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Utilization of Selected Vitality Staple Foods by Low Income Households in Ebonyi State

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Abstract
The study focused on the utilization of selected vitality foods among low income household in Ebonyi State. Specifically the study aimed at identifying vitality foods that are available, accessible and utilized by low income household in state. Descriptive survey design was used for the study. The population of the study is 2,173,501 households and the sample size is 400 households. The instrument for data collection was questionnaire and interview. The research questions were answered on individual item basis using mean, frequency and standard deviation, t-test was used to test the hypothesis. The findings revealed among other things that vitality foods are not always available in the state; they are not always accessible and therefore not always utilized by the low income households in the state. This is contrary to US Department of Agriculture Food Guide Pyramid that children should consume three servings from the vitality foods each day to remain healthy. Based on the findings, some recommendations were made including (1) Nutrition education at the household level should be taught by Home Economics Extension workers to family members through workshops/seminars as this will encourage low income households on ways of reducing food insecurity during off seasons (2) Entrepreneurship education should be introduced into the school curriculum from primary to university levels of education to empower low income households financially among others.
Keywords: utilization, vitality, foods, staple, low-income, households

1.Introduction

Good nutrition could contribute to quality of life, help to maintain healthy body weight, protect against infections, and the risk of chronic diseases and early death. Poor food intakes and related health problems are very common in Nigeria in general and Ebonyi State in particular. Good health leads to wellness. Wellness is a way of living based on healthful attitudes and actions. It means taking an active role in improving and maintaining good health.

2.Literature Review

Food refers to a substance either a solid or liquid which when eaten supplies the body with some necessary materials called nutrients which the body needs for the performance of its daily functions (Oluwole, 2004). Foods which are very high in essential nutrients are called supper or vitality foods. They can help the body with the vitamins and minerals which are missing from our diets. It is an excellent way to make up for dietary deficiencies. Apart from good health, food is known to play a vital role in brain and intellectual development (Uko-Aviomoh, 2005). The International Conference on Nutrition (I C N), held in Rome in 1992, defined food security as "access by all people at all times to the food needed for a healthy life" (FAO, 1992).Essentially, in order to achieve food security, a country must achieve three basic aims. It must;

- ensure adequacy of food supplies in terms of quantity, quality and variety of food;
- optimize stability in the flow of supplies
- Secure sustainable access to available supplies by all who need them (FAO, 1997).

World Health Organization (WHO) identifies three pillars that determine food security to include: food availability, food access, and food utilization (WHO, 2013) The FAO adds a fourth pillar: the stability of the first three dimensions of food security over time (FAO, 2006) In 2009, the World Summit on Food Security stated that the "four pillars of food security are availability, accessibility, utilization, and stability" (FAO, 2009).

Food availability means ensuring that sufficient food is available through distribution, importation or production. Food production is affected by a variety of factors including land ownership and use; soil management; crop selection, breeding and management; livestock breeding and management; and harvesting (FAO, 1997). Global food production depends on land, water and energy (particularly fossil fuels) to produce process and distribute foods (Australia's food & Nutrition, 2012). Fertile lands for food production are diminishing due to urbanisation and land being increasingly diverted to mining and biofuel production. Soils that are eroding, increasing in salt content and being depleted of nutrients threaten sustainable food production. Food availability for human use reflects what is left from available supply after deducting exports, industrial use, farm inputs and end of year inventories (Frankel and Gould, 2001). Availability only does not guarantee food security because food may be physically available but inaccessible to those who need it most (Ozo, 2006). Food accessibility means

that food can readily be reached, or used through home production or through food purchase. In rural areas, household food security depends mainly on access to land and other agricultural resources, which facilitate domestic production. Access to a nutritionally adequate and safe diet at all times is one of most basics of human right, but for a significant number of households in Nigeria, it remains difficult to achieve (Igba, 2009). It is therefore felt that if households have access to some small amount of land, they could be taught to utilize it in growing vegetables, fruits, spices among others to improve their access to food thus improving their nutrition and food security. The main target beneficiaries would be households that are finding it difficult to adequately meet their food needs like low-income households. Not only is home garden capable of adding to the household access to calories and protein, often it can meet a disproportionate amount of the needed minerals and vitamins that poor households tend to lack in their diet (Johnson, 2004).

The final pillar of food security is food utilization. It is the ability of the human body to take food and translate it into either energy that is used to undertake daily activities or is stored. Utilization requires not only an adequate diet but an understanding of proper health care, food preparation and storage processes to prevent under-nutrition (Igba, 2008). To be nourished, one needs to select food wisely from the food groups such as bread, cereal, rice, pasta group, vegetable group, fruit group, milk, yogurt and cheese group (Clayton, 1997).To plan a balance diet, eating a variety of healthy food and skipping meals which will provide the body with the essential nutrients it needs. This should mean educating the households on the importance of personal hygiene, kitchen hygiene, safe cooking, safe storage, temperature regulation and cooking tips for food products (Uko-Aviomoh, 2005). It has been observed that poor cooking method such as over cooking of vegetables are a feature of many ethnic groups in Nigeria, accounting for huge losses of essential minerals and vitamins. Poor consumption patterns, mostly influenced by cultural and religious practices such as male food share dominance, have also become threats to food security in most part of the country thereby making most of low-income households poor and food insecure (Kalu, 2004).

Kofi Annan in Eze and Okoye (2007) said that poverty and hunger have close links. He noted that approximately 1.2 billion people world over struggle to survive on less than a dollar per day. It was also estimated that about 840 million people suffer the gnawing pain of hunger and as many as 24,000 people, many of whom children die every day as a result. Nigeria is still be classified as a food insecure nation (Edo ADP, 2002) because of poverty, low income earnings, inadequate nutrient intake, high death rate, high incidence of malnutrition and other deficiency diseases, low life expectancy, high crime rate, high inflationary rate and high rate of post harvest losses. These led to under nutrition which is described as a state of inadequate food intake in terms of both quantity (kilo calories per day) and quality dietary diversity). Telljohann, Symons and Miller (2001) noted that when children go hungry or are undernourished, they tend to be irritable and apathetic and are more prone to diseases and could as a matter of fact find their capacity to work diminished as well. In addition, these children often have little energy and have difficulty concentrating. This impairs their ability to learn, with consequences that are felt long after childhood is over. Hungry children are at increased risk for infection and are absent from school more frequently than their well-fed counter parts. As a result, such children tend to fall behind in their academic work. This condition is worse in the developing countries of the world, Nigeria inclusive.

Successive governments in Nigeria have put in place various programmes and policies in order to solve these problems. Under President Olusegun Obasanjo's administration, the National Economic Empowerment and Development Strategy (NEEDS) were launched. This has been extended to the state and local government levels as State Economic Empowerment and Development Strategy (SEEDS) and Local Economic Empowerment and Development Strategy (LEEDS) respectively. There is also 7-point agenda of the past Federal Government. Various state governments in Nigeria now have their own development agenda and a lot more programmes in the country. These efforts made by various Nigerian Government to cushion the effects and increasing rate of poverty in the country have failed as a result of dishonesty, cheating and excessive pursuit of material things (wealth) by the few Nigerians who are either in power or within the corridor of power at the expense of human dignity (Ezeji, 2002). Hunger is still steering at the faces of many. This is in line with Egwu (2004) who noted that most Ebonyi people are poor and rural. They do not often have enough to meet their basic needs. They live on too little or wrong kind of food, households spend as much as 80% of their income on food, leaving little or nothing for housing, health or education. Their lives revolve around a continuous struggle for food, living under a continuous threat of seasonal food shortages or price increase, making food hard to obtain.

1.1 *Purpose of the study*

The study was designed to find out

1. The extent of selected staple vitality food available to low-income households
2. The extent of selected staple vitality food accessible to low-income households
3. The extent of selected staple vitality food utilized by low income households in Ebonyi State.

1.1.1 Research Questions

Three research questions were formulated to guide the study.

1 To what extent are the selected staple vitality foods available to low income households in Ebonyi State?
2.To what extent are selected staple vitality foods accessible to low income households in Ebonyi State?
3.To what extent are selected staple vitality foods utilized by low income households in Ebonyi State.

1.1.2 Hypothesis

One null hypothesis guided the study and it was tested at 0.05 level of significance.
Ho_1: There is no significant difference in the mean responses of urban and rural low income households on the availability, accessibility, and utilization of staple vitality foods in Ebonyi State.

1.1.3 Methodology

Design of the study: Survey design was used for the study. This design was used to find out utilization of selected vitality staple foods of low income households in Ebonyi State. The survey study elicited opinion of urban and rural family members. This is consistent with Kerligner (1976) who posited that survey research focuses on people, their beliefs, opinions, attitude and behaviours.

1.1.4 Area of the study

The area of the study is Ebonyi State. It is made up of three senatorial zones as follows: Ebonyi North, Ebonyi South and Ebonyi Central senatorial zones. Ebonyi North senatorial zone comprises Abakaliki, Ebonyi, Izzi and Ohaukwu Local Government Areas. Ebonyi South senatorial zones comprise Afikpo North, Afikpo South, Ohaozara, Onicha and Ivo Local Government Areas. Ebonyi Central senatorial zone comprises Ikwo, Ezza south, Ezza North and Ishielu Local Government area

1.1.5 Population of the study

The population consisted of all the low-income households in Ebonyi State. The population is predominantly rural with over 80% of the households living in the rural area. Rural area is a geographical area located outside urban city. It is the opposite of urban area. Rural areas are susceptible to malnutrition of growing children .Lilly (2013) stated that anemia, marasmus and kwashiorkor are dietary deficiency diseases that are common amongst children as this is the case in Ebonyi State due to poverty. The population of the study was therefore made up of 2,173,501 households (National Population Commission, 2006)

1.1.6 Sample and Sampling Technique

Yaro Yamene formular was used to draw the sample for a finite population (Uzoagulu, 2011). Random sampling technique was used to draw the respondents from households in the three senatorial zones of Ebonyi State.

Distribution of the sample

Senatorial zone	No of households urban area	No of households rural area	Total
Ebonyi North	45	90	135
Ebonyi South	42	92	134
Ebonyi Central	30	101	131
Total	117	283	400

The sample size for this study is four hundred (400) households.

1.1.7 Instrument for Data Collection

The instrument for data collection was a structured questionnaire. The questionnaire covered items on food availability, accessibility, and utilization. The development of the instrument was based on extensive review of literature and the specific purposes of the study. The instrument consists of 16 items. Each item has a five-point scale of 5, 4, 3, 2 and 1, representing always, often, sometimes, seldom and never respectively.

1.1.8 Validation/ Reliability of the instrument

The instrument was validated by two experts from the Department of Vocational Teacher Education, University of Nigeria Nsukka and one lecturer from Department of Home Economics Ebonyi State University Abakaliki. To determine the reliability of the instrument, it was pilot tested on 20 respondents that did not form part of the sample. Cronbach's Alpha Reliability index was used to determine the internal consistency of the instrument on the data obtained. The analyzed data yield a coefficient of 0.78, which showed that the instrument was reliable.

1.1.9 Data collection techniques

Four hundred copies of questionnaire were distributed to the respondents by hand through the help of six trained research assistants. Three hundred and ninety three (393) copies were completed correctly and returned. Two research assistants covered each zone. The questionnaire served as interview schedule for those respondents who were illiterate. The research assistants explained the questionnaire items to the respondents and recorded their responses.

1.1.10 Data Analysis Techniques

The research questions were answered on individual item basis while the hypothesis was tested using t-test. The statistical package for social sciences (SPSS) version 10.0 was used for data analysis. A mean of 3.50 and above was regarded as accepted and mean below 3.50 was rejected as the decision rule.

3. *Findings*

Selected staple foods that are available, accessible and utilized are summarized in Table 1.1 and 2.1

Table 1.1

Means responses on availability, accessibility and utilization of selected staple vitality foods

Item No	Vitality foods	Availability			Accessibility			Utilization		
		$\overline{X}_{av}$	SD_{av}	RM_{av}	X_{ac}	SD_{ac}	RM_{ac}	X_u	SD_u	RM_u
1	Paw-Paw(Carica payaya)	4.13	.95	AA	3.81	1.02	SA	3.67	1.12	SU
2	Pineapple(Ananas comosu	3.97	.91	SA	3.73	1.66	SA	3.38	1.09	NU
3	Mangoes (Mangipera indical)	3.94	.99	SA	3.94	1.01	SA	3.68	1.10	SU
4	Banana (Musa sp)	4.36	.88	AA	4.03	.94	AA	3.66	1.04	SU
5	Onions(Aurum cepa)	4.68	.67	AA	4.21	.99	AA	4.08	1.03	AU
6	Tomatoes (esculenlum)	4.64	3.71	AA	3.98	1.06	SA	3.79	1.06	SU
7	Okro (Abelmosetins esculentus)	3.89	1.06	SA	3.63	1.03	SA	3.50	1.08	SU
8	Oranges/lemon/lime (citrus spp)	3.94	1.08	SA	3.60	1.11	SA	3.52	1.10	SU
9	Carrots(Danscns carota l)	3.28	1.18	NA	3.06	1.18	NA	2.93	1.22	NU
10	Cucumber(cucumus satives)	2.91	1.38	NA	2.93	1.38	NA	3.08	1.29	NU
11	Ugu (Telfaria)	4.36	1.12	AA	4.00	1.22	AA	3.80	1.18	SU
12	Bitter leaves (Vemonia amygdalina)	4.34	.94	AA	3.96	1.04	SA	3.63	1.20	SU
13	Uturukpa/oha	4.00	1.15	AA	3.78	1.17	SA	3.59	1.19	SU
14	Coffee (coffea Arabica)	3.19	1.50	NA	2.94	1.36	NA	2.71	1.26	NU
15	Lipton(Camellia sinensis)	3.80	1.28	SA	3.48	1.26	NA	3.21	1.22	NU
16	Green tea (Camellia sinensis)	4.12	1.09	AA	3.77	1.24	SA	3.41	1.22	NU
17	Walnuts (Juglans nigra)	3.94	1.29	SA	3.50	1.26	SA	3.27	1.23	SU
18	Blue berry (Vaceinium corymbosum)	3.68	1.31	SA	3.20	1.27	NA	2.96	1.27	NU

X_a=Mean for availability SD_a=Standard deviation for availability RM_a=Remarks for Ava X_{ac}=Mean for accessibility SD_{ac}=StandarddeviationforaccessibilityRM_{ac}=Rks for Access X_u=Mean for utilization SDU=Standard deviation for utilization RMU=Remarks for Utili

AA=Always Available SA=Sometimes available NA=Never Available

AA=Always Accessible SA=Sometimes Accessible NA=Never Accessible

AU=Always utilize SU=Sometimes Utilize NU=Never Utilize

Table 1 shows that eight vitality foods are always available, seven vitality foods are sometimes available while three vitality foods are never available. Data above also shows that three vitality foods are always accessible, ten vitality foods are sometimes accessible while five vitality foods are never accessible. The table further reveals that 1 vitality food is always utilized; ten vitality foods are sometimes utilized while seven vitality foods are never utilized. The results indicated that majority of the vitality foods are sometimes available, they are sometimes accessible and sometimes utilized by low income households in Ebonyi State.

Table 2.1

t-test analysis of urban and rural low income households on availability of selected vitality foods.

Item No	Vitality foods	X_u	SDu	Xr	SDr	t-cal	Remarks
1	Paw-Paw (Carica payaya)	4.11	.96	3.87	1.01	2.41	S
2	Pineapple (Ananas comosu	3.29	.96	4.06	.99	-2.73	NS
3	Mangoes (Mangipera indical)	4.48	.86	4.27	.89	2.27	S
4	Banana (Musa sp)	4.06	1.06	4.03	.99	0.25	NS
5	Onions (Aurum cepa)	4.53	.82	4.51	3.55	0.06	NS
6	Tomatoes (esculenlum)	3.81	1.12	3.95	1.02	-1.33	NS
7	Okro (Abelmosetins esculentus)	3.96	1.O3	3.93	1.13	0.26	NS
8	Oranges/lemon/lime (citrus spp)	3.62	1.04	3.02	1.22	5.15	S
9	Carrots (Danscns carota l)	3.20	1.24	2.69	1.46	3.65	S
10	Cucumber(cucumus satives)	4.36	1.15	4.37	1.11	-0.07	NS
11	Ugu (Telfaria)	4.24	1.02	4.42	.87	-1.98	NS
12	Bitter leaves (Vemonia amygdalina)	3.72	1.24	4.23	1.02	-4.47	NS
13	Uturukpa/oha	4.76	.65	4.57	1.07	-1.98	NS
14	Coffee (coffea Arabica)	4.24	1.06	3.47	1.35	6.17	S
15	Lipton (Camellia sinensis)	4.46	.92	3.85	1.16	5.63	S
16	Green tea (Camellia sinensis)	4.48	.93	3.51	1.38	7.98	S
17	Walnuts (Juglans nigra)	3.60	1.23	3.20	1.13	3.40	S
18	Blue berry (Vaceinium corymbosum)	4.08	1.15	3.37	1.36	5.55	S

P= 0.05, Df =391, NS = Not significant, S= significant, Xu= mean for urban respondents

SDu = Standard deviation for urban, X_r = mean for rural respondents, SD_r= Standard deviation for the rural t-crit =t-critical =1.96, t-cal = t- calculated.

Table 2 shows that nine vitality foods namely pineapple, banana, onions tomatoes, okro, cucumber, ugu,

bitter leaves and uturukpa/oha had obtained t-table value of -2.73, 0.25, 0.06, -1.33,0.26, -0.07, -1.98, -4.47 and -1.98. Each of these values is less than critical t-value 1.96. The null hypothesis is accepted. This means that there is no significant difference in the mean responses of urban and rural low income households on the availability of nine vitality foods. On the other hand, nine vitality foods-paw-paw, mangoes, oranges/lemon/lime, carrots, coffee, lipton, green tea, walnuts and blue berry had t-cal value greater than the t-critical value. For each of these nine vitality foods, the null hypothesis of no significant difference was therefore rejected. This means that there is significant difference in the mean responses of the respondents (urban and rural) with reference to the availability of the nine vitality foods available to them.

3.1 Discussion of findings

Based on data on Table1.1 eight vitality foods are always available; seven are sometimes available, while three are never available. Also three vitality foods are always accessible, 10 are sometimes accessible and five are never accessible, only one is always utilized, 10 are sometimes utilized and seven are never utilized. The result indicated that vitality foods are sometimes available, sometimes accessible and sometimes utilized by low income households in Ebonyi State. This is not in line with FAO (1993) which defined food security as access by all people at all times to the needed to live an active and healthy lives. Ecker and Breisinger (2012) observed that poverty can limit access to food, and can also increase how vulnerable an individual or household is to food price spikes. They also noted that access and utilization depend on whether the household has enough income to purchase food at prevailing prices or has sufficient land and other resources to grow its own food. The t-test analysis of urban and rural low income households on selected vitality foods available in Table I shows that the null hypothesis of no significant difference was rejected for paw-paw, mangoes, oranges/lemon/limes, carrots, coffee, lipton, green tea, walnuts and blue berry which means that location affect the availability of these items in the state. The null hypothesis of no significant differences is accepted for pineapple, banana, onions, tomatoes, okro, cucumber, ugu, bitter leaves and uturukpa/oha. It means that location does not affect the availability and utilization of those items (Tables 1.1 and 2.1). It may be because most of the items are locally produced in the state by the households. This agrees with FAO (1993) findings that if households have access to some small amount of land, they could be taught to utilize it in growing vegetables, fruits and spices to improve their access to food, thus improving their nutrition and food security. Ozo (2006) supported this assertion by saying that nature has blessed Nigeria in general and Ebonyi State in particular with fertile soil for the growth and production of assorted foods, roots, tuber, cereals, fruits and vegetables to satisfy the nutrient needs of the people.

Inability to always utilize vitality foods by low income households in Ebonyi state may be due to crop seasonality, inadequate transportation and distribution systems and inadequate market information. This may affect them especially children both in the short and long terms which may result in reduced work performance, lowered school performance and income earning ability (Mba, Orhewere & Osifeso, 2001). This is because health foods are the foundation from which everything else is based upon. When the body is given the optimum nutrition it needs, it will function at its peak and naturally in its optimum state of health (http:/www.healthyfoodsvhs.com/ 2015). Food scarcity could lead to misallocation of scare resources and loss through sale of productive assets. It could also means spending much money in obtaining scare food, thereby leaving nothing for the other basic necessities of life such as education, housing and health. A food share analysis was performed using 1993 data, it suggested that most Nigerian households spend more than 75% of their income on food alone, indicating a high prevalence of food insecurity. Molokwu & Kembe (2012) stated that food insecurity has adverse effects on individuals and the nation as it slows down a nation's developmental plans and affects family security.

3.2 Conclusion

The following conclusions were drawn based on the findings of the study. The findings reveal that there are cases of food insecurity in low income households in Ebonyi State. Most of the vitality food items used for the study was not always available; as a result, they are not always accessible and are not always utilized because they cannot afford them due to poverty. The low income households live on too little or wrong kinds of food which may affect their general well-being and national development.

3.3 Recommendations

Based on the findings of the study, the following recommendations are made to enhance food security in low income households.

1. Nutrition education at the household level should be taught by Home economics extension workers to family members through workshops/seminars as this will encourages low income households on ways of reducing food insecurity during off seasons.
2. Entrepreneurship education should be introduced into the school curriculum from primary level to university level to empower low income households financially.
3. Government should provide good road network, electricity, water, reduce post harvest losses and assisting

farmers to procure improved storage facilities.

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