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Impact of Coping Strategies on Household Food Insecurity in Conflict Situation in Enugu State, Nigeria

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Article history: Received 18 April 2025, Reviewed 25 April 2025, Accepted for publication 02 June 2025

Abstract

Background: Coping strategies are households' survival tools in crisis situations, but a dearth of studies showed its impact on hunger/food insecurity. This study assessed impact of coping strategies on household food insecurity in conflict situation.

Method: Cross-sectional descriptive design was adopted among households living in communities where conflict occurred from 2022-2024, within Enugu state, southeast Nigeria. Through multi-stage sampling, 300 households were selected. Data were collected using structured standardized questionnaires. SPSS software (23.0) was used for statistical analysis. Chi-square test was used to compare proportions. Results were presented as frequencies, percentages, means and standard deviation.

Results: The majority (72.3%) of the households' heads were farmers. Mean household income per month was $31.11. Mean amount allocated to food daily was $2.69. Overall, 40.7%, 31.3% and 15.3% had severe, moderate and mild food insecurity experience. About 54.4%, 24.3% and 21.3% had little/no hunger, moderate and severe hunger. Coping strategies adopted by households to offset hunger include menial jobs (67.6%), farming at a particular time/location (70.6%), reduction of meal portion of household members (58.0%), and reduction of number of meals per day (58.3%). Most of the coping strategies made no impacts in alleviating hunger and food insecurity. However, significant associations were found between hunger and the variables at ($p< 0.05$).

Conclusion: Households in conflict affected communities in Enugu state were food insecure, while poverty, a major effect of conflict, played a key role. Government's collaboration with relevant agencies to build capacity for food security and nutrition in the conflict-affected communities is vital.

Keywords: Coping strategies, food insecurity, hunger, conflict-affected communities, Enugu state.

How to cite this article

Onyeidu BU, Onuoha NO. Impact of Coping Strategies on Household Food Insecurity in Conflict Situation in Enugu State, Nigeria. The Nigerian Health Journal 2025; 25(2): 792 – 802. https://doi.org/10.71637/tnhj.v25i2.1083

Introduction

In 2019, it was reported that 381.4 million of the 650.3 million chronically undernourished people lived in conflict-affected countries.[1] Moreso, about three-quarters of malnourished (especially stunted) children aged 0-5 years globally, also live in conflict-affected countries.[2] An estimated 163 million Africans experience severe food insecurity, with about 80% residing in conflict-affected countries.[3] In East Africa, about 61.6 million people are food-insecure and nearly 50 million people are projected to be food insecure in Western and Central Africa by 2026, resulting from conflicts and climate change.[4] The Rome declaration on world food security in 1996, defined food security as 'a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.[5] Failure to meet these conditions for consistent access to sufficient, safe, and nutritious food results to food insecurity. A violent conflict involves at least two parties using physical force to resolve competing claims or interests. Nigeria is one of the countries in Africa that are most affected by armed conflicts.[6,2] For instance, herder–farmer conflicts, communal conflicts, terrorism (Boko Haram and others) and armed banditry attacks are major violent conflicts recorded in Nigeria.[7]

Conflict situation worsens food insecurity. Recent studies show that conflicts limit people's productivity by destroying livelihoods, basic infrastructures and health.[2,7,8] Agricultural production and economic capacities are reduced, crippling supply and access to food.[2,8] The worst food crises have occurred in places where violent conflict existed, showing a strong association between these variables.[9,10] The physical stress and psychological shocks associated with violent conflict grossly impact health negatively. This exacerbates malnutrition in the face of food insecurity. Conflict situations also reduce the options for coping strategies thereby increasing the vulnerability to food insecurity.[2,11] A coping strategy is defined as a strategic plan made by households to deal with food unavailability when they are at risk of food insecurity.[12,13] Coping strategies are techniques adopted by households or individuals when they have poor access to adequate quantity of food.[12,14] Coping strategies used to mitigate food insecurity may have either positive or negative impacts. Strategies that negatively change meal patterns and adequacy usually result to nutrient deficiencies and malnutrition. Others that seek help from family, friends or institutions may provide needed support. Capacity building for food security and nutrition is paramount, identifying and strengthening positive coping strategies and diversifying livelihood activities, so as to enhance quick recovery from shocks, food insecurity and health.[15]

There is limited data on actual state of food security in households in the conflict affected areas in Enugu State even though many communities in Enugu State have suffered protracted conflicts, such as herder–farmer conflicts and inter-ethnic crisis that caused significant loss of human lives, livelihoods, agricultural lands, basic infrastructures, reduced productivity, economic damage and food insecurity of households. Also, the impact of coping strategies on household food insecurity in these areas have not been documented. This has hindered appropriate policy formulation and implementation as well as adequate resource allocation to the conflict-affected areas in the State. Therefore, this study aimed to provide empirical evidence on impact of coping strategies on household food insecurity in conflict situation. The specific objectives were to assess the state of household food security in the conflict-affected communities of Enugu State, from 2022 to 2024 using standard methods; examine the existing local coping strategies of households in these areas and their impact on food insecurity.

Methodology

A cross-sectional descriptive design was adopted. The study population comprised all the households living in the communities that had experienced violent conflicts in the past from the year 2022 to 2024, within Enugu State. Multi-stage sampling was done, and 300 households were selected from Agu-Ukehe, Mgbuji and Opi-Agu communities. Seven LGAs in the state were conflict-affected within the period studied. Three LGAs were randomly selected by balloting without replacement. One community was also randomly (ballot without replacement) selected from LGAs with more than one conflict-affected communities. In each community, the most conflict-affected (defined by number of conflict events, number of deaths and infrastructural damages) hamlet was purposively selected for the study. In each selected Hamlet, households with an elderly (≥ 60 years) member and /or a child aged 0-5years, were randomly selected for the study, to ensure vulnerability of households. Disproportionately, certain number of the households in each selected hamlet were selected for the study according to population density and vulnerability. Sample size (households) selected in each community were 162 households in Mgbuji, 95 households in Opi-Agu and 43 households in Agu-

Print ISSN: 0189-9287 Online ISSN: 2992-345X

Ukehe respectively, total of 300 households. The ethics committee of University of Nigeria Teaching Hospital (UNTH) Ituku-Ozala approved the study with the number NHREC/05/01/200BB-FWA00002458-1RB00002323. Verbal consent was secured from the respondents and confidentiality maintained.

Method of data collection was validated structured standardized questionnaire. The major globally accepted data collection tools for assessing household food insecurity were used for this study. [16,17] These are the Household Food Insecurity Experience Scale (HFIES), Household Hunger scale (HHS), and Household Coping Strategies Index (HCSI)). These were administered to the mother /home maker of each selected household and collected there and then. The data collectors helped to interpret the tools in the local dialect of the respondents who did not understand English language. The household food insecurity experience scale (HFIES) elicited information on household's access to adequate food and food-related experiences within a month. Data analysis was done using FAO guide.[16] Households were categorized as having no, mild, moderate and severe food insecurity experience respectively. Household Hunger scale (HHS) was used to determine hunger state of households. FHI-360 HHS indicator definition and measurement guide.[17] was used for analysis. Households were classified as having little/no, moderate and severe hunger, respectively. Household Coping Strategies Index (HCSI) was used to identify coping strategies adopted by households, with frequency of use of 'everyday', '3-6 times per week', '1-2 times per week', and 'never'. FAO guide.[15] was used for analyzing each item (coping strategy) solely. Then the proportion of households that adopted each coping strategy was determined. The statistical product and service solution (SPSS) version 23 software was used for statistical analysis. Descriptive analysis was done, chi-square test of independence was used to compare proportions, and results were presented using tables and figures. Significant difference was identified at $p<0.05$.

Results

Table 1 presents the Occupation of household's heads in conflict affected communities in Enugu State. The predominant (72.3%) occupation of household heads was farming. Some (18.3%) combined farming and trading, while 2.7% engaged in farming and other income yielding activities. As seen in table 2, which shows other socio-demographic status of households, the mean number of persons in the households were 4.56, 6.27 and 5.37 in Agu-Ukehe, Mgbuji and Opi-Agu villages respectively. Overall mean household income per month was $31.11, while mean amount allocated to food daily was $2.69.

Table 1: Occupation of household's Heads in the conflict affected communities in Enugu State

Variables		Agu- Ukehe Freq (%)		Mgbuji Freq (%)		Opi-Agu Freq (%)		Total Freq (%)	
Occupation of Household Head	None	0	0.0	5	3.1	0	0.0	5	1.7
	Farming	26	60.5	121	74.7	70	73.7	217	72.3
	Trading	0	0.0	11	6.8	1	1.1	12	4.0
	Artisan/handwork	0	0.0	3	1.9	0	0.0	3	1.0
	farming and trading	17	39.5	18	11.1	20	21.1	55	18.3
	farming and others	0	0.0	4	2.5	4	4.2	8	2.7
Total		43	100.0	162	100.0	95	100.0	300	100.0

freq-frequency; %-percentage

Table 2: socio-demographic status of households in the conflict affected communities in Enugu state

Variables		Mean	Standard Deviation
Number of persons in household	Agu-Ukehe	4.56	± 2.76
	Mgbuji	6.27	±2.83
	Opi-Agu	5.37	±2.65
	Total	5.74	±2.83
Number of children in household	Agu-Ukehe	1.77	±1.81
	Mgbuji	3.74	±2.28
	Opi-Agu	3.07	±2.29
	Total	3.25	±2.32

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Variables		Mean	Standard Deviation
Number of adults in household	Agu-Ukehe	2.79	±2.67
	Mgbuji	2.51	±1.23
	Opi-Agu	2.29	±1.04
	Total	2.48	±1.48
Total income per month (USD)	Agu-Ukehe	38.12	±16.12
	Mgbuji	25.69	±10.22
	Opi-Agu	36.95	±13.38
	Total	31.11	±13.64
Amount allocated to food per month (USD)	Agu-Ukehe	32.52	±52.84
	Mgbuji	18.06	±7.17
	Opi-Agu	24.68	±8.45
	Total	22.29	±21.87
amount allocated to food per day (USD)	Agu-Ukehe	3.19	±1.35
	Mgbuji	2.33	±1.02
	Opi-Agu	3.09	±1.12
	Total	2.69	±1.18

X indicates mean and SD indicates Standard deviation. Same alphabetical superscript along the column indicates no significant difference (p> 0.05) while different alphabetical superscript along the column indicates significant difference (p< 0.05)

Table 2 shows the household food security status of the conflict affected communities of Enugu State. Generally, only 12.7% of the entire communities had no food insecurity experience whereas 40.7%, 31.3% and 15.3% had severe, moderate and mild food insecurity experience respectively. There is significant association (X^2=34.708, P< 0.001) among the groups, with Mgbuji having the highest proportion (50.6%) of severely food insecure experience. Figure 4.1 shows household hunger status of the conflict affected communities in Enugu State. Precisely 30.2% and 35.8% of households in Mgbuji suffered severe and moderate hunger. Most households in Agu-Ukehe (86%) and Opi-Agu (74.7%) suffered little or no hunger.

Table 3: household food security status of the conflict affected communities in Enugu state

Variable	Agu-Ukehe Freq (%)		Mgbuji Freq (%)		Opi-Agu Freq (%)		Total Freq (%)		X^2-value	p-value
Household Food Insecurity Experience Scale (HFIES)										
No Food Insecurity Experience	11	25.6	9	5.6	18	18.9	38	12.7	34.708[a]	P < 0.001
Mild Food Insecurity Experience	11	25.6	15	9.3	20	21.1	46	15.3		
Moderate Food Insecurity Experience	12	27.9	56	34.6	26	27.4	94	31.3		
Severe Food Insecurity Experience	9	20.9	82	50.6	31	32.6	122	40.7		
Total	**43**	**100.0**	**162**	**100.0**	**95**	**100.0**	**300**	**100.0**		

frequency; %-percentage; X^2- chi square value; P-significance at P<0.001

Print ISSN: 0189-9287 Online ISSN: 2992-345X

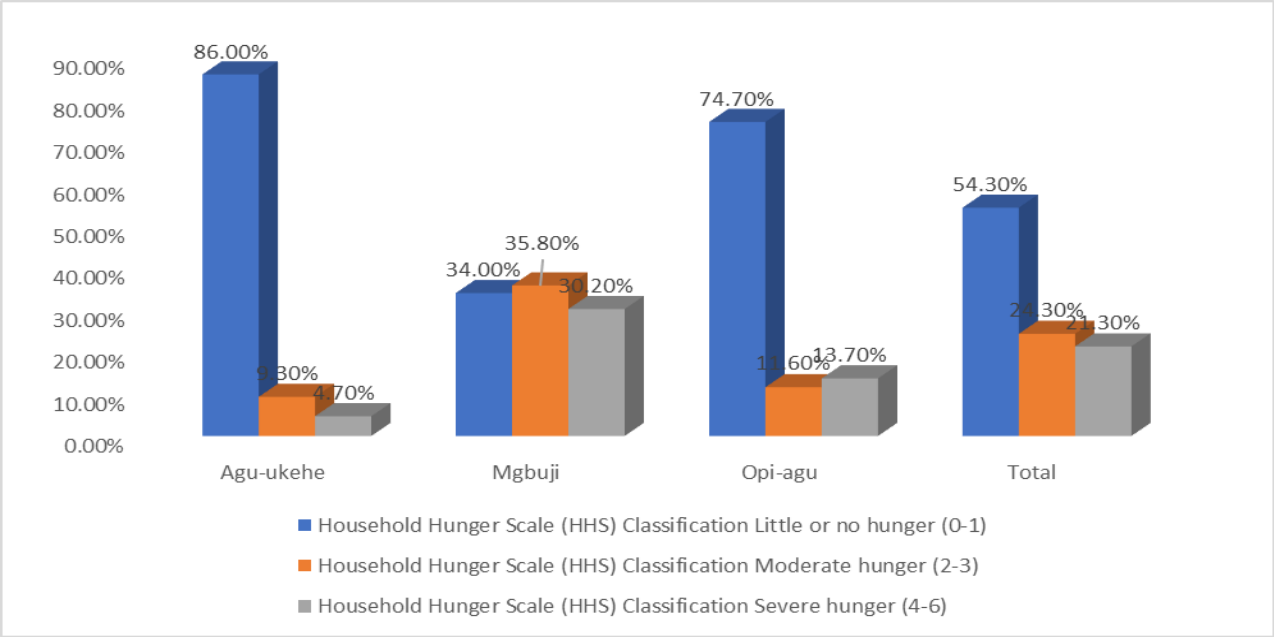

Figure 1: Household hunger status of the conflict affected communities in Enugu state

Table 3. presents coping strategies of households in conflict affected communities in Enugu state. There were many coping strategies available, but we concentrate on the commonly adopted ones. These are shown in table 3 below and revolve around meal consumption and income generation. Coping strategies most usually (every day and 3-6 times weekly) adopted by households in the studied communities were menial jobs (67.6%), farming at a particular time/location (70.6%), consumption of less quality and variety of food (55.7%), reduction of meals of adults in favour of children (44.0%), reduction of the portion of meal for all household members (58.0%), and reduction of number of meals per day (58.3%). There were strong associations (P<0.001) among these variables as utilized among the communities.

Table 4: coping strategies of households in conflict affected communities in Enugu state

Variables	Agu-Ukehe		Mgbuji		Opi-Agu		Total		X^2-value	p-value
	Freq	(%)	Freq	(%)	Freq	(%)	Freq	(%)		
Menial jobs										
Never	5	11.6	38	23.0	35	36.8	78	26.0	16.814[a]	p = 0.010
Everyday	31	72.1	80	49.4	46	48.4	157	52.3		
3-6 times/ week	5	11.6	31	19.1	10	10.5	46	15.3		
Once or twice	2	4.7	13	8.0	4	4.2	19	6.3		
Total	43	100.0	162	100.0	95	100.0	300	100.0		
Farming at particular time/location										
Never	28	65.1	30	18.5	20	21,1	78	26.0	44.764[a]	p < 0.001
Everyday	15	34.9	93	57.4	49	51.6	157	52.3		
3-6 times/ week	0	0.0	32	19.8	23	24.2	55	18.3		
Once or twice	0	0.0	7	4.3	3	3.2	10	3.3		
Total	43	100.0	162	100.0	95	100.0	300	100.0		
Consume less quality and variety of food										
Never	15	34.9	43	26.5	29	30.5	87	29.0	58.147[a]	p < 0.001
Everyday	7	16.3	90	55.6	16	16.8	113	37.7		
3-6 times/ week	11	25.6	19	11.7	24	25.3	54	18.0		
Once or twice	10	23.3	10	6.2	26	27.4	46	15.3		
Total	43	100.0	162	100.0	95	100.0	300	100.0		

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Variables	Agu-Ukehe Freq	(%)	Mgbuji Freq	(%)	Opi-Agu Freq	(%)	Total Freq	(%)	X²-value	p-value
Reduce the meal of adults in favour of children										
Never	24	55.8	48	29.6	39	41.1	111	37.0	23.320[a]	p< 0.001
Everyday	4	9.3	56	34.6	14	14.7	74	24.7		
3-6 times/ week	6	14.0	31	19.1	21	22.1	58	19.3		
Once or twice	9	20.9	27	16.7	21	22.1	57	19.0		
Total	43	100.0	162	100.0	95	100.0	300	100.0		
Reduce the portion of meal for all household members										
Never	20	46.5	27	16.7	28	29.5	75	25.0	64.806[a]	p< 0.001
Everyday	5	11.6	96	59.3	19	20.0	120	40.0		
3-6 times/ week	10	23.3	25	15.4	19	20.0	54	18.0		
Once or twice	8	18.6	14	8.6	29	30.5	51	17.0		
Total	43	100.0	162	100.0	95	100.0	300	100.0		
Reduce number of meals per day										
Never	11	25.6	25	15.4	30	31.6	66	22.0	62.357[a]	p < 0.001
Everyday	4	9.3	82	50.6	10	10.5	96	32.0		
3-6 times/ week	13	30.2	38	23.5	28	29.5	79	26.3		
Once or twice	15	34.9	17	10.5	27	28.4	59	19.7		
Total	43	100.0	162	100.0	95	100.0	300	100.0		

n-frequency; %-percentage; X²- chi square value; P-significance at P≤0.01

Table 5: Impact of coping strategies on Household Hunger

Occurrence of Hunger	Never Freq	(%)	Everyday Freq	(%)	3-6times/ week Freq	(%)	1-2times/ week Freq	(%)	Total Freq	(%)	X² Value	p-Value
Use of 'Menial jobs'												
Little Hunger	55	70.5	77	49.0	21	45.7	10	52.6	163	54.4	22.192	p<0.001
Moderate Hunger	18	23.1	34	21.7	17	37.0	4	21.1	73	24.3		
Severe hunger	5	6.4	46	29.3	8	17.4	5	26.3	64	21.3		
Total	78	100.0	157	100.0	46	100.0	19	100.0	300	100.0		
Use of 'Farming at a particular time'												
Little Hunger	54	69.2	70	44.6	29	52.7	10	100.0	163	54.4	30.114	p<0.001
Moderate Hunger	17	21.8	38	24.2	18	32.7	0	0.0	73	24.3		
Severe hunger	7	9.0	49	31.2	8	14.5	0	0.0	64	21.3		
Total	78	100.0	157	100.0	55	100.0	10	100.0	300	100.0		
Use of 'Reduced meal of adults in favour of children'												
Little Hunger	87	78.4	30	40.5	22	37.9	24	42.1	163	54.4	56.743	p<0.001
Moderate Hunger	21	18.9	20	27.0	12	20.7	20	35.1	73	24.3		
Severe hunger	3	2.7	24	32.4	24	41.4	13	22.8	64	21.3		
Total	111	100.0	74	100.0	58	100.0	57	100.0	300	100.0		
Use of 'Limit the portion of meals of all household member'												
Little Hunger	67	89.3	35	29.2	30	55.6	31	60.8	163	54.4	79.725	p<0.001
Moderate Hunger	8	10.7	37	30.8	18	33.3	10	19.6	73	24.3		
Severe hunger	0	0.0	48	40.0	6	11.1	10	19.6	64	21.3		
Total	75	100.0	120	100.0	54	100.0	51	100.0	300	100.0		
Use of 'Reduce number of meals per day'												
Little Hunger	56	84.8	38	39.6	31	39.2	38	64.4	163	54.4	49.074	p<0.001
Moderate Hunger	10	15.2	25	26.0	26	32.9	12	20.3	73	24.3		
Severe hunger	0	0.0	33	34.4	22	27.8	9	15.3	64	21.3		
Total	66	100.0	96	100.0	79	100.0	59	100.0	300	100.0		

N-frequency; %-percentage; X²- chi square value; Df value at 6, P-significance at P≤0.001

Print ISSN: 0189-9287 Online ISSN: 2992-345X

Table 4. presents coping strategies of households in conflict affected communities in Enugu state. There were many coping strategies available, but we concentrate on the commonly adopted ones. These are shown in table 4 below and revolve around meal consumption and income generation. Coping strategies most usually (every day and 3-6 times weekly) adopted by households in the studied communities were menial jobs (67.6%), farming at a particular time/location (70.6%), consumption of less quality and variety of food (55.7%), reduction of meals of adults in favour of children (44.0%), reduction of the portion of meal for all household members (58.0%), and reduction of number of meals per day (58.3%). There were strong associations ($p<0.001$) among these variables as utilized among the communities.

Table 5 shows the impact of coping strategies on household hunger. Overall, households that experienced little/no hunger, moderate hunger and severe hunger were 54.4%, 24.3% and 21.3%. Within groups of each coping strategy's frequency of use, various effects were observed. 'Menial jobs' and 'farming at a particular time/location' had similar effects on the households' hunger status. Households that adopted both strategies daily, 3-6times and 1-2times weekly, experienced less severe hunger (29.3%, 17.4%, 26.3%; 31.2%, 14.5%, 0) than little/no hunger (49.0%, 45.7%, 52.6%; 44.6%, 52.7%. 100%). The association was significant ($X^2=22.192$, $p=0.001$; $X^2=30,114$; $p<0.001$). As for households that adopted 'reduction of the meal of adults in favour of children' coping strategy 3-6 times weekly, 41.4% were severely hungry, whereas the 1-2times weekly group had less (22.8%) severe hunger. Within the group of 'limit the portion of meal for all household members', 40.0% were severely hungry while 29.2% were little/not hungry. An opposing effect was observed within the 1-2times per week group as 60.8% had little/no hunger and only 19.6% had severe hunger. The association was strong and very significant ($X^2=79.73$; $p<0.001$). For coping strategy 'reduce number of meals per day', within the group of households that adopted this strategy daily, 39.6% were little/not hungry, 26.0% were moderately hungry and 34.4% severely hungry. This was very significant ($X^2=49.074$, $p<0.001$). Notably, the groups that never utilized each of these coping strategies, had the greatest proportion of little/no hunger and none or minimal severe hunger.

Discussion

Demographic characteristics of respondents.

In Nigeria, farming is the common occupation in rural agrarian communities, providing food and income through sale of farm products.[18] This is the case with our study communities which are rural and agrarian. Majority (72.3%) of the households' heads were predominantly farmers. However, it has been established that conflict situation cripples the capacity of farmers to produce enough food for themselves and the market.[2,11]. These must have resulted to poor food production, supply of food and ultimately food insecurity. Thus, some (21%) households combined farming with other income yielding activities to boost their economic capacities. Generally, households obtained a mean total income of USD $31.11 monthly and spent an average of USD $2.69 on food daily, possibly yielding little food to eat daily regarding the inflation and high cost of food presently in the country.[12,19] This reveals the poverty (possibly conflict-induced) condition of households in the study communities. To alleviate poverty and its resultant hunger, households adopted several coping strategies, which were both income-soothing and consumption-soothing strategies. [12,20,21] This agrees with Farzana et al. [22] who reported that vulnerable households adopt various coping strategies during prevailing food price increases and severe food insecurity. There is therefore a need to facilitate poverty alleviation intervention actions in our study communities to solve food insecurity issues and its complexities.

Number of household members (household size) also contribute to food security status such that a low income would be more sufficient for a household with fewer number of persons than one with a larger size. [12,23] Ratifying this, the study found significant associations between number of household members and income. For instance, Mgbuji had the highest($X=6.27$) mean number of persons per household, with the least amount of money allocated to food per month ($X=$ USD $18.06) and per day ($X=$ USD $2.33), as well as the highest proportion (50.6%) of severely food insecure households. If the number of households were less, the rate of food insecurity would have been less severe. Similar results were found by Quinton et al.[12] who studied household food insecurity in regions of Nigeria, and found that households with a higher size, comprising of more proportion of children were 4.6% more likely to be coping all through the year.

Food security status of households

It has been established that violent conflicts directly cause food insecurity and starvation through various means.[2,10] The results of this study agree with it. Overall, 40.7%, 31.3% and 15.3% of households had severe, moderate and mild food insecurity experiences. This was primarily due to the disrupted food production and economic activities of the households attributed to the

Print ISSN: 0189-9287 Online ISSN: 2992-345X

armed conflict. Buttressing this, recent studies show that conflicts and terrorist attacks reduce agricultural productivity and investments which negatively affects food availability.[2,7,8] The high burden of households' food insecurity in the study communities, is in line with the assessment done in Tigray region of Ethiopia by the World Food Program (WFP), [24] where 83% of the households were food insecure; and repeated by Weldegiargis et al.[10] in 2023, and 84.6% of the households were food insecure. Mgbuji had the highest proportion (50.6%) of households with severe food insecurity experience. This could be a result of the serious challenge of constant encroachment of farmlands by terrorists, hindering both harvest of previously cultivated crops and cultivation of new ones (as seen in the coping strategy "farming at a particular time and location" bearing their conflict situation in mind). Farming being the major occupation of the people, there were little alternatives to achieve access to enough food for households.

Conversely, most households in Agu-Ukehe (86%) and Opi-Agu (74.7%) suffered little or no hunger. This is similar to the proportion of households with no or little hunger (64%) in the study community (Tigray) of Weldegiargis et al.[10] This implies they had better access to food, coping through menial jobs (every day and 3-6 times weekly) (83.7%; 58.0%), which ensured near daily economic access to food. Opi-Agu combined this with similar frequency but high proportion of "farming at a particular time and location". This gave a boost to their access to food and reduced hunger. However, both communities still experienced food insecurity, showing that access to food alone is not enough to attain food security. Food groups, meal composition, food utilization and overall stability of the food system are important for food security.[25]

Impacts of coping strategies on household food insecurity in conflict situation

The impacts of conflict on the study communities created vulnerabilities and households sought coping strategies to enable them to survive. Coping strategies most adopted by households in the study communities were centered on changes in meal patterns that helped reduce food intake, and generation of income from other sources other than original livelihoods. Daily engaging in menial jobs resulted to significant reduction in hunger. Of those who utilized this strategy every day, 49% had little/no hunger, 21.3% had moderate hunger, while only 29.3% were severely hungry. The relationship was positive. The more it was used, the less severe the hunger. Using this strategy 3-6 times and even once/twice per week produced similar result. The association was strong and very significant (X^2=22.192; p=0.001). Therefore, coping strategy "menial jobs" made positive impact on hunger, and thus food security. This is expected as research has proven that income-soothing/livelihood based coping strategies provide post-crisis support to households and are sustainable for long term use, for regaining food security. [20,26]

Coping strategy "farming at a particular time/location" made similar impact on the households' hunger status. Frequency of use was directly proportional to the overall outcome on hunger. Within households that utilized this strategy 'everyday', 44.6% had little/no hunger and 24.2% had moderate hunger, with only 31.2% having severe hunger respectively. Similarly, only 14.5% of those who utilized it '3-6 times per week' were severely hungry. Interestingly, all (100%) of those who adopted this strategy once per week had little/no hunger. This indicates a strong positive effect on hunger and food insecurity (X^2=30.114; p<0.001). As a productive mechanism for food, this strategy's impact is expected as it ensures a constant supply or hope for food supply (during planting seasons), alleviating hunger, [27,28] and fostering resilience to food insecurity. [29,30]

Mixed effects were observed within groups that adopted "reduction of the meal of adults in favour of children" coping strategy. Within group of households that adopted this strategy 3-6 times weekly, 41.4% were severely hungry but 37.9% had little/no hunger, while 22.8% of the 1-2times weekly group were severely hungry and 42.1% little/no hunger. This impact is not completely clear. Also, the hunger state seen is for the adults and not for children in the households. Thus, children may be food secure while adults are food insecure. Another coping strategy 'limit the portion of meal for all household members' had a very negative effect on hunger, thus, household food insecurity. Within the 'everyday' group, 40.0% were severely hungry and 30.8% were moderately hungry. Only 29.2% had little/no hunger. This implies that this coping strategy neither stopped hunger nor improved it and is as such unadvisable for use in hunger situation. The association was strong and very significant (X^2=79.73; p<0.001). Conversely, fewer (17% of the 300 households) proportion utilized this strategy 1-2times per week, and about 60% within the group had little/no hunger. The little proportion who were not hungry probably adopted other coping strategies that alleviated their hunger, so they coped better than their counterparts who used this strategy. Many (81% of 300) households adopted the coping strategy 'reduce number of meals per day' which also affected hunger. This is in line with Kairiza and Kembo,[26] that concluded that households that are food insecure are more likely to engage in

Print ISSN: 0189-9287 Online ISSN: 2992-345X

consumption-based coping strategies. Among the households that adopted this daily, 39.6%, 26% and 34.4% were little/not, moderately and severely hungry. The 3-6times weekly group showed similar effect. This strategy only made them thrive and is not sustainable. This was very significant (X^2=49.074, p<0.001). However, 64.4% within the 1-2times per week group experienced little/no hunger, indicative of other factors other than this strategy being responsible for the hunger alleviation. This result buttresses the findings of Farzana et al. [22], Kairiza and Kembo[26], Chaudhuri et al.[31], Nnaji et al.[2] , and Gebrihet et al.[32], that have shown that food-based coping strategies are unsustainable approaches for tackling hunger and food insecurity. Over time, these coping strategies perpetuate cycles of poverty, reduce human capital, and undermine overall wellbeing. [32,33]
Notably, these coping strategies may influence nutritional intake among the household members. The coping strategies that made negative impacts on hunger invariably increase food insecurity and compromise the nutritional and health status of members of the affected households, especially on children's physical and cognitive development, as well as on the overall mental health of the household members. This was emphasized by Sassi.[30] The consequences of these mechanisms extend beyond the immediate crisis, and may affect future generations, as rebuild livelihoods and foster economic recovery become increasingly difficult.[33] Positively impactful coping strategies boost food consumption through mechanisms that improve purchasing power, access to food and dietary diversification. Therefore, should be incorporated into capacity building intervention programmes for food and nutrition security in post-crisis communities. Furthermore, households utilized multiple coping strategies at same time, and this exposed the interdependence of coping strategies on each other. Gebre et al.[34] buttressed this and further stated that analyzing the risk coping strategies independently may bias the estimation, rather an integrated approach should be adopted. This is the limitation of this present study. Future studies should categorize and analyze coping strategies using an integrated approach. Also, external factors such as government policies and other basic causes of food insecurity need to be examined.

Conclusion

Generally, only 12.7% of the entire communities had no food insecurity experience whereas 40.7%, 31.3% and 15.3% had severe, moderate and mild food insecurity experience respectively. About 54.4%, 24.3% and 21.3% had little/no hunger, moderate and severe hunger. Coping strategies were adopted by households to offset hunger. These include menial jobs (67.6%), farming at a particular time/location (70.6%), consumption of less quality and variety of food (55.7%), reduction of meals of adults in favour of children (44.0%), reduction of the portion of meal for all household members (58.0%), and reduction of number of meals per day(58.3%).With overall mean daily income spent on food being about USD $2.69 for households with an overall average number of six persons (5.74), we conclude that poverty played a key role in their food insecurity states being an effect of conflict which destroyed their livelihoods and crippled their economic capacities, thereby limiting their access to food. While coping strategies were adopted to alleviate hunger, most of the strategies had a negative impact on household hunger status, and so, did not improve food insecurity. Thus, the study communities need to be protected from the immediate and long-term consequences of conflict-induced household food insecurity. Therefore, the authors recommend that the government (federal and state) should collaborate with non-governmental agencies and capable individuals to build capacity for food security and nutrition in the conflict-affected communities in Enugu state.

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