NUTRITION AND FAMILY LIVING PROFILE OF RURAL HOUSEHOLDS IN MBAITOLI LOCAL GOVERNMENT AREA, IMO STATE, NIGERIA

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ABSTRACT
The study assessed nutrition and family living profile of rural households in Mbaitoli Local Government Area, Imo State, Nigeria. Data were collected using a structured questionnaire. Data analyses used such statistical and econometric tools like frequency counts, percentages, regression and per capita household food expenditure (PCHFE). Results showed that majority of the respondents were literate, married, still young, energetic and vibrant being able to carry out manual work. Family responsibilities are borne by both the male and female respondents. Majority of the respondents are living in their personal houses, used water system and waste bin as their waste disposal methods. Cost of food items was the major factor that determined their choice of food. In addition, majority of the respondents had their meals 3 times daily and had intake of food supplements. The mean MPCHE was ₦8634.129. This indicates that majority of the respondents had low level of consumption (standard of living). This situation would negatively affect the level of nutrition. Finally, age, number of years spent in acquiring formal education, marital status and household size were significant factors influencing amount spent on food weekly, while poverty, inadequate health institution and poor sanitary condition were the major factors hindering healthy family living. Given the findings we recommended that government and relevant nutrition agencies in the state and local government area should create awareness on the need for adequate nutrition and right attitudes towards making the right choice of food and combining the food sources available in their meals. This measure would help boost the nutritional status of individuals and avoid ill-health.

Key Words: nutrition, family-living, profile, rural, households

INTRODUCTION
Nutrition is the provision, to cells and organisms of the materials necessary, in the form of food to support life (Shills, 2005). The diet of an organism is what it eats, and is largely determined by the perceived palatability of foods (Richard, 2004). Richard (2004) stated that a poor diet can have injurious impact on health, causing deficiency diseases, health threatening conditions like obesity and such common chronic systematic diseases as cardiovascular disease. Nutrition is a very important factor in the development of our contemporary society. The type and amount of food an individual habitually consumes could be directly and strongly linked with nutrition. It is therefore necessary that a person's diet is modified so that the nutritional status of such an individual will be balanced.

In order to be able to decide whether or not a person's diet needs to be modified, there is need to have knowledge about the individuals' nutritional status. Are they well nourished or malnourished? When a person consumes enough nutrients to meet his/her daily needs and any additional needs caused by increased metabolic demand, then the person is in a balanced or in a state of optimal nutritional status. Nutritional assessment is mainly concerned with estimating the actual nutritional status of an individual.

The nutritional status and family living profile of individuals are closely related to the food culture they have adopted. In the rural communities, where there is little or no industrialization, employment opportunities, the rural dwellers have taken to farming as a major means of providing their nutritional needs based only on subsistence. Majority of the rural dwellers derive their income from subsistence agriculture and often times have to go short of food at difficult times such as drought that affects farm output. Poverty equally prevents the ease of access to good nutrition and Medicare which invariably results in disease and ailments (Onomona, 2001). Martins (1971), stressed the importance of nutritional knowledge; as abundance of food does not in itself guarantee that the rural households will be well nourished, he observed that people every where develop patterns of eating and these patterns settle into fixed habits which affect their nutritional status.

The nutritional status of an individual depends to a large extent on what foods that are being consumed; which in turn depends on a whole range of factors such as the individuals, age, sex, attitude in health and nutrition, their financial status, cooking habits, likes and dislikes of certain foods which may be either bad or good respectively to their nutritional well being (Richard, 2004). Also many other factors such as cultural, physical and psychological, religious beliefs, work or examination stress, loneliness, eating disorders, alcohol or drug addiction, bereavement, use of medication, etc could well go a long way to affect an individuals nutritional status, as stressed or enumerated by (Martin 1971), that individual's adopt and settle into fixed habits, patterning to eating which could be as a result of any aforementioned above. It is therefore expedient that the reasons for these "fixed eating habits", a study is to be carried out on these rural household communities to actually determine their food intake level and the effect it has on their nutritional status. Actual knowledge of the nutritional habits of these rural household dwellers will help in identifying problems and then providing of solution to their nutritional status.

Many foods and nutritional problems accruing to the rural household is as a result of a reflection of the social and economic conditions that are prevalent. The critical nutrition problem of rural household is the lack of nutrition, knowledge and their inability to combine the right choice of foods in their diet. Other problems associated with the rural households are food availability and distribution as this is usually and majorly caused by large family sizes. Cultural foods and animal production could also pose as a problem to the nutritional status of such individuals. Lack of food knowledge, food value and food preparation technique could be a problem to these rural dwellers, because there is inadequate information within their grasp as to how to prepare such foods. The problem of ecological and agricultural limitations could affect the production of protein rich foods of plant and animal origins. The resultant effect of these problems is that these foods becomes expensive and in a relatively short supply. The general objective of this study in to assess the nutritional status and family living profile of rural households in Mbaitoli Local Government Area of Imo State Nigeria, therefore the specific objectives are to; determine the socio-economic characteristics of household members in the study area, identifying factors that determine choice of food chosen by respondents, determine the factors that influence the amount spent on food per week, ascertain the food consumption (nutrient) patterns of households in the study area ,determine the standard or living of the households and determine factors that promote or hinder healthy family living among households in the study area.

METHODOLOGY

The study was conducted in Mbaitoli Local Government Area (L.G.A) of Imo State, Nigeria. The geographical coordinates of Mbaitoli lies on latuitude $5^0 35$' North and $7^0 3$'E. Mbaitoli is one of the 27 LGA's in Imo State, Nigeria. Mbaitoli has seventeen political wards and there are ten extension agents working in the LGA. It has a population of 300,000 people. The

major source of livelihood for the people of Mbaitoli is farming, although some of them also engage in handicrafts, petty trading and other vocational activities which enhance their earning power.

Multistage random sampling procedure was used to select samples for the study. Six out of the nine large towns in the area were randomly selected through simple random sampling technique. Thirty households were subsequently selected from each of the six large towns, giving a total of one hundred and eighty (180) households, which constituted the sample size for the study. Data collection was achieved using structured questionnaire, which was administered on the household heads of the selected households. Data analysis was achieved with simple statistical tools such as frequency counts, percentages as well as multiple regression. The implicit form of the regression model is stated below;

$Y = f (X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9)$

Where Y = Income measured in naira
X_1= Age measured in naira
X_2= Sex (Male = 1, Female = 0)
X_3= Marital status (Married =1, Single = 0)
X_4= Occupation (Civil Servant =1, Non Civil Servant = 0)
X_5= Household size measured by number of persons under the same roof
X_6= Number of meals
X_7= Level of Education measured by the years spent in acquiring formal education
X_8= Sources of income (Multiple=1, non multiple = 0)

Standard of living was analyzed using the Per capita household food expenditure (PCHFE). Standard of living for respondents is computed by dividing each household's total monthly food expenditure by household size as used by World Bank, (1996), Omonona, (2001) and Uzokwe *et al.,* (2004) is stated as follows:

Per capita household food expenditure
$$= \frac{\text{Total household monthly expenditure}}{\text{Household size}}$$

while the classification of respondents poverty status will be based on Mean per capita household expenditure (MCHE). Mean per capita household expenditure would be calculated as follows;

$$= \frac{\text{Total per capita household expenditure}}{\text{Total number of household}}$$

The poverty line/standard of living is then drawn from the mean per capita household total expenditure, to get two mutually exclusive classes and the classification of the respondents. This would be done as follows;
1.   Respondents whose PCTHE is equal to or greater than 2/3 mean of PCTHE are considered non poor.
2.   Respondents whose PCTHE is less than 2/3 mean PCTHE. There farmers are considered poor.
A core poor (or extreme poverty) would be defined as 1/3 of the mean per capita total household expenditure. Any respondents with per capita total household expenditure less than this would be considered extremely poor. This indicates that these households had low

standard of living status with low level of nutrition. All respondents whose expenditure falls between core poor and below 2/3 PCTHE are considered moderately poor.

RESULTS AND DISCUSSION
Socio-Economic Characteristics of Respondents
The Socio-economic Characteristics of respondents are shown in Table 1.
Table 1: Distribution of the respondents based on their socio-economic characteristics

Gender	Frequency	Percentage
Male	90	50.0
Female	90	50.0
Total	180	100
Marital Status		
Single	7	3.9
Widowed	41	22.8
Married	117	65.0
Divorced	15	8.3
Total	180	100
Age range (years)		
21-30	21	11.7
31-40	37	20.6
41-50	61	33.9
51-60	33	18.3
61-70	24	13.3
71-80	4	2.2
Total	180	100
Sources of Income		
From pension	34	93.3
Clergy	17	9.4
From my trade	19	10.6
From my farm	8	4.4
Small scale enterprises	22	12.2
Teaching	80	44.4
Total	180	100
Formal education		
Primary school complete	4	2.2
Secondary school incomplete	12	6.7
Secondary school complete	67	37.2
Tertiary education	97	53.9
Total	180	100.0
Household size		
1-5	63	35.0
6-10	108	60.0
11-15	5	2.8
16-20	4	2.2
Total	180	100

Source: Field Survey, 2010

Table 1 reveals an equal representation of males and females in the sample. This could be as a result of the fact that family responsibilities are equally thrusted on males and females. It

further showed that majority of the respondents (65%) were married. Married people are often viewed as being responsible and are also known to be of good standing in society. Thus, they have the capacity to utilize both financial and non-financial resources for the upkeep of their respective families.

Table 1 further reveals that majority (72.8%) of the sample population were aged between 31 to 60 years. This implies that majority of the respondents were still young, energetic, vibrant, active and innovative. Okurutu and Bategeka (2005) described this age range as "working age", and noted that when the household head is of this working age, there is the likelihood of their moving out of poverty and being financially independent. Different sources of income were available to the respondents. Majority of the respondents (93.3%) earned their income from their monthly pension. In other words majority were pensioners. A reasonable proportion (44.4%) of the respondents were teachers, who earned their income from their monthly salaries. Others earned their income from small scale enterprises (12.2%), from their trade (10.6&), from their calling as clergy (9.4) and from their farm (4.4%). The implication for the nutrition and family living profile of the respondents was derived from variety of sources as shown in table 1.

More than half (53.9%) of the sample population had tertiary education, while a reasonable proportion (37.2) had complete secondary education. This is an indication that majority of the respondents were well educated and thus were in a position to make informed decisions relating to the nutrition, nutrient intake and food choices of their respective families. Tabe 1 also showed that majority (60%) of the respondents had household sizes ranging from 6 – 10 persons. The large household sizes found in the area may be due to the beauty of African culture, with respect to labour availability and acceptability. The number of people in a household is expected to affect the quality and quantity of food being consumed (Ene-Obong, 2001). However, an oversized family experiences malnutrition which is caused by inadequate food intake, as a result of many mouths to feed (Okaka et.al, 2002). Ene-Obong (2001) also noted that if the number of large households decrease, their health and nutritional status will be good and improved.

Family living status
The family living status which includes housing status, Toilet System and Waste Disposal is discussed in Table 2.

Table 2: Distribution of respondents according to Family living status

Family living status		
Housing Status	**Frequency**	**Percentage**
Personal	100	55.6
Lease	9	5.0
Rent	71	39.4
Toilet systems		
Pit	36	20.0
Water system	144	80.0
Method		
Waste bin	92	51.1
Silo	27	15.0
Pit burning	38	21.1
Farm yard/compost	23	12.8

Source: Field Survey, 2010

It was found that that 55 Percent of the respondents are living in their personal houses, while 39.4 percent. This shows that majority of the respondents are living in this personal houses. This condition would positively influence the amount of money spent on food, and consequently improve food intake and nutrient level of the households. Also, 80 percent of the respondents use water system while 20% use pit system. This shows that majority of the respondents made use of water system. The use of water system among the respondents could be the influence of modernization and civilization. The use of hygienic toilet system promotes healthy living. However, certain portion of the household income would be channeled into regular water supply to the household for the maintenance of the water system. Findings show that 51.1percent of the respondents used the waste bin for their waste disposal method. This shows that majority of the respondents had waste bin as their waste disposal method. This could be due to the fact that they are affordable and can be easily handled.

Factors that determine choice of food chosen by respondents
Factors that determine choice of food chosen by respondents is shown in Table 3.

Table 3 Distribution of factors affecting choice of food (n=180)

Income	Frequency	Percentage
Religion	80	44.4
Culture	37	30.56
Cost of food items	158	87.78
likes and dislikes	120	66.67
Health issues	61	33.88
Finance	99	55.0
Food crop in season	41	22.78
Weather	44	24.44
Distance to market	21	16.67
Electricity	26	14.44
Others	10	5.56

Source: Field survey (2010)
Note: Multiple choice responses

Table 3 shows that 87.78 percent of the respondents indicated that cost of food items was the major factor that determines their choice of food. This could be due to the fact that respondent are rational in the way they spent their financial resources. Respondents would want to purchase food items with the required nutrient level at affordable price.

4.3 Food Consumption Pattern of Respondents
In order to access the Food consumption pattern of the respondents number of meals taken daily, Fruit supplement, Skipping of meals and reasons were discussed as shown in table 4.

Table 4: Distribution of respondents according to their Food Consumption Pattern (n=180)

Number of Meals taken Daily	Frequency	Percent
2 times	32	17.8
3 times	141	78.3
4 times	07	3.9
Intake of Fruit Supplements		
Yes	25	13.9
No	155	86.1

Skipping of Meals		
No	64	35.6
Yes	116	64.4
Reasons for Skipping of Meals		
Ill Health	41	22.8
Lack of Money	18	10.0
Choice	66	36.7
Religion	36	20.0
Work Schedule	19	10.6

Source: Field Survey, 2010

Table 4 shows that majority (78.3%) of the sample population take 3 square meals daily. This may be due to their level of education and steady source of income because they are mostly retirees, civil servants and teachers. Majority (86.1%) of the respondents also take fruit supplements. This could be due to the fact that these individuals had enough finance at their disposal to enable them buy fruits in and out of season to supplement their regular meals. Research has shown that consumption of fruit and vegetables are the most sustainable way of reducing and controlling micro-nutrient deficiencies in resource-poor communities. Indigenous fruits and vegetables besides being micro-nutrients rich, have the added advantage of possessing other desirable traits (Kader et.al, 2006).

Majority (64.4%) of the respondents were found to skip their meals daily. Varieties of reasons were adduced for this. A reasonable proportion (36.7%) of the respondents, skipped their meals on daily basis as a matter of choice. Some of the respondents (22.8) skipped their meals on account of ill health, while 20.00% skipped their meals on religious grounds. Few of the respondents (10.6% and 10%) respectively gave their reasons as those arising from work schedule and lack of money. Richard (2004) observed that skipping of meals can be good, but it has health implications which can be very disastrous.

Determination of the standard of living of households

Table 5: The standard of living of respondents and their expenditure classification

MPCHE	Classification	Frequency	Percentage
< 1/3 of MPCHE	Very poor	69	38.33
1/3 – 2/3 MPCHE	Moderately poor	48	26.67
>2/3 of MPCHE	Not poor	63	35.00
Total		180	100

Source: Field survey (2010) MPCHE (Mean per capita household expenditure)
MPCHE = 8634.129 , <1/3 = 2878.043, <2/3 = 5756.086

Table 5 shows that 38.33%, 26.67% and 35% of the respondents had standard of living of less than 1/3 of MPCHE (poor), 1/3 - 2/3 of MPCHE (26.67) and greater than 2/3 of MPCHE (35). The mean MPCHE was ₦8634.129. This indicates that majority of the respondents had low level of consumption (standard of living). This situation would negatively affect the level of nutrition. The MPCHE of ₦8634.129 per month was less than the findings of Onyeagocha *et al* (2010) on monthly household consumption of sub-urban inhabitants in Owerri, West Local Government Area of Imo State which was ₦21, 435. 00. The findings could be due to the fact that the study was carried out in the rural area of Imo State. Where there is a differentiation in consumption pattern and status due to varying level of income.

Factors Influencing Amount Spent on Food Per Week by the respondents

Explanatory variables	Linear
Constant	5.159
	(1.820)**
Age	-0.042
	(-1.716)**
Sex	0.573
	(1.102)
Marital status	0.744
	(1.790)**
Occupation	0.053
	(.356)
Household size	0.280
	(2.701)***
Number of meals	0.728
	(1.177)
Level of Education	-0.219
	(-2.841)***
Source of income	0.021
	(0.113)
R^2	0.521
R^{-2}	0.460
F-value	2.938***

Source: Field survey 2010 Figures in parenthesis are t-values
*** Significant at 1% ** Significant at 5% * Significant at 10%

Table on regression shows that age and number of years spent in acquiring formal education were significant and negatively related to amount spent on food per week. While marital status and household size were significant and positively related to amount spent on food weekly. Age was significant at 5% and negatively related to amount spent on food per week. This indicates that as age of the respondents increased, the amount of money spent on food per week decreased. The decrease in the amount spent on food weekly could be due to the fact that at older age, respondents reduce the intake of certain food items due to health implications, the less the amount of money spent on food per week. Marital status was significant at 5% and positively related to amount spent on food per week. This indicates that as marital status increased the amount spent on food per week increased. Marital status of the respondents would positively influence the financial responsibilities of the respondents towards their nuclear and extended family members with respect to their nutrition. The more the financial responsibilities especially on nutrition, the more the amount of money spent on food per week.

Household size was significant at 1% and positively related to amount of money spent on food per week. This indicates that as the household size increases, the amount of money spent per week on food increases. Large household size will affect the quality and quantity of food been consumed (Ene-Obong, 2002). The more the quality and quantity of food been consumed due to the family size the more the amount spent on food per week. Years spent on formal education was significant at 1% and negatively related to amount spent on food per week. This indicates that as years spent on formal education increases, amount spent on food per week decreases. The level of education enhances human capital development and improves financial managerial abilities. The more the human capital development and financial managerial abilities, the less the amount spent on food per week.

Factors that hinder healthy family living
Table 6: Distribution of the respondents based on Factors that hinder healthy family living

	Frequency	Percent	Ranking
Poor water supply	84	46.67	4th
Poor sanitary condition	140	77.78	3rd
Epileptic power supply	47	26.11	6th
Inadequate health institution	148	82.22	2nd
High cost of rent	38	21.11	7th
Poverty	155	86.11	1st
High cost of food items	60	33.33	5th
High cost of transportation	26	14.44	8th
Others	15	8.33	9th

Source: Field survey 2010
Multiple choice response:

Table 6 shows that poverty (86.11%), poor sanitary environment (77.78%), inadequate health institution (82.22%), while other factors were inadequate water supply (46.67%), high cost of food items (33.3%), inadequate power supply (26.11%), high cost of rent (21.11%), high cost of transportation (14.44%) and others (8.33%).

CONCLUSION AND RECOMMENDATIONS
This study examined nutrition status and family living standards of the rural dwellers. The results show that households earn income from different sources. The predominant food source is majorly carbohydrate and the inability of respondents to combine the right choices of food could be as a result of the finance at their disposal. From the work it was observed that Less of other food classes consumed by the respondents results in a reduced nutritional level; and the level of income and expenditure pattern of these households determine their standard of living. Government and relevant nutrition agencies should create awareness on the need for adequate nutrition and right attitudes towards choosing the right choice of food and combining the food sources available in their meals. This measure would help boost the nutritional status of individuals and avoid ill-health.

REFERENCES
Kader, A.A., P.V. Penelope and EL Genesis (2006). Nutritional Quality of Fruits, Nuts and Vegetables and their Importance in Human Nutrition. Department of Pomology, University of California, Kika de la Garza Subtropical Agricultural Research Centre, USDA/ARS.
Martin, E.A. (1971) Nutrition in Action (3rd ed.) New York, Hold, Rinehart and Winston, Pp. 3-10.
Shills, C. (2005). Modern Nutrition in Health and Disease. Lippincott Williams and Wilkins.
Okaka, J.C., NTA Enoch and N.C Okaka. (1992). Human Nutrition. An Integrated Approach, Enugu Obio Press. Pp. 16-17.
Okurut, F.N. and L. Bategeka (2005). The Impact of Micro Finance on the Welfare of the Poor in Uganda, AERC Publication Pp. 13-17.
Omonona, B. T., E. J. Udoh and M. I. Owoicho (2002). Rural People's Perception and Causes of Poverty. A Case study of Agbowo Community in Ibadan, Nigeria Agricultural Development Studies. 1(1) 90 - 96

Omonona, B. T. (2001). Poverty and its correlates among rural farming households in Kogi State, Nigeria. Ph.D Dissertation. Department of Agricultural Economics, University of Ibadan.

Ugokwe, N. E., Adejoba, A. O. and Olurundare, E. (2004). Taungya Farming and Poverty Alleviation: The Case of Oniyambari Forest Reserve, Oyo State. *Bowen Journal of Agriculture,* 1(2) 206

World Bank (1996). "Nigeria Poverty in the midst of Plenty, the Challenge of Growth with Inclusive". A World Bank Poverty Assessment Hand Book.

Ene-Obong, N.H. (2001) Eating Right: A Nutrition Guide. The University of Calabar Press, Calabar.