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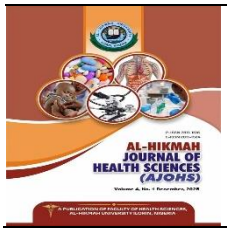

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Original Article

Comparative Analysis of Household Food Insecurity and Its Effects Among Household with Children in Ilorin Metropolis

Noimot Temitope Ibrahim

Department of Public Health, Faculty of Basic Medical Sciences, Al-Hikmah University, Ilorin, Kwara State, Nigeria.

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Corresponding Author:

Noimot Temitope Ibrahim
Department of Public Health, Faculty of Basic Medical Sciences, Al-Hikmah University, Ilorin, Kwara State, Nigeria.
Phone number: +2349034503215
Email: Ibrahimnoimot96@gmail.com

ABSTRACT

Background: Household food insecurity remains a major public health concern in Nigeria and nation's wide, despite the country's substantial agricultural potential. Many households continue to experience limited access to adequate and nutritious food, with possible implications for children's wellbeing.

Objectives: This study examined the prevalence of household food insecurity and its associated factors among households with children in Ilorin Metropolis, Kwara State.

Methods: A descriptive survey research design was adopted. The study population comprised parents in Ilorin Metropolis. A total of 390 respondents were selected using a multistage sampling technique. Data were collected using a structured questionnaire. Mean score ranking and inferential statistics, including Chi-square, multiple regression, and ANOVA, were used to answer the research questions and test the hypotheses.

Results: Findings revealed a high prevalence of household food insecurity among households with children across the LGAs in Ilorin Metropolis, with higher severity observed in Ilorin West LGA. Socio-economic factors such as income level, employment status, and food prices were found to significantly influence household food security.

Conclusion: Household food insecurity remains prevalent in Ilorin Metropolis and is strongly influenced by socio-economic conditions. Addressing income-related constraints, unemployment, and rising food prices through targeted job creation and vocational training programmes may improve household food security among families with children.

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Introduction

Food insecurity remains a critical global issue affecting millions of individuals, particularly vulnerable populations such as under five children (United Nations International Children's Emergency Fund, 2023). Developing countries in North America, Asia and Africa are intensely affected, the worst hunger is primarily found in South Asia, and the highest rate of undernourishment is found in sub-Saharan Africa (Beyene, 2023). In 2021, Nigeria was ranked 97th out of 113 countries with reported food availability of 46.8%, affordability of 32.9% and

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E-ISSN: 2811-1524

quality /safety of 41.5% thus depicting the severity of food insecurity (The Economist, 2021). Studies have linked household food insecurity to inadequate child nutrition and according to the World Health Organisation (WHO), a healthy diet protects against malnutrition (United Nations Children's Fund [UNICEF], 2020; World Health Organization [WHO], 2020a). Thus, there is a critical link between food insecurity and nutritional outcomes which is important as malnutrition contributes to 45% of under-five mortality (World Health Organization [WHO], 2020b). In 2019, up to 33.1% and 9.0% of children in West and Central Africa were reported to be stunted and wasted respectively (UNICEF, 2019). The prevalence, according to the Nigeria Demographic and Health Survey (NDHS) 2018 of stunting, underweight, wasting and overweight was 37%, 22%, 7% and 2% respectively and prevalence of stunting, underweight and wasting of 24.9%, 13.4% and 1.3%, respectively was reported for Bayelsa State (National Population Commission [Nigeria] & ICF, 2019).

Statement of the problem

Household food insecurity is a persistent global issue and one of the greatest problems in public health. Despite Nigeria's rich agricultural potential, household food insecurity remains a major issue, particularly among under five children, where it significantly contributes to illness, stunted growth, lowered immunity, cognitive decline and in extreme situations death (United Nations International Children's Emergency Fund, 2022). In Nigeria, despite multiple attempts and various programs and interventions, the prevalence of malnutrition remains consistently high, with 37% of children under five stunted, 23% underweight, and 7% wasted. The consequences of malnutrition extend beyond impaired growth they include heightened risk of morbidity and mortality, developmental delays, cognitive deficits, and long-term health issues. (Malnutrition | UNICEF Nigeria, n.d.; Vassilakou, 2021; World Health Organization, 2024).

Aim and Objectives of the Study

The main purpose of this study examined the comparative analysis of household food insecurity and its effects on the nutritional status of children in Ilorin Metropolis. The specific objectives include;

To estimate the prevalence of food insecurity among households with children in Ilorin Metropolis.

To identify the socio-economic factors associated with food insecurity in Ilorin Metropolis.

Research Questions

The study provided answers to the following questions;

What is the prevalence of food insecurity among households with children in Ilorin Metropolis?

What are socio-economic factors contributing to food insecurity in Ilorin Metropolis?

Research Hypotheses

The following hypotheses were analyzed to guide the study;

$H0_1$: Socio-economic factors such as income, education, and employment status do not statistical significantly contribute to household food insecurity.

Methodology

Research Design

A descriptive research survey was adopted for this study. This method was used because the study requires the researcher to collect information for the purpose of describing the study in detail (Jessica, 2021).

Population of the Study

The population of this study comprised all parents in Metropolis, Kwara State. The population cut across all wards in each of Ilorin West, Ilorin South and Ilorin East Local Government Areas. The total population of parents in Ilorin Metropolis is 872,944 according to the estimation of Kwara State Bureau of Statistic (2023).

Sample and Sampling Techniques

The sample size is determined for the study based on the total population of all parents in Ilorin Metropolis, Kwara State. The total population for this research work is 872,944 parents and the total sample size of respondent made a total of 390.

A multi-stage sampling procedure was employed in this research. In the first stage, a simple random sampling technique was use to select 2 wards from each of Ilorin West, Ilorin South and Ilorin East Local Government Areas. This was done by using fishbowl method of choosing 2 wrapped papers out of 11 wrapped papers containing names of wards for each LGA, each Local Government Areas done separately. The wards selected are Ilorin West: Ogidi and Ajikobi Wards Ilorin, South: Akanbi 1 and Balogun Fulani 1, Ilorin East: Gambari Ward 1 and Apado.

In the second stage, proportionate sampling techniques was use to select total population of parents in households from the selected wards as estimated by Kwara State Bureau of Statistic (2023).

P-ISSN: 2811-1516
E-ISSN: 2811-1524

Research Instrument

The main instrument that was used to gather information from the respondents is a researcher's structured questionnaire titled "Comparative analysis of household food insecurity and its effects on the nutritional status of children in Ilorin Metropolis which included questions adapted from the Household Food Insecurity Access Scale [HFIAS] (Coates et al., 2007). The questionnaire consisted of five sections (section A to D). All variables were measured using closed-ended type of four-point Likert rating scale format of strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD).

The instrument was tested for validity and reliability usingtest-retest method to carry out the reliability of the instrument. Twenty (20) instruments were administered to selected sample of the respondents in Moro Local Government Area. After two weeks, 20 questionnaires were again administered to same people in the same LGA. After analyzing the results using Pearson Product Moment correlation (PPMC), the correlation co-efficient of 0.82r was gotten which shows that the instrument is reliable.

Procedure for Data Collection

A letter of introduction was obtained by the researcher from the Department of Community Medicine and Public Health, Faculty of Basic Medical Science, Al-Hikmah University, Ilorin. Consent of the respondents was sought, and they were assured of confidentiality and privacy of information provided. The researcher personally carried out the administration of the questionnaire on the respondents with the aid of two (2) research assistants who have been trained on how to interpret and administer questionnaire to the participants.

Ethical Consideration

Ethical approval for the study was sought from and granted by the Kwara State Ministry of Health Ethics Review Board with assigned number (Ref: ERC/MOH/2025/09/514), and all methods were performed in accordance. Written Informed consent was obtained from all participants. Additionally,confidential and anonymity of responses were maintained throughout the study and it caused no harm to participants.

Method of Data Analysis

The data collected from the respondents was sorted, coded and subjected to appropriate statistical analysis using Statistical Package for Social Sciences (SPSS) version 23. Section A which entailed the demographic data of the respondents and all the research questions were analyzed using descriptive statistics of frequency, percentage, mean and standard deviation; while the inferential statistics of chi-square was used to test the postulated null at 0.05 alpha level to criterion for either to reject or retain the hypotheses used for the study.

Results

Table 1: Demographic Characteristics of Respondents

S/N	CHARACTERISTICS	FREQUENCY	PERCENTAGE (%)
1.	Age Range		
	18-25years old	58	14.8
	26-30years old	138	35.4
	31-35years old	102	26.2
	36years and above	92	23.6
	Total	390	100.0
2.	Gender		
	Male	160	41.0
	Female	230	59.0
	Total	390	100.0
3.	Height		
	18–25 years	95	168.4
	26–30 years	110	170.2
	31–35 years	100	169.6
	6 years and above	85	168.9
	Total	390	
4.	Marital Status		
	Single	45	11.5
	Married	280	71.8
	Divorced	30	7.7
	Widow	35	9.0

P-ISSN: 2811-1516
E-ISSN: 2811-1524

	Total	390	100.0
5.	Education Level		
	No formal education	52	13.3
	Primary education	90	23.1
	Secondary education	120	30.8
	Tertiary education	128	32.8
	Total	390	100.0
6.	Occupation		
	Trader	90	23.1
	Civil Servant	78	20.0
	Artisan	55	14.1
	Self-employed	80	20.5
	Unemployed	52	13.3
	Others	35	9.0
	Total	390	100.0

Table 1 presents the demographic characteristics of the 390 parents surveyed in Ilorin Metropolis. The largest proportion of respondents, 138 (35.4%), were between 26–30 years and the least represented were parents aged 18-25years old 58(14.8%). In terms of gender distribution, females made up a majority with 230 (59.0%) compared to males, 160 (41.0%). Regarding marital status, most respondents were married 280(71.8%), while singles accounted for 45 (11.5%), widows 35 (9.0%), and divorced parents 30 (7.7%). For educational attainment, 128 (32.8%) of parents had tertiary education, 120 (30.8%) had secondary education, 90 (23.1%) had primary education, while 52 (13.3%) reported having no formal education.Occupationally, traders 90(23.1%) and self-employed individuals 80(20.5%) dominated the sample, followed by civil servants 78(20.0%). Artisans, unemployed respondents and others accounted for 55 (14.1%), 52 (13.3%), and 35 (9.0%), respectively.

Analysis of the Research Questions

Research Question One: What is the prevalence of food insecurity among households with children in Ilorin Metropolis?

Table 2: Distribution of the Respondents on the prevalence of food insecurity among households with children in Ilorin Metropolis

S/N	ITEMS	Ilorin West (n=120)	Ilorin South (n=140)	Ilorin East (n=130)	Std. Dev.
8	My household has experienced lack of food due to food spoilage and scarcity of food in the market.	2.95	3.05	2.80	1.06
9	We often skip meals because there is not enough food at home.	3.00	2.85	2.70	1.08
10	My household often skips lunch due to lack of enough food at home.	2.78	2.90	3.02	1.07
11	It is difficult to afford enough food to feed all members of my household.	3.12	2.95	2.70	1.09
12	Our household regularly relies on support from others (e.g., friends, relatives, NGOs) for food.	2.85	2.92	2.65	1.08
	Grand Mean ($\bar{X}$)	2.94	2.93	2.77	1.08

The table 2 above shows the comparative mean scores of food insecurity indicators across the three LGAs in Ilorin Metropolis. The results reveal varying levels of food insecurity experiences among households with children. Ilorin West recorded the highest grand mean (2.94), indicating a relatively higher prevalence of food insecurity. Ilorin South followed closely with a grand mean of 2.93, suggesting moderate but still notable food insecurity levels. Ilorin East had the lowest grand mean (2.77), implying comparatively fewer cases of food scarcity and reliance on food aid.

Research Question Two: What are socio-economic factors contributing to food insecurity in Ilorin Metropolis?

P-ISSN: 2811-1516
E-ISSN: 2811-1524

Table 3: Distribution of the Respondents on Socio-Economic Factors Contributing to Food Insecurity in Ilorin Metropolis

S/N	ITEMS	Ilorin West (n=120)	Ilorin South (n=140)	Ilorin East (n=130)	Std. Dev.
13	Low household income contributes significantly to our food insecurity.	3.60	3.48	3.42	1.03
14	Unemployment or underemployment has made it difficult to secure adequate food.	3.48	3.55	3.33	1.05
15	High food prices in the market make it difficult to afford basic food items.	3.58	3.63	3.47	1.02
16	Lack of access to land or space for farming affects food availability in my household.	2.78	2.90	2.96	1.06
17	Educational level of the household head influences our ability to achieve food security.	2.95	3.02	2.85	1.04

Table 3 revealed differences in the socio-economic factors influencing food insecurity across the three LGAs in Ilorin Metropolis.

Ilorin West: The top three contributing factors are low household income (Mean = 3.60), high food prices (Mean = 3.58), and unemployment or underemployment (Mean = 3.48). This indicated that most households in Ilorin West struggle with financial limitations that restrict their food access.

Ilorin South: The leading factors are high food prices (Mean = 3.63), unemployment or underemployment (Mean = 3.55), and low household income (Mean = 3.48). This suggests that inflation and job scarcity are the main pressures on household food security in the area.

Ilorin East: The top three factors are high food prices (Mean = 3.47), low household income (Mean = 3.42), and lack of access to land for farming (Mean = 2.96).

Test of Hypotheses

$H0_1$: Socio-economic factors such as income, education, and employment status do not statistical significantly contribute to household food insecurity.

Table 4: Coefficients Table

Predictor	Unstandardized B	Std. Error	Beta	t	Sig.	Decision
(Constant)	1.215	0.128	–	9.49	0.000	–
Income	-0.365	0.052	-0.451	-7.02	0.000	Significant
Education	-0.228	0.047	-0.304	-4.85	0.000	Significant
Employment	-0.174	0.041	-0.265	-4.22	0.000	Significant

The Chi-square and regression analyses jointly show that socio-economic factors, specifically income, education, and employment status are significant determinants of household food insecurity in Ilorin Metropolis. Lower income, poor education, and unemployment are associated with higher levels of food insecurity among households in Ilorin Metropolis.

Discussion of Findings

The findings of this study revealed varying levels of food insecurity experiences among households with children. Ilorin West recorded the highest grand mean (2.94), indicating a relatively higher prevalence of food insecurity. Ilorin South followed closely with a grand mean of 2.93, suggesting moderate but still notable food insecurity levels. Ilorin East had the lowest grand mean (2.77), implying comparatively fewer cases of food scarcity and reliance on food aid. Although individual items varied with Ilorin South having the highest mean for food spoilage and external support, and Ilorin East leading slightly in skipped lunches, the overall pattern indicates that food insecurity is prevalent across all LGAs, but most severe in Ilorin West. These findings align with the finding of Bakare and Abiodun (2022) which assessed the food insecurity in urban areas like Ilorin Metropolis found that food insecurity was found to be prevalent among respondents, with about 81% being food insecure.

This study also revealed that high food prices, unemployment, and low income are common across all LGAs, although the degree of influence varies. Ilorin West and South are more affected by direct economic constraints, while Ilorin East experiences a mix of economic and agricultural challenges. These findings are in line with the study of Shaibu (2023) who found that poverty and low incomes are central: households in the lowest wealth quintiles face three to four time's greater risk of having malnourished

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children compared to wealthier families. The Chi-square and regression analyses jointly show that socio-economic factors, specifically income, education, and employment statuses are significant determinants of household food insecurity in Ilorin Metropolis. Lower income, poor education, and unemployment are associated with higher levels of food insecurity among households in Ilorin Metropolis.

Conclusions

This study concluded that there is prevalence of food insecurity among households with children and that Ilorin South has the highest mean for food spoilage, Ilorin East leading slightly in skipped lunches, the overall pattern indicates that food insecurity is prevalent across all LGAs, but most severe in Ilorin West LGA.Multiple socio-economic conditions affect household food security, high food prices, unemployment, and low income are common across all LGAs, although the degree of influence varies. Ilorin West and South are more affected by direct economic constraints, while Ilorin East experiences a mix of economic and agricultural challenges.

Recommendations

Based on the findings of this study, the following recommendations were drawn:

Policies and programs aimed at refining child nutrition in Ilorin should address household food insecurity. Any conclusions about children's nutritional status should be inferred.

Ministry in collaboration with health personnel should implement community-based surveillance systems and public awareness campaigns to regularly track food insecurity rates and educate families on available support resources, drawing from national surveys.

Government should tackle multiple socio-economic constraints, particularly low income, unemployment, and high food prices, by expanding vocational training programs, microfinance access, and job creation schemes targeted at households in Ilorin.

Public Health Impact

This study provides data to support targeted nutritional interventions for vulnerable children in food-insecure households.

This study helps policy makers in developing food support policies to reduce malnutrition and promote food insecurity.

Conflict of interest

Authors declared that there is no conflict of interest and open to defending any contrary claims.

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