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FOOD HABITS AND PREVALENCE OF OBESITY AMONG ADULT TRADERS (25-65YEARS) IN UMUAHIA MAIN MARKET, ABIA STATE

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Abstract:-The study was undertaken to determine food habits and the prevalence of obesity among adult traders (25-65 years) in Umuahia Main Market, Umuahia Abia State, Nigeria. Data for this report was obtained from a cross-sectional survey of 120 traders. A structured questionnaire was used to elicit information on socio-economic characteristics and dietary pattern. Information on anthropometry was also determined using standard methods. Body Mass Index (BMI) and waist-hip-ratio were calculated. Data obtained from the study were subjected to statistical analysis, using statistical package for social sciences (SpSS) version 17. The results of the different variables collected revealed that majority of the respondents 48(40.0%) were within the ages of 25-35 years. Information on educational status showed that the highest educational qualification attained by majority (65.8%) was secondary school. Food habit profile of the respondent shows that breakfast was the most skipped meal (31.7%) followed by lunch (24.2%). Pastries, carbonated drinks, alcohol and fruits were consumed daily by 32(26.7%), 12(10%), 13 (10.8%) and 53 (44.2%) respectively and about $1/4^{th}$ (25.8%) of the respondents patronizes food vendor. BMI result showed that 29.2% of the respondents were obsessed, (out of which 37 were female and 8 males), 26.8% of the females were overweight, 18.3% had normal body weight and 2.8% were underweight. The result of waist-Hip-ratio (WHR) on figure 2 shows that 30% of the respondents had abdominal obesity out of which 29 were females and 7 males. The high prevalence of obesity and underweight found in this study underscores the need for effective nutrition education among the adult traders.

Keywords*: Nutritional status, lifestyle, sedentary, obesity, food habit, trader*

I. INTRODUCTION

The prevalence of Obesity is on the increase worldwide (Friedman, 2000). Records showed that 1.4 billion adults worldwide are overweight, out of which about 200 million men and nearly 300 million women are obsessed (WHO, 2011). Changes in lifestyle, poor diet, physical inactivity, social and cultural environment are associated with the prevalence of obesity (Vander *et al*., 2001; WHO 2013), and this condition is reported to be responsible for the increased risk for diabetes, dysilipidemia, coronary heart disease, atherosclerosis, hypertension, high blood cholesterol concentration, certain cancers and arthritis (Must *et al*., 1992; WHO, 2000; Bray, 2004). The medical costs attributable to obesity in U.S. was estimated $190.2 billion or 20.6% of all medical expenditures (Cawley *et al.,* 2012) while the cost of obesity in Canada was estimated at CA $2billion in 1997 (2.4% of total health costs).

In Nigeria, diets higher in energy including vegetable oil and other fats heated under oxidized conditions and lower in diversity in fruits and vegetables than those consumed historically have been identified as risk factors (Johns, 2001); the 2008 WHO report put the prevalence of overweight and obesity at 26.8% and 6.5% respectively in the country (WHO, 2011).

Traders belong to marketing sector which plays an important role in the sustainability of Nigeria's economy. Study shows that most traders spends ≥ 8hours daily in business, with about one third ($1/3^{rd}$) to one-half (1/2) of the workday spent sitting (Jans *et al*., 2007); also it has been shown that market environment and income levels influence the patronage of street and fast foods outlets (Winnarno, 2004). The role of physical inactivity and fast food in obesity outcome has also been documented (Whitaker, *et al*., 1997; John, 2001). This study was therefore designed to evaluate the food habits and prevalence of obesity among adult trader in Umuahia main Market Abia State Nigeria.

II. MATERIALS AND METHODS

2.1 Area of study

The study was conducted in Umuahia Main Market, Umuahia North urban city of Umuahia, Abia State, Nigeria. Abia State was carved out of the former Imo State on August 27, 1991 (Hoiberg and Dale, 2010) by the

Federal Millitary Government headed by General Ibrahim Babangida. The State Abia has a total population of 2,833,999 (Federal Republic of Nigeria Official Gazzette, 2007). The name "Abia" is an acronym formed from initial letter of Aba, Bende, Isiukwuato, and Afikpo. Abia state occupies a landmass of 6,320 square meters. Majority of the inhabitants are farmers while others are traders, civil servants, and craft men.

2.2 Population of the study

The subjects were made up of randomly selected 120 males and females traders (71 females and 49 males) within the age range of 25- 65 years. Informed consent of the subjects was obtained before involvement in the study.

2.3 Sample size

The value 6.5% reported as the prevalence of obesity in a National study of non-communicable diseases in Nigeria (WHO, 2011) was used for the calculation of sample size using the formula as described by Arayoye (2003).

$$\text{Sample size (n)} = \frac{Z^2 \times P\,(100-P)}{X^2}$$

Z= confidence level which was taken as 95% with a degree of probability of 1.96 approximated to 2%.

X= 5% level of precision

P= prevalence

2.4 Training of Research Assistants

A research assistant was co-opted from the Department of Human Nutrition and Dietetics of Michael Okpara University of Agriculture Umudike. The research assistant was trained on administration of questionnaire, accurate record keeping, and on the use of anthripometric equipment.

2.5 Data collection

2.5.1 Instrument for data collection

Questionnaire: validated, structured questionnaire was used to collect data on the socio-demographic characteristics and food habits of the traders

Anthropometry: A bathroom scale (Hanson model) was used to measure the weight. The subjects were weighed on a bathroom scale wearing minimum clothing. The subjects were asked to stand erect on the centre of the bathroom scale with both arms at the sides, with head, back and knees erect. The weights were read off and recorded to the nearest 0.1 kg. The height of each subject was measured using a wooden height meter. The subjects were measured without shoes. Heads were held comfortably erect and the arms hanging at their sides in a natural manner. The head piece was gently lowered crushing the hair and making contact with the top of the head. The readings were taken at where the flat wood touches or comes in contact with the taken to the nearest 0.1 cm. Waist Circumference and Hip Circumference measurements were taken with a non-stretchable measuring tape to the nearest 0.1 cm. Hip circumference was measured around the widest portion of the buttocks. With these measurements, the WHR was calculated.

2.6 Body Mass Index

$$\text{BMI (kg/m}^2\text{)} = \frac{\text{Weight(kg)}}{\text{Height (m}^2\text{)}}$$

2.7 Statistical Analysis

Descriptive statistics was used to analyze the data collected using Statistical Package for Social Sciences (SPSS) version 17.0. Frequency and percentage were calculated.

III. RESULTS

3.1 Sociodemographic characteristics of the traders

A total of 120 traders consisting of 71 (59.2%) females and 49 (40.8%) males participated in the study. Most of the respondents were within the age range of 25-35 years, while a few (13.4%) of them were within the age range of 56-65 years. Out of the total respondents, 77 (64.2) were married, 35 (29.1%) single, while 8 (6.7%) were divorced, most of the respondents (76.2%) were retailers, 20 (16.7%) wholesalers, while 5 (4.2%) were distributors. Information on educational status showed that 6 (5.0%) did not complete primary school, 26 (21.7%) completed primary school, 9 (7.5%) did not complete secondary school, while majority (65.8%) completed secondary school. Result on family type showed that most of the respondents (67.5%) were from monogamous homes while a few of them were from polygamous family (32.5%).Data on monthly income shows that 20 (16.7%) of the respondents makes between ₦11,000 - ₦15,000, 28 (23.3%), ₦16-20,000, 9(7.5%) ₦21,000 - ₦25,000, while 17 (14.2%) makes ₦26.000 and above.

3.2 Food habits of traders in Umuahia main market

Food habit profile of the respondent is shown on Table 2. Breakfast was the most skipped meal (31.7%) followed by lunch (24.2%). A good number of the respondents (40%) however don't skip meals. Reasons for skipping meals ranged from time constraints to insufficient income. Meal consumed most heavily was dinner (76.7%). Fufu and soup was favoured by 52 (43.3%) followed by rice 35 (29.2%). Pastries, carbonated drinks, alcohol and fruits were consumed daily by 32(26.7%), 12(10%), 13 (10.8%) and 53 (44.2%) respectively. About $1/4^{th}$ (25.8%) of the respondents patronizes food vendor while 69 (57.5%) eat cooked food from their homes.

3.3 Body Mass Index (BMI) and Waist-hip ratio (WHR) characteristics of the traders

The Body Mass Index (BMI) and Waist-hip ratio (WHR) characteristics of the traders are shown on figure 1 and 2 respectively. BMI result showed that 29.2% of the respondents were obese, (out of which 37 were female and 8 males), 26.8% of the females were overweight, 18.3% had normal body weight and 2.8% were underweight; 36.7% of the males were overweight. There was no record of underweight among the male respondents. The result of waist-Hip-ratio (WHR) on figure 2 shows that 30% of the respondents had abdominal obesity out of which 29 were females and 7 males.

IV. DISCUSSION

The respondents in this study comprised of both males and females with majority of them within the age bracket of 25-35 years. Most of the respondents in this study were married. This is in line with the statement made by Oloyiwola and Kalawole (2008) that culture and educational level of individual plays significant role in early marriage. The low income level found in this study could be attributable to the fact that most of the respondents were retailers.

Skipping of breakfast by a good number of the respondents in this study was also reported in a study carried out on Nigerian undergraduate students (Olumakaiye *et al*., 2010); this could be responsible for the heavy consumption of dinner in most of the respondents in this study (Hunt and Groff, 1990). Eating heavily at dinner could have some physiological implication particularly for individual that are inactive.

Majority of the respondents indicated consuming pastries at one time or the other. A similar finding was reported by Popkin *et al*. (2006) in a survey conducted by USDA and centers for disease control and prevention (CDC). In that study, it was reported that snacking is becoming more frequent and that the time periods between snack and regular meals are also becoming shorter over the years.

Few respondents consume carbonated drink and alcohol daily, while a good number consumes fruits daily. Consumption of carbonated drink and alcohol daily have been shown to have negative health implications (Dorn *et al*., 2003; Malik *et al*., 2010); while daily consumption of fruits, nut, and vegetables have been strongly associated with reduced risk for some form of cancer. Health disease, stroke and other chronic diseases (Prior and Cao 2000; Hyson 2002; Goldbera, 2003); also some component of fruits and vegetables known as phytochemicals are strong antioxidants and function in the modification of metabolic and detoxification/disposition of carcinogens (Wargorich, 2000).

In this study, high prevalence of overweight was found more in the males while high prevalence of obesity was more in the females. Similar observation was made by Olumakaiye *et al*. (2010). The prevalence of overweight and obesity in this study were higher than those reported in a similar study in Southwestern Nigeria where a prevalence of 20% overweight and 5% obesity were reported respectively. The prevalence of overweight in this study was however lower than the 53.3% reported in a Northern city of Nigeria (Wahab *et al*., 2011). Consumption of foods that are high in energy and fat is one of the factors responsible for high prevalence of overweight as seen in recent times (Johns, 2001).

Waist-Hip-Ratio (WHR) is used as a measurement of obesity; it has been found to be a more effective predictor for mortality in older people than waist circumference or BMI (Price *et al*., 2006). The high WHR found in some of the male (WHR>0.90cm) and in some of the females (WHR > 0.83) is an indication that some of the respondent have abdominal obesity (CDC, 2008).

V. CONCLUSION

The study revealed some form of poor eating habits among the trader; which could be responsible for the high prevalence of overweight and obesity observed in the subjects. These findings underscore the need for effective nutrition education among the traders.

VI. RESULTS

Table 1: Socio-demographic characteristics of the traders

Variables	Number (n=120)	%
Ages(years)		

25-35	46	40
36-45	34	29.3
46-55	22	18.3
56-65	16	13.4
Total	**120**	**100**
Sex		
Female	71	59.2
Male	49	40.8
Total	**120**	**100**
Marital status		
Single	35	29.1
Married	77	64.2
Divorced	8	6.7
Total	**120**	**100**
Education		
Incomplete primary	6	5
Primary	26	21.7
Incomplete secondary	9	7.5
Completed secondary	79	65.8
Tertiary education	0	0
Total	**120**	**100**
Income (Naira)		
5,000-10,000	20	16.7
11,000-15,000	46	38.3
16,000-20,000	28	23.3
21,000-25,000	9	7.5
≥26,000	17	14.2
Total	**120**	**100**
Type of trade		
Distributor	5	4.2
Whole seller	20	16.7
Retailer	95	79.2
Total	**120**	**100**

Table 2: Food habits of the Traders

Variables	**Number(n=120**	**%**
Meals usually skipped		
Breakfast	38	31.7
Lunch	29	24.2
Dinner	5	4.2
None	48	40
Total	**120**	**100**
Meal consumed heaviest		
Breakfast	12	10
Lunch	16	13.3
Dinner	92	76.7
Total	**120**	**100**
consumption of carbonated drink		
Daily	12	10
Once a week	40	33.3
Occasionally	38	31.7
None	30	25
Total	**120**	**100**
Consumption of alcoholic drink		
Daily	13	10.8
Once a week	23	19,2
Twice a week	35	29.2
None	49	40.8
Total	**120**	**100**

Consumption of pastry		
Daily	32	26.7
Once a week	27	22.5
Twice a week	48	40
Rarely	13	10.8
Total	**120**	**100**
Favorite food		
Rice and stew	35	29.2
Beans jellof	10	8.3
Fufu and soup	52	43.3
Bread and tea	1	0.8
Others	22	18.3
Total	**120**	**100**
Consumption of fruit		
Daily	53	44.2
Once a week	21	12.5
Twice a week	27	22.5
Rarely	19	15.8
Total	**120**	**100**

Fig. 1: BMI of the Traders in Umuahia Main Market

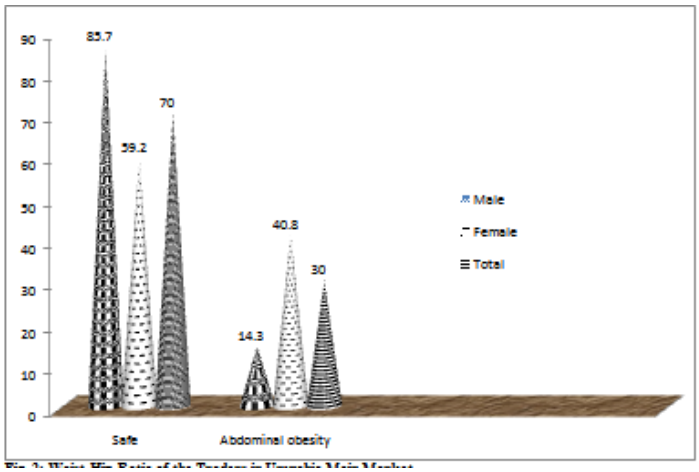

Fig. 2: Waist-Hip-Ratio of the Traders in Umuahia Main Market

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