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Food Insecurity And Associated Factors Of Students In Delta State-Owned Colleges Of Education

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ABSTRACT
Tertiary students may be vulnerable to food insecurity (FI) due to lack or lowered financial resources, weak purchasing power, and raising cost of food and housing .This study aimed to assess the prevalence and severity of FI and its associated factors among tertiary students in Delta State. Three research questions and hypothesis guided the study .This descriptive cross-sectional survey designed was used for the analysis. The all registered students for year one to year 3 form the College of Education Warri and College of Education Mosogar formed the population of the study .A sample size of 150 students was achieved through a multi-stage sampling techniques .The research instrument used was a well-structured questionnaire consisting of 10-item US adult HFSSM scale to assess food security status. Data. Chi-square tests were used to determine the associations between FI and socio demographic variables. Bivariate logistic regression was further used to assess factors associated with FI. Results. Based on the findings of this study, about 13% of students were food insecure. Furthermore in comparison of students with reference to marital status, single students s of were 7.2 times more likely to be food secure (OR = 7.220, 95% CI: 0.916 -57.704, p=0.061) .Also Students place of residence is believed to contribute to the determination of food insecurity, those that stay at home are likely to be more secured in terms of food security (OR = 0.137, 95% CI: 1.0.022–0.846, p = 0.032).The result provides an insight into the food security status of Delta State Owned College Education. The prevalence of food insecurity was low among the students. Therefore, it is recommended that the government should create an enabling environment that twill help improve their financial status to further improve on the student food insecurity status.

Keywords. Food insecurity, Delta State Owned Colleges of Education, students, Bivariate logistic regression

INTRODUCTION

Food is a universal human right and an important determinant of health (FAO, 2006: Dutta et al 2018). Supporting this view Dutta et al (2018) opined that achieving food security is necessary for the attainment of the sustainable development goals (SDG) 1 and 2 of ending all forms of poverty as well as hunger and malnutrition by 2030, respectively.

Food security is defined as "when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life. Similarly FAO (2015) defined food security as a state of having reliable access to sufficient quantity of affordable and nutritious food. Despite the right of every person to be free from effects of food insecurity being declared during the World Food Conference of 1974 (GOK, 2008a), the effects linger in the global society. The concepts of food security (FS) has evolved over the last few decades, and even

though the Right to Food has been recognized in the United Nations Declaration of Human Rights since 1948 [FAO 2015], the term FS started in the mid-1970s during the World Food Conference (1974).

However, for Fadipe et al (2013) the concept of food security has not evolved during the last 3 decades to include not only food availability, but also economic access to food and the biological absorption of food in the body. Adequate per capital availability of food is a function of balance between food production on one hand, and growth in population and purchasing power, on the other, urbanization enhance the consumption of animal producers and thereby have and the demand for food.

Another acceptable definition of food security is that "food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life" (Dutta et al 2018).

While Food insecurity (FI), on the other hand, is experienced when people are economically unable to purchase sufficient quantities of food or balanced meals that they need (Motorn et al , 2019). Globally, FI is a growing public health issue and a barrier to achieving adequate nutrition. The threat of FI is more in low- and middle-income countries (especially in sub-Sahara Africa and Southeastern and Western Asia), where the burden is huge (El Zein, et al 2019) and with a high national prevalence is .While it is well documented that food insecurity impacts many children and families, there is limited research on prevalence and impact of food insecurity among university students. (Daniel et al 2022)

The vast majority of the world's hungry people live in low-income countries, with approximately 60% being food insecure of which Nigerian students are not an exception.

Direção (2019) opined that the issue of FI among university students has not received adequate attention. Survey data report that FI exists among university students and is a barrier to students' well-being and success.(Abbey et al 2022) The ability of students to excel in their academics relies strongly on sound nutrition (Davitt, et al 2021, DeBate,et al , 2021). Supporting this view Nikolaus, et al (2019) noted that if the periods of FI persist or last long the students will be greatly affected thus causing their students to perform better.

University or tertiary institution students are faced with a lot challenges in school, which make them vulnerable to food insecurity, Reports revealed that they lack consistent access to affordable and nutritious food (Correia,, 2018), apart from this the engaging of unhealthy eating habits, which act as a barrier to making healthy food choices is also a problem. Food insecurity is believed to be high among tertiary institution students than the general population, and is linked with poorer mental health, diet and academic achievement. Corroborating this assertion Leung et al (2021), Gregório et al (2014), Correia et al(2016), Gregório,et al (2017) and . Lopes, (2017) opined that food insecurity has the potential to impact negatively on academic performance, health, and mental status (eg, depression, stress, and anxiety) of university students.

Tertiary institution students are also at greater risk of overweight/obesity, poor dietary choices, and physical inactivity. University or tertiary students may be more vulnerable to food insecurity due to limited financial resources, lower purchasing power, and increasing housing and food costs. In order to solve this problems, the students employed different strategies teat with major changes in life for the first time, such as being away from home, can make first-year students. These students may also not have the food literacy and resources required for healthy food preparation (Clifford 2009).

Many studies suggest that university students can experience FI at greater rates than the general population (Leung et al 2021, Gregório et al 2014, Correia et al 2016, Gregório,et 2017 and . Lopes, 2017).

Experiencing Food insecurity is believed to increase the risk of chronic diseases such as obesity, hypertension, cardiovascular diseases, and diabetes and may be associated with FI in adulthood. Poor mental health and academic performance, including high rates of depression and anxiety and decreased ability to focus, are also associated (Silva, 2022)

Finally, factor identified as being associated with FI among university students are not fully understood, but from various factors includes financial hardship, cooking skills, poverty, and unemployment, including increased cost of housing and tuition, low income, inadequate financial resources, poor food

management skills, increased reliance on borrowed money, and ineligibility for food assistance programs, Marital status and spending patterns. (Alaimo, 2005: Gaines et al 2021; Lindsley and King, 2014: Chaparro, 2009; Gaines et al , 2014)

Statement of the Problem/Justification:

In Nigeria, Food insecurity is a major challenge with over 70% of the population reported to be food insecure. In the 2022 Global Hunger Index, Nigeria ranks 103rd out of the 121 countries with sufficient data to calculate 2022 GHI scores. With a score of 27.3, Nigeria has a level of hunger that is serious. Corroborating UNICEF (2023) reported that nearly 25 million Nigerians are at risk of facing hunger between June and August 2023 (lean season) if urgent action is not taken, according to the October 2022 Cadre Harmonisé, a Government led and UN-supported food and nutrition analysis carried out twice a year.

Food insecurity range of 11% to 38.3% has been reported for university students in South Africa, a high-middle income country (Ukegbu, et al 2019). This scenario is not likely different from Nigeria which is also a less developing country. To the best of our knowledge, very little or no published scientific work has examined food insecurity among university students in Nigeria especially in Delta State. Most published data on food insecurity in Nigeria focused on children, urban households and rural/farming households.

Based on the forgone presentation of the problem, it is becomes imperative to assess food insecurity problem as experienced by students on different campuses in Delta State will provide baseline data and basis for intervention the government and relevant stakeholders. Also this research work is expected to fill this knowledge gap, this study thus will be investigating the prevalence of Food insecurity as well as potential factors associated with Food insecurity among students in Delta state-owned Colleges of Education..

Objective of the Study

The objective of the study shall be to investigate the food insecurity status, associated factors and coping strategies of students in Delta State-owned Colleges of Education. Specifically it sought to

(i) Examine the Socio-demographic factors of student sample
(ii) Assess the prevalence of food insecurity/food insecurity status
(iii) Identify the associated factors of food insecurity
(iv) Determine the bivariate association between food Insecurity and Student Characteristics

Research Questions

This study is guided by four research questions

(i) What are the Socio-demographic factors of student sample?
(ii) What are the associated factors of food insecurity?
(iii) Is there any significant bivariate association between food Insecurity and Student Characteristics?

Research Hypotheses

(i) The factors associated does not significantly affect food insecurity
(ii) There is no significant bivariate association between food Insecurity and Student Characteristics.
(iii) There is no significant difference in coping strategies of student in college of education Warri and college of Education, Mosogar.

Review of Related Literature

Earning a degree from an institution of higher education not only evokes a great sense of pride and accomplishment, but it is often perceived as a necessity to ensure a trajectory of positive outcomes in one's life (Broton, et al , 2014).

Independent lifestyle habits that students develop during young adulthood are often long lasting (Garcia, et al, 2010). Though scarce in number, recent studies suggest the growing vulnerability of food insecurity among this particular population during a period of heightened pressure to excel academically and socially (Garcia et al., 2010).

Recent studies have identified food insecurity in students as an emerging "skeleton in the university closet" in high-income Western countries with relatively low national food insecurity, including Australia, Canada and the USA. (Manzo et al (2011) Patton-lopez et al , 2014 : Chaparro, 2009). Also literature estimates show that some degree of food insecurity is experienced among 12 to 59% of college students (Bruening et al., 2016 ; Freuenberg et al., 2011; Gaines et al., 2014; Lin et al., 2015; Maroto et al., 2015; Morris, Smith, Davis, & Null, 2016; Patton Lopez, Lopez-Cevallos, Cancel-Tirado, & Vasquez, 2014), which varies due to institution type, geographic location, sample type and size, as well as inconsistency in assessment tools. King (2017) opined that as higher education becomes more accessible to diverse populations of students, the prevalence of this complex public health issue is impacted by a variety of contributing factors (i.e. predictors or risk factors) very similar to those reported in the general population.

However, there are some study carried out by various researcher in universities or tertiary institution to assess the food security status of undergraduate's students. Food security studies at Universities have used different methods of measuring and analyzing food insecurity. Estimates of food insecurity among university students ranged from 11% to 38.3% in South Africa (Munro, 2013), 12.7% to 46.5% in Australia (Masutha, 2011), 21% in Hawaii (Crush, 2010) and 39.2% in New York, USA (Freudenberg et al., 2001).

Ukegbu, et al (2019) assessed the prevalence of food insecurity and associated factors among university students, southeast Nigeria. Using the cross-sectional survey of 398 randomly selected students recruited from 2 universities in southeast Nigeria .Multivariate logistic regression was used to identify factors associated with food insecurity. The results showed that students were categorized as food insecure, and food insecurity was significantly associated with monthly allowance, daily amount spent on food, and source of income. The odds of food insecurity was significantly higher for students whose fathers were farmers (4.6, 95% confidence interval [CI]: 1.453-14.737), but lower for those whose mothers were farmers (0.18, 95% CI: 0.059-0.564). They concluded that the prevalence of food insecurity was high among the students.

Whatnall et al (2019) conducted a study to explore the level of food insecurity among a sample of Australian university students and determine which socio-demographic and student characteristics predict food insecurity. An online cross-sectional survey with students from the University of Newcastle, Australia was conducted in 2017–2018. Food insecurity was assessed using the 6-item US Department of Agriculture Food Security Survey Module, and socio-demographic (e.g., age, living situation) and student characteristics (e.g., undergraduate/postgraduate student) were captured. Multivariate logistic regression was used to determine the odds of food insecurity for each of the socio-demographic and student characteristics, and included characteristics of significance in bivariate analyses as potential confounders. Forty-eight percent of participants were food insecure. The odds of food insecurity were higher among students living in rental accommodation compared with their parents' home (OR = 2.39, 95% CI 1.41, 4.06), and undergraduate compared with postgraduate students (OR = 3.50, 95% CI 1.83, 6.69).

Rudolph, et al (2018) examined the food security status and coping mechanisms of students at times of food insecurity at the University of the Witwatersrand. The sample consisted of 387 undergraduate students from all faculties and a subsample of 30 students who received financial aid. The 30 subsample students were also assessed regarding their coping strategies. Action research approaches included key indicators such as the Household Food Insecurity Access Scale (HFIAS), and the Dietary Diversity Score (DDS). The HFIAS score showed that 1% of students was severely food insecure and 6% were identified as moderately food insecure. The DDS score amongst the sample was seven out of a possible 12 points. African male students originating from townships who were on financial aid and did not eat in university dining halls were the most vulnerable group to food insecurity. Almost all (97%) participants believed hunger could impact negatively on academic performance and 52% reported having personally experienced the impact of hunger on academic performance.

Marques et al (2022) examined the prevalence and severity of Food insecurity and its associated factors among university students attending a public Portuguese university. Using a cross-sectional survey

design, and data collected using a self-reported online questionnaire validated for the Portuguese population. The bivariate logistic regression was further used to assess factors associated with Food insecurity and the findings from the 284 participants, showed that 17.3% of students were classified as food insecure, consisting of 14.1% with mild FI, 2.1% with moderate FI, and 1.1% with severe FI. FI was significantly associated with nationality ($p = 0.028$) and the number of unemployed household members ($p = 0.001$). In comparison to Portuguese students, students of other nationalities were 4.1 times more likely to be food insecure (OR = 4.089, 95% CI:1.057–15.821, $p = 0.041$). Students in households with a higher number of members (OR = 2.537, 95% CI:1.231–5.230, $p = 0.012$) and a higher number of unemployed members (OR = 3.192, 95% CI:1.681–6.059, $p < 0.001$) were also 2.5 and 3.1 times more likely, respectively, to be food insecure.

METHODOLOGY

This descriptive cross-sectional survey designed was used for the analysis. The all registered students for year one to year 3 form the College of Education Warri and College of Education Mosogar formed the population of the study .A sample size of 150 students was used and the proportionate stratified random sampling technique was used to draw the allocated students from strata. While the simple random sampling technique was be used to select the quota allotted for selected institutions. The research instrument used was a well-structured questionnaire consisting of 10-item US adult HFSSM scale to assess food security status over the past 3 months and was based on a response of "yes, often, sometimes, almost every month" and "some months but not every month". This was scored as affirmative responses, while responses such as "never or no" was scored as 0 .The sum of affirmative responses was used to generate a raw score (range: 0-10). Scores were then categorized into 4 severity levels as follows: high (0), marginal (1-2), low (3-5), and very low (6-10) food security. The food security status shall further collapsed into food secure (0-2; high and marginal) and food insecure (3-10; low and very low) for ease of interpretability of data. The instrument was validated by knowledged based lecturers and reliability was found to be satisfactory. The data were collected through a well-structured questionnaire with the trained research assistance, adequate follow up was done to ensure reduction of questionnaires not returned and a recovery rate of 88%. Statistical Package for Social Sciences (SPSS version 27) was used for data analysis. Descriptive statistics will be to summarize socio demographic and related characteristics. Bivariate associations between Food insecurity and other factors shall be determined using chi-square test. Binary logistic regression was further used to assess factors associated with food security .Results well be expressed as odds ratios with 95% confidence intervals (CIs). A P value of ≤ 05 was considered statistically significant.

RESULTS AND DISCUSSION

The results for the analysis with reference to the students socio-demographic factors was analysed and the result presented in Table 1.

Table 1. Socio-demographic factors of students in the study area (N=132)

s/n	Variable	Frequency	Percentage
1	**Gender**		
	Male	26	19.7
	Female	106	80.3
2	**Age**		
	Under 20 years	44	33.3
	21 - 25years	55	41.7
	26 - 30 years	19	14.4
	Over 30years	14	10.6
3	**Marital Status**		
	Single	111	84.1
	Married	21	15.9
4	**Place of residence**		
	Private Hostel	24	18.2
	School Hostel	50	37.9
	Home	58	43.9
5	**Allowance**		
	less then #5000	60	45.5
	#5001 - #15000	36	27.3
	#15001 - #25000	24	18.2
	Greater than #25000	12	9.1
6	**Daily amount Spent on food**		
	less than #500	50	37.9
	<#501 - <#1000	29	22.0
	#1000	53	40.2
7	**Fathers Occupation**		
	Employed	56	42.4
	Trader	56	42.4
	Farmer	11	8.3
	Artisan	9	6.8
8	**Mothers Occupation**		
	Employed	32	24.2
	Trader	89	67.4
	Farmer	6	4.5
	Artisan	5	3.8

Source: Field Survey 2023.

The demographic characteristics of the study respondent are presented in Table 1 showed that a total of 132 students were used for the study. The distribution percentage for the males is 19.7% while that of the females is 80.3% respectively. Majority of the respondents are between the ages of 21-25years (41.7%). The majority were single 111(84.1%), while those married, represent 15.9%. As regards place of residence, majority of students come from home 58(43.9%) and this is closely followed by those living in the school hostel representing 37.9%. Almost half (45.5%) of the total population were given less than #5,000 as monthly allowance and majority of the students received monthly allowance from their parents.

Most students spent #1,000 (40.2%) daily on food. Fathers of the respondents were mostly employed and traders (42.2%), while their mothers are mostly traders (67.4%).

Food security status

Figure 1 represents the food security status of the students, the result revealed that that 90.2% (n = 119) of the students were food secure and that the remaining students were classified as food insecure representing 9.8 %(n=13)

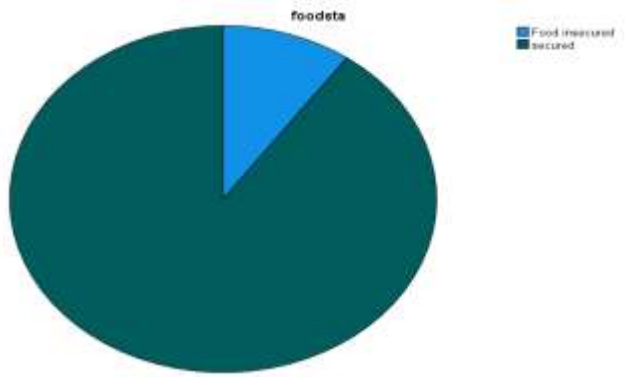

Figure 1. Food Security Status

This implies that majority of the students can be considered to be food secured.

Table 2. Food Insecurity Questions and Affirmatively Answered Responses by the Students (n=132)

Associated factors	N	%
Did you worry that you would not have enough food?	113	85.6%
Were you not able to eat the kinds of foods you prefer because of a lack of resources (money)?	112	84.8%
Did you eat a limited variety of foods due to lack of resources?	132	100%
Did you eat some foods that you really did not want to eat because of a lack of resources to obtain other types of food?	106	80.3%
Did you have to eat a smaller meal than you felt you needed because there was not enough food?	103	78%
Did you have to eat fewer meals per day because there was not enough food?	92	67.7%
Was there ever no food to eat because of lack of resources to obtain more?	81	61.4%
Did you go to sleep hungry at night because there was not enough food?	85	64.4%
Did you go a whole day and night without eating anything because there was not enough food?	56	42.4%
Did you lost weight because there wasn't enough money for food?	82	62.1%

Source: Field Survey, 2023

The most affirmatively answered question related to if they go a whole day and night without eating anything because there was not enough food which is in the 3 months before answering the questionnaire. All other items also showed that the students are very stable in regards to food security. However, item 9 seems to be less affirmative, it has the lowest level of percentage which is 46%.

Research Hypotheses

Three hypotheses guided the study which were tested at 0.05 level of significance

Hypothesis one

H01: The factors associated does not significantly affect food insecurity

The logistic regression was performed to ascertain the socio demographic characteristics (age, gender , marital status, allowance, fathers occupation, mothers occupation) on the likelihood that participants experience food insecurity. The overall logistic regression model was statistically significant when compared to the null model ($\chi^2(15) = 27.376$, $p < .0001$). The model explained 33.95% (Nagelkerke R^2) of the variance in food insecurity and correctly predicted 90.0% of cases.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Step 1[a]	Gender (1)	-.148	.933	.025	1	.874	.862	.138	5.367
	Place of Residence			6.768	2	.034			
	Place of Residence (1)	.501	1.299	.149	1	.700	1.650	.129	21.030
	Place of Residence (2)	-1.986	.928	4.578	1	.032	.137	.022	.846
	Age			1.803	3	.614			
	Age(1)	-19.568	8418.501	.000	1	.998	.000	.000	.
	Age(2)	-20.582	8418.501	.000	1	.998	.000	.000	.
	Age(3)	-19.495	8418.501	.000	1	.998	.000	.000	.
	Monthly Allowance	-.223	.373	.358	1	.549	.800	.385	1.662
	Daily amount Spent on food	-.466	.440	1.122	1	.290	.628	.265	1.486
	Marital Stauts(1)	1.984	1.057	3.523	1	.061	7.270	.916	57.704
	father Occupation			.890	3	.828			
	father Occupation(1)	-18.069	11298.927	.000	1	.999	.000	.000	.
	father Occupation(2)	-17.326	11298.927	.000	1	.999	.000	.000	.
	father Occupation(3)	-18.138	11298.927	.000	1	.999	.000	.000	.
	Mother Occupation			.000	3	1.000			
	Mother Occupation(1)	2.295	16641.892	.000	1	1.000	9.923	.000	.
	Mother Occupation(2)	-17.622	15379.702	.000	1	.999	.000	.000	.
	Mother Occupation(3)	-.034	21021.743	.000	1	1.000	.967	.000	.
	Constant	57.742	20858.385	.000	1	.998	119397156369584870000000.000		

a. Variable(s) entered on step 1: Gender, Place of Residence, Age, Monthly Allowance, Daily amount Spent on food, Marital Status, father Occupation, Mother Occupation.

From these results you can see that place of residence is ($p = .034$), and marital status (p=0.061) added significantly to the model/prediction, but age(p=0.654), gender(p=0.874) , fathers occupation(p=0.828) , mothers occupation (p=1.000),and allowance (0.549) did not add significantly to the model. The result also showed that the odds of having food insecurity ("yes" category) is 7.220 times greater for singles as opposed to married students.

Furthermore in comparison of students with reference to marital status, single students were 7.2 times more likely to be food secure (OR = 7.220, 95% CI: 0.916 -57.704, p=0.061) .

Hypothesis two

H02: There is no significant bivariate association between food Insecurity and Student Characteristics.

Table 3. Bivariate Association Between Food Insecurity and Student Characteristics

s/n	Variable	Total n=132	Food secured n=119	Food Insecurity n=13	Pearson chi-square test	P value
1	**Gender**					
	Male	26 (19.7)	23(19.33)	3(23.08)	0.104[a]	0.747 [n.s]
	Female	106(80.3)	96(80.67)	10(76.92)		
2	**Age**					
	Under 20 years	44(33.3)	41(34.45)	3(23.08)	0.361[a]	0.339[n.s]
	21 - 25years	55(41.7)	47(39.50)	8(61.54)		
	26 - 30 years	19(14.4)	17(14.29)	2(15.39)		
	Over 30years	14(10.6)	14(11.76)	0		
3	**Marital Status**					
	Single	111(84.1)	101(84.87)	10(76.92)	0.554[a]	0.457[n.s]
	Married	21(15.9)	18(15.13)	3(23.08)		
4	**Place of residence**					
	Private Hostel	24(18.2)	23(19.33)	1(7.69)	6.043[a]	0.049 [*]
	School Hostel	50(37.9)	41(34.5)	9(69.23)		
	Home	58(43.9)	55(46.22)	3(23.08)		
5	**Allowance**					
	less then #5000	60(45.5)	55(46.22)	5(38.46)	0.441[a]	0.932 [n.s]
	#5001 - #15000	36(27.3)	32(26.89)	4(30.77)		
	#15001 - #25000	24(18.2)	21(17.65)	3(23.08)		
	Greater than #25000	12(9.1)	11(9.24)	1(7.69)		
6	**Daily amount Spent on food**					
	less than #500	50(37.9)	46(38.66)	4(30.77)	0.330[a]	0.848[n.s]
	<#501 - <#1000	29(22.0)	26(21.85)	3(23.08)		
	#1000	53(40.2)	47(39.50)	6(46.15)		
7	**Fathers Occupation**					
	Employed	56(42.4)	51(42.86)	5(38.46)	1.487[a]	0.685[n.s]
	Trader	56(42.4)	49(41.77)	7(53.85)		
	Farmer	11(8.3)	10(8.40)	1(7.69)		
	Artisan	9(6.8)	9(7.56)	0		
8	**Mothers Occupation**					
	Employed	32(24.2)	32(26.89)	0	6.967[a]	0.073**
	Trader	89(67.4)	76(63.87)	13(100)		
	Farmer	6(4.5)	6(5.04)	0		
	Artisan	5(3.8)	5(4.20)	0		

*Significance level $p < 0.05$;**Significance level $p < 0.01$ a—Pearson chi-square test

Source: Field Survey 2023.

The prevalence of FI was greater among those who are identified as having different accommodation besides staying in a private hostel (7.69%, 69.23% and 23.08%, p = 0.049) and was also greater among students whose mother occupation are mainly trader (p < 0.073). Indeed, the prevalence of FI was more than 9 times higher in students staying in the hostel that had 3 more for those in home.

DISCUSSION

Not much research work has been done in middle- and high-income countries has documented food security status of university /college students. However recent works has been carried out by Ukegbu et al (2019) in Nigeria and Marques et al (2022).

Furthermore Ukegbu et al (2019) opined that despite the importance of food security to good health and nutrition, this research area has been neglected in some population groups in Nigeria and may have implications for achieving the SDGs 1 and 2 of ending poverty, hunger, and malnutrition, respectively. The finding indicate that food security status of the students is quite encouraging with majority of the student considered as been secured, representing 90.2% (n = 119) .This is in agreement with Marques et al (2022), they studied the prevalence and severity of FI and its associated factors among university students attending a public Portuguese university but at variance with the work of Ukegbu et al (2019) where the students in Nigeria tertiary institutions were not food secured.

The prevalence of FI levels among university students in our study is lower and less severe than other studies involving different countries. However, it was lower than findings reported by studies conducted in South Delhi and Malda district of India (77.2 and 68.38%), Kinshasa (70%), Addis Ababa city (75 and 58.2%), Dire Dawa town (43%), Farta district (70.7%), Manna district (42.9%), Offa district (57%) and Boloso Sore district (65.5%) [Gebre (2014); Worku -Endale et al (2014) ; Bogale- Gebeyehu et al (2014) Chinnakali et al (2014) Leza et al (2015) and Ismail and Mustaquim (2013)]. The possible reason to variation might be the attitude of parent towards the care of their wards in terms of taking full responsibity of their needs both housing and feeding.

Another reason might be due to the availability and cheaper prices of food. The disparity might also be due to the agroecological differences in settings and socioeconomic variations among study areas.

CONCLUSION

The present study in a Delta State owned Colleges of Education Warri and Mosogar shows that the prevalence of FI was not very high (13%). The findings of this study reveal significant associations between students' demographic characteristics and their food security status. Specifically, single students were markedly more likely to report food security compared to those who were married or in relationships. Student place of residence is of importance and also marital status of the students. The mother's occupation was also an important factor to be considered on the issue of food insecurity since they complement the father's contribution to the student's welfare. Additionally, students who reside at home are more likely to experience food security compared to those living elsewhere. These results shed light on the multifaceted nature of food security among students and underscore the importance of considering socio-demographic factors in addressing food insecurity on college campuses. Future research can be conducted in other tertiary institution in Delta State, use objective measures of FI (availability, access, and utilization of food), and explore interventions addressing food insecurity.

RECOMMENDATIONS

Based on these findings, several recommendations can be made to improve food security among college students. Firstly, targeted interventions should be developed to support married or partnered students, as they appear to be more vulnerable to food insecurity. These interventions could include financial assistance programs, access to affordable meal plans, or community resources for food assistance.

Secondly, efforts should be made to understand and address the specific challenges faced by students living away from home, such as high living expenses or limited access to affordable food options.

Providing resources such as campus food pantries, meal vouchers, or cooking classes on a budget may help alleviate food insecurity among this population.

Furthermore, policymakers and university administrators should prioritize the implementation of comprehensive strategies to address food insecurity on campus, including initiatives to raise awareness, increase access to nutritious and affordable food options, and support programs that promote financial literacy and budgeting skills among students.

Overall, by recognizing the unique needs and circumstances of different student populations, and implementing targeted interventions and supportive policies, colleges and universities can play a vital role in promoting food security and well-being among their students.

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