



Risk of obesity and health, body mass index and food consumption pattern of market women in rivers state, Nigeria

Wordu GO

Department of Food Science/Technology Programme in Food Science Technology and Home Science Technology, Rivers State University Port Harcourt, Nigeria

Abstract

Overnight and obesity has been declared a global endemic and linked to nutrition malnutrition in developing countries. This study assess the nutritional status and risk of obesity among market women in Port Harcourt City, Rivers State, Nigeria. A total of 150 women were selected for the study. Data were collected using a pre-tested semi structured questionnaire from WHO step-wise approach to surveillance instrument. Anthropometric measurements (weight and Height) were conducted using standard procedures. Body mass index (BMI) were assessed and computed with WHO standard. Data were analyzed using descriptive statistics. The result shows that 45.3% of the Women were between the ages of 30-39, majority (77.3%) ate three times daily. BMI classification revealed that 25.2%, 29.2% and 41.6% were normal, overweight and obese, respectively in conclusion over weight and obesity rate were high, low physical activity and sedentary life style were observed. The result revealed that the women health were affected by overweight and obesity. There is need for nutrition education for the women, however, the women belief that overweight and obesity shows sign of wealth.

Keywords: market women, obesity, overweight, anthropometry nutritional status

Introduction

The lives of middle-class Nigerian women differ greatly from those of most western women. Since Pre-colonial days, women retained certain economic opportunities within the social system. In fact, before the middle of twenty century, Nigerian women traditionally played a more significant role in society than did western women (Afigbo, 2001) ^[1]. Traditional society in Nigeria expected women to be significant in wage earners in the family. They labored in farming, fishing, trading and commerce for instance, craft work, Cloth-marking, and pottery alongside with male counterparts. In fact, women traditional, had the right to profit from their work, although the money usually served as a contribution to the family income. This economic freedom was much different from many western societies, where women had to fight for the right to work.

However, Nigeria male do not value the economic contribution of their wife's or women. They do not regard the women's job and household work. For the most part Nigerian, men constantly take their wives for granted. Moreover, even with the economic opportunities, Nigerian women lack certain right. As a rule, women do not have, legal responsibility for their offspring, and they often abandon women, expecting them to carry the financial burden of the family.

A women's position in the society change once they marry since she becomes a possession, with relatively no rights in her husband's family (Edllyne, 2009). Food consumption pattern is the developed from an individual family background based on the knowledge of food and nutrition,

Food preferences, religious and culture etc. Food consumption patten occurs within the context of an individual belief, attitudes about foods are developed through experience and inactive cultural ideas about food and mealtime, food preferences and health benefits of foods, and health status of an individual's (HOLLOS, 2003) ^[3].

They are different factors that affect food consumption pattern which includes: Culture, Religion, Education, Socio-Economic, which are influenced by in adequate nutritional information, taboos, likes dishilos which have effect on their nutritional status. Lifestyle is a way of living, a person's typical mode of conduct or behavior is mostly determined by culture. Most market women have a busy lifestyle that influence their food consumption and nutritional status. This study therefore assessed the nutritional status of the marked women as influenced by the statures life style of market women and dietary pattern on their body mass index.

Material and Methods

Study Design

The study was cross-sectional and descriptive in design. The study was conducted in Port Harcourt city. The study populations were registered market women who can be identify, each with a shop within the market.

Study Population

This included apparently healthy women who owned shops and or stalls within the selected markets in Port Harcourt City in Rivers State, Nigeria and whose age was twenty years and above.

Sample size and sampling technique

$n = Z^2 P \frac{(100 - P)}{d^2}$ according to Yemen (1967)

Z= 1.96² Confidence level at 95% interval

P= Previous prevalence rate of women

X= 5% margin of error

$n = (1.96)^2 \times 10 \times (100 - 10) / 138.30$

Add 10% to check attrition rate = 150.00

So, 150 subjects were involved in the study.

Data Collection

Standard questionnaire was administered with the following section:

- a. Socio-economic and demographic data
- b. Physical activity level of the women
- c. Dietary profile
- d. Anthropometric measurements

Anthropometric Measurements

Weights were measured in digital weight scales to the nearest 0.01kg. subjects were weighed with light cloth on them height were measured by height meter to the nearest 0.05cm, which was calibrated by meter rule before use.

Respondents were encouraged to stretch upwards by applying gentle pressure at the mastoid processes and height

is recorded with subject taking in a deep breath for maximum measurements (Hon and Leap) body mass index was:

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

Statistical Analysis

The Data was entered into the computer for analysis using statistical package for social science (SPSS) software version 20.0. the data generated were subjected to descriptive statistics such as means, standard deviations, percentages and frequencies.

Results

Table 1 shows socio-demographic and economic characteristics of the respondents. All were female with age range between 20-60 years; 30-39-year-old respondents had the highest percentage 45.3% which above while above 50 years old had the least percentage 7.3%. majority (82.0%) of the respondents were married, 5.3% were single wile 6.7% were widowed. About 38.7% of the respondents had completed their secondary education while 18.0% had tertiary education all them were traders in mile 3 market in Port Harcourt City.

Table 1: Socio-demographic characteristic of the respondents.

Age (years)	Frequency	Percentage
20 – 29	37	24.7
30 – 39	68	45.3
40 – 50	34	22.7
Above 50	11	7.3
Total	150	100
Marital Status		
Single	8	5.3
Married	123	82
Divorced	9	6.0
Widowed	10	6.7
Total	150	100
Education Level		
No formal education	14	9.3
Primary uncompleted	2	1.3
Primary Completed	24	16.0
Secondary incomplete	25	16.7
Secondary completed	58	38.7
Tertiary education	27	18.0
Total	150	100
Occupation		
Trader	150	100
Total	150	100

Table 2 reveals that majority of the (70.5%) respondent always sit at work while almost every one of them (88.4%) sit for 3-5 hours per day while 29.5% stand at work and

85.6% stand for about 30 minutes per day. All of them walk at their place of work while 55.8% walk for 30 minute and 24.4% for 1-5 hours per day.

Table 2: Activity level/Time spent by respondents at market place.

Characteristics	Frequency	Percentage
Sitting Light /Moderate Activity		
No	44	29.5
Yes	106	70.5
Total	150	100
Hours per week		
1-2	8.0	5.6

3-5	133	88.4
75	9	6.0
Total	150	100
Studying Light/Moderate Activity		
No	106	70.5%
Yes	44	29.5%
Total	150	100
Hours Per Day		
10-30 minutes	128	85.6%
31-59 minutes	19	12.5%
1-5 hours	3	1.9%
Total		100.0
Walking at Work		
Yes	150	100
Total	150	100
Hours per day		
10-30 minutes	84	55.8
31-59 minutes	30	19.8
1-5 hours	36	24.4
Total	150	100

Table 3 a – c shows food consumption patterns of the respondents. Majority (77.3%) of the respondents eat three times a day, 13.9% eat twice a day while 5.7% eat four times a day. About 56.4% of them snack with 33.2% snack once in a week. About 99.44% does not take alcohol/tobacco. A total of 33.7% take fruit between once and thrice per week. About 32. % of them eat vegetables between once and thrice per week and 20.9% between four and five times per week 46.2% between six and seven times per week. About 96.6% do not eat meal outside the home while 1.1% eat breakfast outside the home thrice. 40.7% eat lunch five times outside the home and 2.5% eat dinner outside the home once a week.

Table 3a: Food Consumption Pattern in the Respondents.

Parameters	Frequency	Percentage
Preference for Snacking to Eating Main Meal		
Yes	17	11.3
No	133	88.7
Total	150	100
Preference for Conned to Preps Foods		
Yes	19	12.7
No	131	87.3
Total	150	100.0
Alcohol Consumption Tobacco		
Yes	9	0.6
No	149	99.4
Total	150	100
Fruit Intake Per Week		
0	2	1.1
1-3	51	33.4
4-5	30	20.4
6-7	67	44.8
Total	150	100.0
Vegetable Intake Per Week		
0	3	0.3
1-3	48	32.6
4-5	31	20.9
6-7	68	46.2
Total	150	100

Table 3b: Food Consumption Pattern of the Respondents

Parameters	Frequency	Percentage
Average meal per week eaten outside home Breakfast		
Not at all	144	96.6
Once	3	1.4
Twice	2	1.1
Total	150	100
Lunch		
Three Times	45 31	29.8
Four Times	29 11	19.9
Five Times	576 61	50.5
Total	150	100.0

Table 3c: Shows nutritional status of the respondents using Body mass index. One quarter of the respondents 925.5%) and (25.2%) where Obese! and normal respectively, 16.1% where obese 11 while 29.2% where overweight and 4.0% underweight.

Table 3c: Nutritional States of the Respondents Using Body Mass Index

Variables	Frequency	Percentage
Underweight (48.5kg/m ²)	6	4.0
Normal (18.5-24.9kg/ m ²)	38	29.2
Overweight (25.0-29.9kg/m ²)	44	29.2
Obese I (30.0 – 39.9kg/m ²)	38	25.5
Obese II (740.0kg/m ²)	24	16.1
Total	150	100

Discussion

The study investigated the nutritional status and risk of obesity and health among market women in Port Harcourt City by determine their socio-economic, demographic, anthropometric, physical and clattery intake information of the respondents. The market place is an occupational environment that can predispose individuals to overweight and obesity, mainly due to the sedentary nature and enhance access to food (Afolabi *et al*; 2004) ^[5]. This Cross-sectional study among apparently health market women shows high prevalence of obesity, similar to the study of Afolabi, *et al*; (2004) ^[5].

Their study was undertaken in Abeokuta, Ogun State, Nigeria. Obesity is an inflammatory condition, this predisposes the market women to increased risk of metabolic diseases and other chronic inflammatory diseases such as rheumatoid arthritis and some cancer, hence affect their health

Consumption of foods high in saturated fat could lead to deposited of dietary fat in the fat stores of the adipose tissues and this could increase chances of an individual getting overweight then obesity.

The women are fulltime traders whose livelihood depend on the proceeds from their sales. The implication of this is that the better part of the whole day is spent in the market place. Market activities for majority (70.5%) of the women involved sitting for up to five hours a day. Although, some of the traders reported waiting around in the market to source for customers.

The respondents showed little physical activity. Some studies by other researchers also reported that 25% to 65% of Nigerian women were physically inactive (Abubakari, *et al*; (2008) and Ekpenyong, *et al*; (2012)^[7].

The increase in BMI, Snacking and sedentary lifestyle all play significant roles in the development of obesity seen in the study population.

In conclusion, the rate of overweight and obesity were high, low physical activity and sedentary lifestyles were observed among the respondents, which are risk factors for chronic non-communicable diseases to the health.

References

1. Afigbo AE. Women as a factor in development in M.O. Ijere (ed) women in Nigerian Economy Enugu Acena Publications, 2001.
2. Edlyne EA. Women education and work in Nigeria. Educational Research and Review. 2009; 4(4):124-134.
3. Hollos M. The status of Women in Southern Nigeria: is education a help or hindrance? In M. Bloch; J. A. Beokube His and B. R. Tabgchnick (Eds) women and education in sub-saharan Africa: Power opportunity and constraints. Boulds, Colorado; Lynne Reiner Publication. Yomen, 2003.
4. Hon TS, Leon MEJ. Anthropometric indices of Obesity and Regional distribution of fat deposit. Informational Text hood of obesity. John Wiley and sons. Ltd, 2001.
5. Afolabi WAO, Addo AA, Sonibare MA. Activities Pattern, Energy, intake and Obesity among Nigerian urban market Women. Informational Journal of Food Science and Nutrition. 2004; 55(2):85-90.
6. Abubakar AR, Lauder W, Agyemang C, Jones M, Krilk A, Bhopal RS, *et al*. Prevalence and time trends in Obesity among adult West African Populations; A meta-analysis. Obesity Review. 2008; 9(4):207-311.
7. Ekpenyong CE, Udokong NE, Akpan EF, Samson TK. Double burden, Non-Communicable diseases and risk factors evaluation in sub-sahara Africa: The Nigerian Experience. European Journal of sustainable Development. EJSD. 2012; 1(2):249-270.