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The prevalence of overweight and obesity among nursing mothers in sub-urban setting areas in Rivers State, Nigeria

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Abstract
Obesity has been implicated as one of the major causes of non-communicable chronic diseases. This study assessed the nutritional status and risk of obesity among nursing mothers in sub-urban settings in Rivers State. A total of 280 nursing mothers were sampled. Data were collected using a pre-tested semi-structured questionnaires, anthropometric measurements (weight and height) were conducted using standard procedures. Body Mass Index (BMI were calculated and compared with WHO standard. Data were analyzed using descriptive statistics. The result shows that 37.14% of the respondents were between 20 - 30 years, while 27.7% were between 31 - 40 years. About 71.43% engaged in snacking and 37.86% never engaged in physical activities. BMI classification revealed that 28.60% 23.67% and 42.80% were normal, overweight and obese respectively. In conclusion, overweight and obesity rate were high, low physical activity level and sedentary lifestyles were observed. There is need for nutrition education.

Keywords: Obesity, overweight, nursing mothers, Nigeria and prevalence

Introduction

The problems of over-nutrition are increasing even in countries where hunger is endemic. In urban areas, the problem is because of the changing in lifestyle and food habits. Consumption of more calories than expended leads to overweight and obesity. Westernization and urbanization are among the main reasons for this energy imbalance in Africa (Benkeser, *et al.*, 2012) [6]. Urbanization and westernization lead to decreased physical activity, increased food supply, which include access to high caloric fast foods and sugar sweetened beverages (fattening foods) (Duda, *et al.*, 2007) [7]. The ongoing nutritional transition in Africa is likely to pose a major public health challenge with a significant proportion of adults becoming overweight, whilst large segments of the population still face risk of morbidity and mortality related to under-nutrition (FAO, 2006).

Obesity have contributed to the increasing prevalence of non- communicable diseases like hypertension, stroke and cancers along the spectrum of life (WHO, 2011). Of particular concern is the increasing rate of overweight and obesity especially among women of all rank and classes including nursing mothers (Amugsi, *et al.*, 2017) [4]. A nursing mother's employment, marital status and level of education influence the overall household income. This goes on to affect affordability, gain of physical assets and provision of household nutrition especially if she has greater control over the income. Also, if affordability means purchase and consumption of energy-dense foods (loss-quality), without sufficient energy expenditure overtime then she is likely to gain weight especially if she is biologically predisposed.

A recent review indicates that the prevalence of overweight and obesity among urban women in Africa between 2010 and 2014 exceeded 20% and 10% respectively (Amugsi, *et al.*, 2017) [4]. In Nigeria, the prevalence of overweight and obesity are on increase. Bakari and Onyemelukwe, (2007), in their study in Northern Nigeria reported obesity rate of 11.2% for males and 22% for females. Wordu, (2020) [13] in the study of market women in Port Harcourt report 46% rate of obesity. Although, the growing number of obese individuals has received attention in many developing countries, sub-Sahara Africa is still lacking research into this subject partially due to the persisting high proportion of the population classified as underweight (Kandala and Stranges, 2014) [11]. The aim of this study therefore, was to examine the prevalence of overweight and obesity in nursing mothers in a sub-urban sitting in Rivers State, using Obio-Akpor Local Government Area.

Materials and Methods

Area of Study

The study was carried out in Obio/Akpor Local Government Area (sub-urban area near Port Harcourt City), a major center of economic activities in Nigeria. The local government area covers 260 square kilometers. The Obio /Akpor is part of Ikwerre ethnic nationality in Rivers State, Nigeria.

Sampling Procedure

The study was conducted among nursing mothers in Obio/ Akpor Local Government Area, who are between the ages of 20 - 50 years from health centers, using a random cluster sampling techniques. Seven health centers were selected from the list of available health centers in the local government area. Forty (40) mothers from each health center were randomly selected. Making a total of 280 prospective participants. Nursing mothers were selected by simple random sample.

Data Collection

The pretested questionnaire was interviewer-administered. It was used to obtain information socio-demographic the characteristics, health history and anthropometric (weight and height) measurement. Participants stood and dressed in light clothing without shoes for the anthropometric measurements. calibrated stadiometer was used to obtain the

weight and height according to Jellife (1966) [10] method. Weight was measured to the nearest 0.1kg and height was measured to the nearest 0.5 cm. The scale was calibrated each time for each participant.

Data Analysis

Data was entered on Excel Spreadsheets and exported to SPSS version 17 and analysed using descriptive statistics: frequencies and percentages. The anthropometric variables: weight and height measures were used to calculate the body mass index according to WHO (1997) classification.

Results

Table 1 show that personal data of the subjects. About (37.14%) of the subjects fell within the age range of 20 - 30 years, (20.0%) within 31 - 35 years, (17.86%) within 36- 40 years. However, (78.57%) of the subjects were married. More than half (60.71%) had secondary education and majority (78.57%) of them were Christians. About half (25%) of them were petty traders, while (14.29%) were civil servants.

Table l: The Socio-Economic Status of the Subjects

Variables	Frequency	Percentage (%)
Age:		
20 – 25	44	15.71
26 – 30	60	21.43
31 – 35	56	20.00
36-40	50	17.86
41-45	44	15.71
45-50	26	9.29
Total	280	100
Educational Status:		
Elementary Education	30	10.71
Secondary Education	170	60.71
Tertiary Education	80	28.57
Total	280	100
Marital Status:		
Single	10	3.57
Married	220	78.57
Widow	10	3.57
Separated/ Divorced	40	14.29
Total	280	100
Religion:		
Christian	220	78.57
Moslem	40	14.29
Traditional	6	2.14
Others	14	5.00
Total	280	100
Occupation:		
Petty Traders	70	25.00
Artisan	70	25.00
Civil Servant	40	14.29
Business Women	100	35.71
Total	280	100

Table 2 shows the food consumption pattern of the respondents. Majority (71.43%) of the respondents enjoy snacks while (28.57%) do not consume snacks. Majority of the participants (71.43%) enjoy soft drinks, while (45%) drink soft drinks daily. In addition, (67.86%) of the participants consume alcohol, while on daily basis, (13.2%) consume alcoholic products. On the basis of vitamin / mineral supplement consumption, about (46.43%) take supplementation.

Table 2: Food Consumption pattern of the Respondents

Variables	Frequency	Percentage (%)
Snacks Consumption?		
Yes	200	71.43
No	80	28.57
Total	280	100
Frequency of Snacks		
Consumption		
Everyday	65	32.5
Once per week	35	17.5
2 - 3 times per week	70	35.0
4 - 5 times per week	30	15.0
Total	200	100
Vitamin / Mineral		
Supplementation		

Consumption?		
Yes	130	46.43
No	150	53.37
Total	280	100
Frequency of Vitamin /		
Mineral Supplement		
Consumption		
Everyday	35	26.9
Once per week	35	26.9
2 - 3 times per week	60	46.2
Total	280	100
Soft Drink		
Consumption?		
Yes	200	71.43
No	80	28.57
Total	280	100
Frequency of Soft		
Drinks Consumption?		
Everyday	90	45
Once per week	20	10
2 - 3 times per week	50	25
2 - 3 times per month	40	20
Total	200	100
Alcohol Consumption?		
Yes	190	67.86
No	90	32.14
Total	280	100
Frequency of Alcohol		
Consumption		
Everyday	25	13.2
Once per week	40	21.0
2 - 3 times per week	75	39.5
4 - 5 times per week	50	26.3
Total	190	100
Frequency of Food		
Consumption		
2 times per day	40	14.29
3 times per day	240	85.71
Total	280	100

Table 3 shows the health care characteristics of the respondents. Some (35.70%) reported no illness while (14.30%) had high blood pressure and (8.93%) indicates diabetes. On the place they received medical treatment on sickness, about (50%) have reported local chemist/pharmacist, seconded by traditional medicine (27.8%)

Table 3: Health Care Characteristics of the Respondents

Variables	Frequency	Percentage (%)
Type of illness		
presently having:		
Chest pain	55	19.64
Diabetes	25	8.93
High blood pressure	40	14.30
Arthritis	60	21.43
No illness	100	35.70
Total	280	100
Place of receiving		
treatment when sick:		
Hospital	30	16.7
Traditional medicine	50	27.8
Pharmacist/ Chemist	90	50.0
store		
None	10	5.5
Total	180	100

Table 4 shows the pattern of exercise performed by the respondents. Majority (66.07%) of them never performed any form of exercise, while (33.93%) did some form of exercise. On the type of physical exercise they were engaged, walking was the highest mentioned (52.6%), followed by push up (15.8%) and gymnastics (10.5%).

Table 4: Exercise pattern of the Respondents

Variables	Frequency	Percentage (%)
Engagement in		
Physical Exercise?		
Yes	95	33.93
No	185	66.07
Total	280	100
Type of Physical		
Exercise engaged by		
Nursing Mothers:		
Jogging	15	15.8
Running	5	5.3
Push – up	15	15.8
Gymnastics	10	10.5
Walking	50	52.6
Total	95	100

Table 5 shows the anthropometric measurements of the respondent using Body Mass Index (BMI). The table shows

their nutritional status based on the Body Mass Index (BMI). Based on the table, (23.6%) were overweight and (32.1%) were obese I and (10.70%) were obese II and only (5.00%) were underweight.

Table 5: Nutritional status of the respondents using Body Mass Index (BMI)

Variables	Frequency	Percentage (%)
Underweight (below 18.5kg/m^2)	14	5.00
Normal (18.5 - 24.9kgm^2)	80	28.6
Overweight (25.0 - 29.9kg/m^2)	66	23.6
Obesity I (30.0- 39.9kg/m^2)	90	32.1
Obesity II (>40kg/m^2)	30	10.70
Total	280	100

Discussion

The study sought to access nutritional status and risk of obesity among nursing mothers in a sub-urban setting in Rivers State, Nigeria by determining socio-economic, anthropometric, physical activities and health profile of respondents. Nursing mothers are in a sedentary situation that can predispose individuals to obesity, due to the sedentary nature and enhanced access (Omugwo - Ibo language) to food (Afolabi *et al,* 2004) [2]. This cross-sectional study among apparently healthy nursing mothers shows the prevalence of obesity (BMI ≥ 30kg/m^2) to be 32.1% which was similar to the study of Afolabi *et al.,* 2004 [2], which revealed a high prevalence of obesity among market women in Abeokuta, Ogun State, Nigeria. Obesity is considered a major risk factor for Type 2 diabetes mellitus and hypertension as reported by Amoah, (2003) [3]. Obesity is an inflammatory condition; thus predisposes the nursing mothers to increased risk of metabolic syndrome and other chronic inflammatory diseases such as arthritis, heart disease, hypertension and diabetes. Consumption of snacks, high in saturated fat could lead to deposition of dietary fat in the adipose tissue, and thus increase the chances of an individual getting overweight or obese. In addition, the belief among nursing mothers that overweight and obesity implies wealth and richness among the families. Nursing mother activities involved sitting for nearly the whole day, eating and sleeping in many cultures in Rivers State, Nigeria (called fattening room). Although, some of the respondents reported walking around the house to clean their houses. In a report by Rogers *et al.,* (2008) [12], in the North West Province South Africa where they investigated the association between measures and determinants of obesity in African woman found that physical inactivity showed the strongest association with measures of obesity in their study. Numerous studies reported that 25 - 65% of Nigerians were physical inactive, (Abubakari, *et al.,* 2008; Ekpenyong, *et al.,* 2012) [1].

The increased BMI, snacking and sedentary lifestyle, all play significant role in the development of obesity seen in the study population.

In conclusion, the rate of overweight and obesity were high, low physical activity level and sedentary lifestyles were observed among respondents, and the snacking of the respondents showed excess consumption of calories. The lifestyle of the respondents are risk factors for chronic non-communicable disease.

There is the need for nutrition education programmes to sensitize the nursing mothers on appropriate dietary and healthy lifestyles based on the findings in this study. In addition, government at all levels, and non-governmental organization should create nutrition and health promotion programmes aimed at conducting periodic medical check-up among the nursing mothers, this would help, in early detection of risk factors for obesity, and other non-communicable chronic diseases.

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