



A Peer Reviewed International Journal of Asian
Academic Research Associates

AARJSH

**ASIAN ACADEMIC RESEARCH
JOURNAL OF SOCIAL
SCIENCE & HUMANITIES**



**EFFECT OF FUEL PUMP HIKE ON THE CONSUMPTION OF TRADITIONAL
FOODS BY AN URBAN NIGERIAN POPULATION**

HENRY-UNAEZE, H.N*; NWANKWO C.V**

*Department of Human Nutrition and Dietetics,
College of Applied Food Sciences

**Tourism, Michael Okpara University of Agriculture Umudike,
PMB 7267 Umuahia Abia State, Nigeria

Abstract

Objectives: This study was designed to investigate the effect of fuel pump hike on consumption of traditional foods by urban dwellers in Nigerian.

Materials and Methods: Three hundred and fifty respondents were selected using simple random sampling technique. Structured pre-tested questionnaires were used to collect information on socio economic characteristics, consumption pattern of traditional foods and fuel use. Anthropometric data such as weight, height, mid-upper arm circumference (MUAC) and skinfold thickness were collected using standard procedures. Data were analyzed using descriptive statistics, 4 point likert scale and simple regression.

Result: The age of the respondents ranged from 20-40 years with the mean age of 32.8years. A high percentage (71.4%) were females and more than half (57.8%) were married. Majority (71.4%) had tertiary education and an appreciable proportions (44.1%) were civil servants with as much as 39.3% earning more than ₦50,000.00 per month. Family contribution was more than 30% for 43.5% of the respondents. All respondents made use of fuel and almost half (49.5%) were aware of the hike in fuel pump price. Approximately half (45.7%) consumed traditional foods only while 54.3% consumes both traditional and western foods. Weekly frequency of consumption of traditional foods was 5 times for 35.9% of the respondents. Health was the main reason for consumption of traditional foods. Constraints encountered in consumption of traditional foods included limited time for preparation (23.8%), scarcity (23.2%) and cost (13.3%). Simple regression analysis showed that fuel pump hike had a significance effect on traditional foods consumption at 1% and 88.9% of the respondents agreed that fuel hike increases food prices. The mean (SD) of anthropometric indices were height 1.67 (11.5)m, weight 79.0 (11.73)kg, Bicep 18.85 (8.05)mm, Triceps 20.17 (6.36)mm; supra iliac 18.73 (5.97)mm MUAC 33.85(5.67). Only 1.3% of the respondents were underweight, 25.7% had normal BMI while 34.6% and 38.4% were overweight and obese respectively.

Conclusion: Fuel pump hike had a significant effect on the price of traditional foods consumed and the number of respondents that consumes traditional foods only was less than those that consume other foods. Nutrition education, implementation of food price subsidies and adequately maintained rural feeder roads is advocated.

Key words: Fuel Pump hike, Traditional foods, consumption, urban dwellers.

Introduction

Traditional foods are defined as all foods from a particular culture available from local resources and culturally accepted (Okeke *et al.*, 2008). It can also be referred to as the indigenous foods of a particular group. Traditional food system includes socio-cultural meaning of food acquisition and processing techniques. Foods play vital roles in the lives of human beings; and access to adequate food is necessary for all life processes. Food prices play crucial role in people's access to food. The economy of Nigeria is presently dominated by the petroleum sector and prices of petroleum products have had a detrimental effect on the price of goods and services (Effiong and Eze, 2010). Recently, there have been hike in fuel pump price which affected the general prices of goods and services including foods especially for people living in the urban areas (who are buyers of food). The global economic downturn of 2008/2009 coupled with the food and fuel hike have exacerbated poverty and deprivation through shrinking, declining levels of demand and cuts in government expenditure especially, with regards to basic services (Samuels *et al.*, 20011). The particularly vulnerable group and one on which this crisis is likely to have a long lasting impact are people in the urban areas (Ruel *et al.*, 2010). These urban dwellers, especially the urban poor may not be able to afford adequate food because of the price hike in food products. Evidence has shown that when there is hike in fuel, transportation of food from farm (rural areas) to urban areas is seriously affected (Ruel *et al.*, 2010). Food spoilage will be enormous because of lack of storage facilities in the farm, and the quantities of foods getting to urban areas will be grossly reduced. Consequently, the food prices will escalate or be above normal (Bryceson and Mbara, 2003). The traditional foods will be more affected as intricate cooking skills; long cooking periods and complicated methods of preparation are required. People are bound to modify their eating choices to suit their purchasing power. This situation will in the long run, affect the health and nutrition of the population. This study was therefore designed to investigate the effect of fuel pump hike on consumption of traditional foods by urban dwellers.

Materials and Methods

Study Design: A cross-sectional study of the effect of fuel pump hike on consumption of traditional foods by three hundred and fifteen (315) respondents was conducted in Onitsha Anambra state Nigeria.

Study Area: Onitsha is a big commercial city, an educational and religious centre in Anambra state, located in the South-eastern part of Nigeria. It has a population of 2,511,000 people (Minahan, 2002) with a density of 900/sq meters (43,97km²). This city houses the biggest market in the whole of Africa - The Onitsha Main market. It is between the Latitude 6^o10 North and 6^o 47 East (UN habitat, 2009). The majority of the people are predominantly traders who engage in different business activities alongside civil service.

Sampling Procedure: A simple random sampling method was used to select 315 respondents who gave their consent.

Data Collection Method: Structured pre-tested interviewer-administered questionnaires were used to obtain information on the socio economic characteristics, pattern of consumption of traditional foods and fuel usage of the respondents. Anthropometrics data such as weight, height, Body Mass Index (BMI), skinfold thickness and Mid-upper Arm circumference (MUAC) of the respondents were assessed. The weights of the respondents were measured to the nearest 0.1kg using portable Salter scale. The scale was placed on a flat surface and respondents were made to stand upright on it barefooted with minimum clothing. The reading was done in triplicate to the nearest 0.1kg to ensure accuracy and the average weight was determined. The height was also measured to the nearest 0.01meter using a height gauge. The respondents were made to stand erect on the base plane without shoes and head gear in order to give accurate distance between the side of the feet and the crown of the head. As the respondents were looking straight ahead, the headpiece was lowered down to the head crown and the heights were taken to the nearest 0.01m and repeated to obtain the average value. MUAC was measured using a flexible non-stretchable tape. The respondents were made to stand straight with the arms hanging as free as possible. The tape was then wound round the midpoint of the left upper arm between the shoulders and elbow tip making sure that it was neither too tight nor too loose. The measurement was taken twice to ensure accuracy. The selected skin fold thicknesses were measured using skin fold caliper. The flesh of the respondent at the selected point was picked up with the caliper and the readings recorded in triplicates to the nearest 0.1mm.

Data Analysis: Descriptive statistics of mean \pm standard deviations (SD), frequencies and percentages were determined on the data collected using the statistical package for social sciences (SPSS) version 15 software package. Simple regression was used to analyze the effect of fuel pump hike on consumption of traditional food, and 4 point Likert scale was used to determine the level of awareness of fuel pump hike. The BMI was calculated as weight in kg divided by height squared in meter and classified according to Roberts (2002) classification. Underweight = $<18.5\text{kg/m}^2$; Normal weight = $18.05 - 24.99\text{kg/m}^2$; Overweight = $25.0 - 30.0\text{kg/m}^2$; Obesity grade I = $30.0 - 34.9\text{kg/m}^2$; Obesity grade II = $35.0 - 39.9\text{kg/m}^2$; Obesity grade III = $>40.0\text{kg/m}^2$. The skin fold thicknesses and MUAC value were compared with WHO reference standard (1998).

Results: Table1 shows the socio-economic characteristics of the respondents. The age of the respondents ranged from 20-40years with a mean age of 32.3years. Higher percentages (71.4%) of the respondents were females while 28.6% were males. More than half (57.8%) were married. A high proportion (71.4%) of the respondents had tertiary education, 19.0% and 4.8% had secondary and primary education respectively, while the rest (4.8%) were illiterate who could neither read nor write. Many (44.1%) of the respondents were civil servants, 36.8% were in business while 3% and 18.7% were clergy and bankers respectively. Almost forty percent (39.3%) of the respondents earn more than ₦50,000.00 per month. An appreciable percentage 34.6 had monthly income between ₦10,000.00 – 30,000.00, 10.2% had monthly income between ₦30,000.00 – 50,000.00 while 15.9% earned less than ₦10,000.00 per month. More than half (62.2%) receives family contribution while 37.8% receives no family contribution. The family contribution ranged between 10-30%. As much as 37.8% receives more than 30% from family contribution; 15.9% receives 10-30% family contribution while 8.6% receives less than 10% family contribution.

Table 2 shows the fuel consumption pattern and hike awareness level of the respondents, none of the respondents made use of diesel, almost half (47.6%) use kerosene while 32.4% and 20.0% use petrol and gas respectively. Almost all (94.6%) obtained their fuel from filling stations while the rest (5.4%) got theirs from black market. The weekly frequency of fuel use was between 2-7 times; 28.3% use fuel 7 times/wk, 27.6%, 19.4% and 19.7% use fuel 6, 5, and 4 times per week respectively, while only 5.1% used fuel twice in a week. As much as 30.2% expend more than ₦15,000.00 on fuel per week, 42.2% expends between ₦5000 – 15,000 while 27.6% expends less than ₦5000 on fuel per week. All respondents were aware of the hike in fuel pump price, more than half (60.6%) got the information through television, 31.4% got theirs through the radio while 7.9% got the information through the national newspapers. Almost half (49.5%) of the respondents had high level of fuel price hike awareness. 11.1% had very high level of awareness, as much as 31.4% had low awareness level and 7.9% had very low level of awareness.

The food consumption pattern of the respondents is shown in table 3. Many (63.2%) of the respondents ate two times a day, 31.4% ate three times and only 5.4% ate once a day. Thirty-nine percent of the respondents skipped lunch, 31.1% skipped breakfast and 10.2% dinner. The frequency of meal skipping was 3 times for as much as 37.1% of the respondents and 5 times for 26%. The reasons for meal skipping were tight schedule (71.8%), insufficient income (14%) and fasting (4.3%). Data on the type of food consumed shows that more than half (54.3%) of the respondents consumed mixed food (traditional and western) while 45.7% consumed only traditional foods. The weekly frequency of consumption of traditional foods shows that 35.9% consumed traditional foods 5 times a week, 20.6% and 18.4% consumed two times and once a week respectively, while 14.3% and 10.8% consumed it 4times and 7times a week respectively. The main source of traditional foods was market (76.2%); other sources included farm (18.4%), and gift 5.4%. Reasons for consuming traditional foods included culture (13.5%), habit/Choice (12.0%) and availability/affordability (20.2%), health (50.1%) and convenience (4.2%). Many (39.7%) of the respondents encountered no constraints in consuming traditional foods while 23.8%, 23.2% and 13.3% had scarcity, limited time for preparation and high cost as constraints in consuming traditional foods respectively. The weekly frequency of type of traditional foods consumed shows that respondents consumed pigeon pea (9.5%) oil bean seed (17.6%) cowpea (3.8%), cassava chips (20.4%) palm kernel soup (3.5%), vegetable soup (1.9%), okra soup (13.3%), bitter leaf soup (3.8%) and steamed bambara groundnut (11.4%), 7times in a week. Breadfruit (10%), goat head (6.0%), Achara soup (3.8%) Oha soup (22.9%), Nsala (21.0%) and Egusi soup (33.3%) were consumed 2-4 times in a week. Cocoyam chips (3.5%) and African Yam bean 3.8% once in a week while African cluster yam was consumed by 16% of the respondents 1-3times in a month. Table 4 summarized the frequency of consumption of food groups by the respondents. There was high consumption of starchy roots and tubers (63.8%) cereals (92.7%), fruits (91.4%), green leafy vegetables (69.2%), and meat, fish and products (90.5%) and low consumption of starchy fruits (62.5%) and dairy products (55.2%). Moderate consumption was observed in all the food groups by varying percentage of the respondents. The result of a regression analysis presented in table 5 shows that fuel hike had a positive relationship with the quantity of traditional foods consumed. The perception of the effect of

fuel pump price hike is presented in table 5b. the Table revealed that most (88.9%) of the respondents strongly agreed that fuel hike increases food price, 64.1% agreed that the cost of feeding increased after fuel pump hike, 37.1% spent more money on fuel than on feeding, 49.5% observed no change in feeding habit after fuel pump hike and 56.5% strongly disagreed that the quantity of food consumed decreased in response to increased fuel price. As shown in table 6a, the mean (SD) of height and weights of the respondents were 1.67(11.6)m and 79.01 (11.7)kg respectively. While that of Bicep, Tricep, supra iliic and sub scapular were 18.85(8.05)mm, 20.17(6.36)mm, 18.73(5.97)mm and 26.95(16.53)mm respectively. The mean (SD) of MUAC was 33.85(5.67)cm. Table 6b presents the BMI classification of the subjects. Only 1.3% of the respondents were underweight (BMI = < 18.5), 25.7% of the respondents were of normal weight (BMI = 18.5 – 24.9). However, 34.6% and 38.4% were overweight (BMI = 25 – 29.9) and obese (BMI = > 30) respectively.

Discussion: The findings of the study shows that all the respondents sampled were in their youth with a mean age of 32.3years. As majority (71.4%) were female, it was not surprising that more than half (57.8%) were married. This trend agrees with Onyeme's report which stated that married life is meant for matured people. The high tertiary education level of most of the respondents (71.4%) is an advantage because higher educational attainment in earlier period of life was reported to provide individuals with better occupational opportunities, social status and greater financial stability during transition to retirement (Jungmeen and Moem, 2002). Education has also been shown to be a determinant to earnings and an important exist strategy from poverty (Keino, 2004). In this study, in which many of the respondents were civil servants and almost half were engaged in business activities, an appreciable percentage earns over ₦50, 000.00 per month and more than half receives monthly family contribution. These observations reveal a good socio-economic condition which could be a pre-requisite to good nutritional status and good health. All respondents use different fuel products for cooking, powering automobiles and generator sets. This shows that fuel is a necessity. Fuel is made more important in a country like Nigeria where electrical energy supply from Power Holding Company of Nigeria (PHCN) is not regular and has been described in many quarters as epileptic (Ogunbodede *et al.*, 2010). The frequency of fuel use (2-7times/week) and the amount of money expended in purchase of fuel explains why majority of the respondents source their fuel from filling stations which are cheaper than from any other sources. Ruel *et al.*, (2010) also documented that urban dwellers are dependent on cash income for food purchase as well as for all other basic needs such as fuel, water, housing and other services. The study revealed that most of the respondents were aware of the fuel pump hike through the television and the level of awareness was high as determined by the 4 point Likert scale which shows the cluster mean to be 2.46, above 2(low). The high level of awareness could be attributed to the high educational and income status of most of the study population, as many of them were literate and could afford information devices like television and radio. However, Pew research (2007) documented that despite the fact the education levels have risen drastically over the years, public knowledge have not increased accordingly. Most of the respondents (68.2%) ate two times a day. This number of meals may not have met their daily nutrient requirement. High level of meal skipping recorded in this study was attributed to tight schedule (71.8%). This is not surprising as most of the respondents were engaged in different

occupation /work activity and may not have time for meals. Skipping meals like breakfast is associated with health compromising behaviors in adults and adolescents (Keski-Rahkoren *et al.*, 2003). The data on the type of foods consumed shows that although more than half (54.3%) consumes mixed food; an appreciable proportions consume only traditional foods. The number of the respondents that consume traditional foods and the frequency of consumption is encouraging because traditional foods are higher in dietary fibre content and very poor in sugar and fat. Use of indigenous foods has already been advocated to reduce the incidence of chronic diet related non-communicable diseases such as obesity, diabetes, cardiovascular disease and stroke (Jervel, 1995, SCN, 2006). The respondent's main source of traditional foods (market) is in line with place of residence, as most urban dwellers do not have adequate space and time to engage in small farming activities, so they obtain most of their foods from markets. Although, some of the respondents experienced no constraints in consuming traditional foods, scarcity, limited time for preparation and cost poses constraints for an appreciable proportion. Scarcity and cost may be attributed to the hike in fuel prices which translated to high transportation cost and increased food prices. Limited time for preparation is synonymous with most urban dwellers because they engage in jobs that are time bound and as such may not delight in meals that require long preparation time. The fact that health is the major factor that influenced consumption of traditional foods revealed that the respondents were very much concerned about their health although this could not be related to the observed nutritional status of the respondents. The type and variety of traditional foods available for the respondents may be because the study area is closely located to a farming community – Anam. Anam people website (2010) documented that about 70% of the food crops cultivated in Anambra state are from their people; the people are mostly farmers owing to the arable condition of the area. The consumption of foods according to food groups revealed that although there were high consumers of starchy roots and tubers, cereals, fruits and leafy vegetables; starchy fruits and dairy products were consumed by a few. This is not surprising since the latter were actually quite expensive in the study area and because dairy products for instance do not form part of traditional dishes, most people do not include it in their daily meals. Simple regression analysis on the effect of fuel pump hike on consumption of traditional foods and the respondents' on perception of the fuel hike shows that fuel hike affected consumption of traditional foods. Some of the respondents had good nutritional status as measured by BMI and confirmed by MUAC. This is in conformity with their high education and socio-economic status. The number that were underweight could be attributed to poverty and illiteracy level of the group; the proportion that were overweight and obese may be attributed to meal skipping which usually lead to hunger and resulted in increased consumption and weight gain(Sjoberg *et al.*, 2003). It is important to note that WHO(2000. 2004) emphasized the mounting evidence that all overweight and obese adults (≥ 18 years) with BMI ≥ 25 , runs a particular high risk of developing associated morbidities such as hypertension, high blood cholesterol, type 2 diabetes, cardiovascular and renal problems, which are major causes of death among this age group.

Conclusion: This study revealed that fuel pump price hike had a 1% significant effect on consumption of traditional foods in the study area. The increased fuel price resulted in decreased consumption of traditional foods, although some respondents were economically viable to purchase traditional foods at all costs. Their major reason for consumption of traditional foods which was health was not reflected in the nutritional status of most of them as majority was overweight and obese. This study strongly recommend education on the right food components, normal weight maintenance, subsidies for food prices and adequately maintained rural feeder roads that will facilitate the movement of food from farm to urban areas.

References

Okeke EC, Ene-obong HN, Uzuegbunam AO, Ozioko AO, Kuhlien H Igbo Traditional Food System: documentation, uses and research needs. *Pakistan Journal of Nutrition* 7(2) 365 -376

Effiong JAL, Eze EU Food Products Prices and its implication for food security in Nigeria *Journal of Agriculture and Social Research (JASR)* 2010 10 (1): 63 – 65

Samuels F, Maja G, Harper C, Miguel NZ Food, Finance and Fuel: the impacts of the triple F crisis in Nigeria, with a particular focus on women and Children. Overseas development Institute (ODI) www.odi.org.uk accessed July 10 2012

Ruel MT, Garrett JL Hawkes C, Cohen MJ The Food, Fuel and Financial crises affect the urban and rural poor disproportionately: A review of the evidence. *J Nutri* 2010 140 (1) 1705 1765

Bryceson DF, Mbara, T. Petrol pump and economic slumps: the reality of rural-urban linkages in Sub-Saharan Africa's globalization process 2003

Minahan J, *Encyclopedia of the stateless NationS-Z* Greenwood publishing group 2002 Pp 762

UN (United Nations) Habitat Structure Plan for Onitsha and satellite towns ISBN 978-92-1-132117-3

Robert C.W Body Mass Index as an Index of obesity. *Asian pacific J Clin Nutri* 2002; II (Suppl): 5681-5684.

WHO. Obesity, Preventing and Managing the global Epidemic. Report of a WHO consultation on obesity Geneva, Switzerland 1998.

Oneye, K Things Youngmen must do to ensure quick successful marriage Keneva Evangelistic Publication Lagos 2004 Pp20-25.

Meeks, S., Murell, S.A. Contribution of education to health and life satisfaction in older adults mediated by negative effect *Journal of Aging and Health* 2001; 13: 92-119.

Jungmeen, K.E. Moem,P. Retirement transition, gender and psychological wellbeing. A life course ecological model: *The Journal of gerontology* 2002; 57B; 3:212 -222

Ogunbodede, E.F., Ileganmi, A.O and Olurankinse, E. Petroleum motor spirit (PMS) pricing crisis and the Nigerian public passenger system. *Journal of Social Sciences* (2010) 5(2)113-121.

Ruel, M.T. Garretts, J.L. Hawkers, C. and Coher M.J. The food, fuel and financial crisis affect the urban rural poor disproportionately: A review of the evidence. *The journal of Nutri* (2010) 140 (1)1705-1765.

Pew Research (2007) public Knowledge of current affairs little change by News and information revolutions. www.people.press.org accessed February 10, 2013.

Keino, S.J. Nutrition and Millennium development goals.. a Kenya perspective on the eradication of extreme poverty and hunger. *Nutrition and the MDGs SCN News* 2004 28: 26-35.

Keski-Rahkonen, A, Kaprio J. Rissanen A., Vikkunen M, Rose R.J: Breakfast skipping and health compromising behaviours in adolescents and adults. *European J. of clinical Nutri* 2003 57:842 - 53

Jervel, J poor Nutrition and Chronic diseases. United Nations Administrative Committee on co-ordination sub committee on Nutrition (ACD/SCN) *News* 1995 13: 10-14.

SCN Diet related diseases and double burden of Malnutrition in West Africa Standing Committee on Nutrition *News (Development of International Nutrition)* 2006: 33: 13-19.

Anam people website (2010): Anam food crops. www.anamites.com accessed February 10, 2013.

Sjoberg A, Hallberg L, Høglund D, Hulthen L, Meal pattern, Food Choices, Nutrient intake and Lifestyle factors in the Goteborg Adolescence study *European J Clin Nutri* 2003 57: 1569 78

WHO (World Health Organization) Obesity Preventing and managing the global epidemics Report of a WHO Consultation Technical Report Series no 894 World Health Organization 2000

WHO (World Health Organization) Expert Consultation (2004) Appropriate body mass index for Asian population and its implication for policy and intervention strategies *Lancet* 36 3:157-163

Table 1 Socio-economic characteristics of the respondents

variables	frequency	Percentages
Age		
20 - 25	15	4.8
26 – 30	103	32.7
31 – 35	108	34.3
36 - 40	89	28.3
Total	315	100
Sex		
Male	90	28.6
Female	225	71.4
Total	315	100
Marital status		
Single	116	36.8
Married	182	57.8
Widowed	17	5.4
Divorced	-	-
Total	315	100
Level of education		
Non-formal	15	4.8
Primary	15	4.8
Secondary	60	19.0
Tertiary	225	71.4
Total	315	100
Primary occupation		
Civil servants	139	44.1
Farmer	-	-
Clergy	1	3
Business	116	36.8
Artisan	-	-
Bankers	59	18.7
Total	315	100
Monthly income (₦)		
< 10,000	50	15.9
10,000 – 30,000	109	34.6
30,000 – 50,000	32	10.2
> 50,000	124	39.3
Total	315	100
Family contribution		
Yes	196	62.2
No	119	37.8
Total	315	100
% of family contribution		
< 10%	27	8.6
10% - 30%	50	15.9
> 30%	119	37.8
None	119	37.8
Total	315	100

Table 2: Fuel consumption pattern and fuel hike awareness level of the respondents

Variables	frequency	Percentage
Type of fuel		
Diesel	-	-
Kerosene	150	47.6
Petrol	102	32.4
Gas	63	20.0
Total	315	100
Source of fuel		
Filling station	298	94.6
Black market	17	5.4
Total	315	100
Weekly frequency of fuel use		
2 times	16	5.1
4 times	62	19.7
5 times	61	19.4
6 times	87	27.6
7 times	89	28.3
Total	315	100
monthly fuel expenditure (₹)		
< 5,000	87	27.6
5,000 – 15,000	133	42.2
>15,000	95	30.2
Total	315	100
Source of information		
Newspaper	25	7.9
Television	191	60.6
Radio	99	31.4
Total	315	100
Level of awareness scale		
Very low	25	7.9
Low	99	31.4
High	156	49.5
Very high	35	11.1
Total	315	100

Table 3: Food consumption pattern of the respondents

Variables	frequency	Percentages
No of meals in a day		
Once	17	5.4
Twice	199	63.2
3 times	99	31.4
Total	315	100
Meal skipping		
Breakfast	98	31.1
Lunch	123	39.0
Dinner	34	10.2
None	62	19.7
Total	315	100
Frequency of meal skipping		
Once	10	3.2
2 times	33	10.5
3 times	117	37.1
4 times	73	23.2
5 times	82	26.0
Total	315	100
Reason for meal skipping		
Fasting	44	4.3
Tight schedule	226	71.8
Insufficient income	45	14.0
Total	315	100
Type of food consumed		
Traditional	144	45.7
Western	-	-
Mixed (traditional + western)	171	54.3
Total	315	100
Weekly frequency of traditional food consumption		
Once	58	18.4
2 times	65	20.6
4 times	45	14.3
5 times	113	35.9
7 times	34	10.8
Total	315	100
Source of traditional foods		
Market	240	76.2
Gift	17	5.4
Farm	58	18.4
Total	315	100
*Reason for traditional food consumption		
Culture	48	13.5
Habit/choice	43	12.0
Availability/Affordability	72	20.2
Health	179	50.1
Convenience	15	4.2
Total	357	100
Constraint in consuming traditional foods		
Expensive	42	13.3
Limited time to cook	75	23.8
Scarcity	73	23.2
None	125	39.7
Total	315	100

*multiple responses recorded

Table 4a: Frequency of consumption of traditional foods

Traditional foods	Consumption Frequency (%)					
	daily	5-6 times/wk	2-4 times/wk	Once/wk	1-3 times/mnth	Rarely
Ukwa	-	-	30(10)	72(24.0)	114(38.0)	84(28.0)
Fio-fio	24(9.5)	-	6(2.4)	18(9.1)	42(16.7)	162(69.3)
Ukpaka	54(17.6)	-	72(23.5)	24(7.8)	84(27.5)	72(23.5)
Nkwobi	-	-	18(6.0)	24(8.0)	96(32.0)	162(54.0)
Akidi	12(3.8)	-	30(9.5)	30(9.5)	84(26.7)	159(50.5)
Abacha	64(20.4)	18(3.7)	136(43.3)	30(9.6)	30(9.6)	36(11.5)
Ofe akwu	11(3.5)	-	84(26.0)	78(24.8)	118(37.5)	24(7.6)
Ofe achara	-	-	12(3.8)	-	27(8.6)	276(87.6)
Oha soup	-	-	72(22.9)	54(17.1)	144(45.7)	45(14.3)
Nsala soup	-	-	66(21.0)	102(32.4)	99(31.4)	48(15.2)
Achicha	-	-	-	10(3.5)	21(7.3)	258(89.3)
Vegetable soup	6(1.9)	34(10.8)	66(21.0)	112(35.6)	97(30.8)	-
Ona	-	-	-	-	49(16.0)	258(84.0)
Egusi soup	-	42(13.3)	105(33.3)	90(28.6)	78(24.8)	-
Okra soup	42(13.3)	-	66(21.0)	84(26.7)	108(34.3)	15(4.8)
Bitter leaf soup	12(3.8)	39(12.4)	78(24.8)	102(32.4)	84(26.7)	-
Okpa	36(11.4)	48(15.2)	42(13.3)	90(28.6)	36(11.4)	63(20.0)
African yam bean	-	12(3.8)	-	12(3.8)	12(2.8)	279(88.6)

wk = week, mnth = month

Table 4b: Frequency of consumption of food groups by subjects

Food group	Consumption		
	High	moderate	Low
Starchy roots & tubers	201(63.8)	55(17.5)	59(18.7)
Legumes	167(53.0)	69(21.9)	79(25.1)
Cereals	292(92.7)	13(4.1)	10(3.2)
Starchy fruits	-	138(43.8)	197(62.5)
Green leafy vegetables	218(69.2)	37(11.8)	60(19.1)
Fruits	288(91.4)	17(5.4)	10(3.2)
Meat and fish products	285(90.5)	10(3.2)	5(1.6)
Dairy products	24(7.6)	117(37.1)	174(55.2)
Baked products	84(26.7)	101(32.1)	130(41.3)
Fats & oil	156(49.5)	106(33.7)	50(15.9)
Soft drinks & beverages	150(47.6)	90(28.6)	75(23.8)

High = ≥ 7 times/week, moderate = 4 – 6 times/week, Low $\leq 1 - 3$ times/week

Table 5a: Effect of fuel pump hike on consumption of traditional foods

Variables	Regression
Constant	-1.074 (-9.780)***
Fuel hike	0.823 (62.498)***
R ²	92.6
F-statistics	3.906***

Table 5b: respondents perception of effect of fuel pump hike

Fuel hike effect	Perception (%)				
	Strongly disagree	disagree	undecided	agree	Strongly agree
Increases food price	8(2.5)	9(2.9)	14(4.4)	4(1.3)	280(88.9)
Increases feeding cost	9(2.9)	6(1.9)	14(4.4)	202(64.1)	84(26.7)
Spend more on fuel than feeding	28(8.9)	14(4.4)	90(28.6)	66(21.0)	117(37.1)
Change in feeding habit	108(34.3)	156(49.5)	15(4.8)	21(6.7)	15(4.8)
Decrease in food consumption	178(56.5)	25(7.9)	44(14.0)	52(16.5)	16(5.1)

Table 6a: Anthropometrics indices of the respondents

Anthropometric index	mean	Standard deviation
Height (m)	1.669	11.57
Weight (kg)	79.01	11.73
Bicep(mm)	18.85	8.05
Triceps(mm)	20.17	6.36
Supra iliac (mm)	18.73	5.97
Subscapular (mm)	26.95	16.53
MUAC (cm)	33.85	5.67

Table 6b: Body mass index classification of the respondents

BMI(kg/m ²)	classification	Frequency (%)
< 18.5	Underweight	4(1.3)
18.5 – 24.9	Normal	81(25.7)
25 – 29.9	Overweight	109(34.6)
>30	Obese	121(38.4)