376$, $p < .001$) and weakly correlated with subjective norm ($r = -.161$, $p = .022$); greater food insecurity was associated with lower attitude and subjective norm scores. Food insecurity was not significantly correlated with perceived behavioural control ($r = -.066$, $p = .349$) or intention ($r = -.040$, $p = .575$) (Table 8). The null hypotheses of no association were therefore rejected for attitude and subjective norm and not rejected for perceived behavioural control and intention (Table 9).

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Among the Theory of Planned Behaviour constructs, attitude and subjective norm were weakly and negatively correlated (r = −.173, p = .014). Intention was not significantly correlated with attitude (r = .055, p = .437), subjective norm (r = −.032, p = .651) or perceived behavioural control (r = .063, p = .373). Perceived behavioural control was not significantly correlated with attitude (r = −.031, p = .661) or subjective norm (r = .000, p > .99).

Table 8

Pearson Correlation Matrix for Food Insecurity and Theory of Planned Behaviour Constructs (N = 202)

Variable	1	2	3	4	5
1. Food insecurity	1				
2. Intention	−.040	1			
3. Attitude	−.376**	.055	1		
4. Subjective norm	−.161*	−.032	−.173*	1	
5. Perceived behavioural control	−.066	.063	−.031	.000	1

Note. *p < .05; **p < .01; two-tailed. p-values for the correlations of food insecurity with attitude (< .001), subjective norm (.022), perceived behavioural control (.349) and intention (.575) are from the study analysis.

Table 9

Decisions on Null Hypotheses for Food Insecurity and Theory of Planned Behaviour Constructs

Null hypothesis	Relationship tested	r	p	Decision (α = .05)
H01	Food insecurity – attitude	−.376	< .001	Rejected
H02	Food insecurity – subjective norm	−.161	.022	Rejected
H03	Food insecurity – perceived behavioural control	−.066	.349	Not rejected
H04	Food insecurity – intention	−.040	.575	Not rejected

Note. Two-tailed Pearson correlation.

Discussion

This study examined food insecurity and its relationship with Theory of Planned Behaviour constructs among 202 adolescents in public secondary schools in Ilorin. Three findings stand out: favourable attitudes, norms and intentions coexisted with food insecurity experiences; food insecurity was associated with less favourable attitudes and subjective norms; and intention was unrelated to food insecurity and to the other constructs. These findings are relevant within the Nigerian context, where Sholeye et al. (2024) reported food insecurity among 45% of 1,300 in-school adolescents in Sagamu, while Adeomi et al. (2022) found household food insecurity in 47.3% of 1,200 children and adolescents in Osun and Gombe States. Gabriel et al. (2024) further showed that adolescent nutrition evidence in Nigeria remains geographically uneven, reinforcing the value of data from North-Central settings such as Ilorin.

Intention to eat a diversified diet was almost universal, with at least 95.6% agreeing with every item. Such a pattern reflects stated intention rather than practice. Ajzen (2020) notes that intention is more likely to translate into behaviour when individuals have sufficient control and resources. Because dietary diversity results are not available here, we cannot say whether these intentions translated into varied diets. This concern is supported by Nigerian evidence: Adeomi et al. (2022) reported a median dietary diversity score of 7 out of 14 among 6–19-year-olds in two Nigerian states, while Olumakaiye et al. (2026),

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studying 2,261 in-school adolescent girls, reported a mean All-5 food-group score of 3.8 ± 1.1 and a mean NCD-Protect score of 2.4 ± 1.4. These findings suggest that favourable intentions alone may not ensure adequate dietary variety.

The moderate negative correlation between food insecurity and attitude (r = −.376) suggests that adolescents in more food-insecure households held less favourable views of diversified eating. One plausible explanation is that, when food is limited, quantity and affordability take priority over variety. This is consistent with Nigerian evidence showing that food insecurity coexists with dietary constraints among adolescents (Adeomi et al., 2022; Sholeye et al., 2024). The weak association with subjective norm (r = −.161) may indicate that food-insecure households are less able to act on, or less exposed to, encouragement to eat varied foods. Because the design is cross-sectional, the direction of these associations cannot be established.

Intention was not significantly related to attitude, subjective norm, or perceived behavioural control, which departs from what the Theory of Planned Behaviour would predict (Ajzen, 2020; McDermott et al., 2015). A ceiling effect is a possible explanation, since near-universal agreement leaves little variance to correlate. The lowest agreement for subjective norm concerned health workers and school programmes (65.7%), pointing to scope for stronger school-based nutrition education and health services.

The pattern of milder food insecurity experiences predominating over severe ones should be interpreted cautiously because no overall food insecurity prevalence was available in the research files. Nevertheless, the experience of food insecurity among this Ilorin sample is consistent with wider Nigerian evidence, including 47.3% reported by Adeomi et al. (2022) and 45% reported by Sholeye et al. (2024). Outside Nigeria, Romão et al. (2025) reported 69.19% among adolescents in Northeast Brazil, illustrating the broader burden of adolescent food insecurity across settings. Strengths of the study include the use of a standardised food insecurity scale and a theory-based design. Limitations include its cross-sectional design; the sample of 202, below the 418 planned; the 98.5% female sample, which limits generalisation to male adolescents; and the absence of overall dietary diversity and food insecurity prevalence results.

Conclusion and Recommendations

Adolescents in the surveyed public secondary schools expressed favourable attitudes, supportive norms, high perceived control and strong intentions towards diversified eating, yet food insecurity was present and was associated with less favourable attitudes and subjective norms. To translate these findings into practice, school administrators and school health coordinators should integrate brief nutrition sessions into assemblies, health clubs and other existing school programmes, using examples of affordable and locally available foods. The Kwara State Ministry of Health and Ministry of Education should jointly develop or adapt simple adolescent nutrition materials and support periodic training for teachers and school health personnel. Parent-teacher associations should engage parents and guardians on low-cost dietary variety and household meal planning, while local government social welfare and primary healthcare services should establish referral pathways for students from households showing signs of food insecurity. Future studies should deliberately recruit both male and female adolescents, measure dietary diversity directly and use multivariable models to identify independent predictors.

References

Adeomi, A. A., Fatusi, A., & Klipstein-Grobusch, K. (2022). Food security, dietary diversity, dietary patterns and the double burden of malnutrition among school-aged children and adolescents in two Nigerian states. *Nutrients, 14*(4), 789. https://doi.org/10.3390/nu14040789

Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies, 2*(4), 314–324. https://doi.org/10.1002/hbe2.195

Coates, J., Swindale, A., & Bilinsky, P. (2007). *Household Food Insecurity Access Scale (HFIAS) for measurement of household food access: Indicator guide (Version 3)*. Food and Nutrition Technical Assistance Project.

FAO, IFAD, UNICEF, WFP, & WHO. (2024). *The state of food security and nutrition in*

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E-ISSN:3141-558X

the world 2024: Financing to end hunger, food insecurity and malnutrition in all its forms. FAO. https://doi.org/10.4060/cd1254en

Kennedy, G., Ballard, T., & Dop, M. C. (2011). *Guidelines for measuring household and individual dietary diversity*. Food and Agriculture Organization of the United Nations.

Gabriel, T. S., Kasim, M., Oluma, F. A., Muka, T., & Llanaj, E. (2024). Adolescent nutrition in Nigeria: A systematic review. *Journal of Nutritional Science, 13*, e38. https://doi.org/10.1017/jns.2024.34

Ibrahim, N. T. (2026). Comparative analysis of household food insecurity and its effects among households with children in Ilorin metropolis. *Al-Hikmah Journal of Health Sciences, 5*(1), 128–134.

McDermott, M. S., Oliver, M., Simnadis, T., Beck, E. J., Coltman, T., Iverson, D., Caputi, P., & Sharma, R. (2015). The theory of planned behaviour and dietary patterns: A systematic review and meta-analysis. *Preventive Medicine, 81*, 150–156. https://doi.org/10.1016/j.ypmed.2015.08.020

Olumakaiye, M. F., Iheme, G. O., & Alagbo, P. K. (2026). Determinants of dietary adequacy and diet quality of in-school adolescent girls in Nigeria: Implications for non-communicable diseases. *BMC Nutrition, 12*, 57. https://doi.org/10.1186/s40795-026-01279-3

Romão, M. E. D. B., Galvão, M. H. R., Sampaio, F. C., Nunes, J. M. F. F., & Forte, F. D. S. (2025). Food insecurity and associated factors among adolescents from inland Northeast Brazil: A cross-sectional study. *International Journal of Environmental Research and Public Health, 22*, 1087. https://doi.org/10.3390/ijerph22071087

Sholeye, O. O., Sodeinde, K. J., Animasahun, V. J., Ojeahere, M., & Gbadebo, A. A. (2024). Food insufficiency and its associated factors: Experiences of in-school adolescents in Sagamu Township, southwest Nigeria. *Nutrition and Health, 30*(2), 381–388. https://doi.org/10.1177/02601060221123183

Smith, L., López Sánchez, G. F., Tully, M. A., Jacob, L., Kostev, K., Oh, H., Butler, L., Barnett, Y., Shin, J. I., & Koyanagi, A. (2023). Temporal trends in food insecurity (hunger) among school-going adolescents from 31 countries from Africa, Asia, and the Americas. *Nutrients, 15*(14), 3226. https://doi.org/10.3390/nu15143226

World Bank. (2025). *Prevalence of moderate or severe food insecurity in the population (%) – Nigeria*. https://data.worldbank.org/indicator/SN.ITK.MSFI.ZS?locations=NG