# SOCIO-DEMOGRAPHIC CHARACTERISTICS AND NUTRITIONAL STATUS OF MARKET WOMEN IN ILARO, OGUN STATE.

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**ABSTRACT**

Alarm has been raised that the global prevalence of obesity is on the rise. It is therefore very important to assess the socio-demographic characteristics and nutritional status of market women in Ilaro, Ogun State. A total number of two hundred (200) market women were selected in Sayedero, Library, Igbo-Aje, Ikosi, Sabo and Orita market were randomly selected in Ilaro, Yewa south LGA of Ogun state. A semi-structured and interviewer administered questionnaire were used to obtain data from respondents. Descriptive (mean, standard deviation, frequency and percentage) and inferential (chi-square was used to determine associations) were used to summarize date. Data collected were analyzed using as SPSS version 20. Socio-demographic characteristics results showed that, majority (40.0%) of the respondents were between the ages of 31-40 years, (36.0%) were between 21-30 years, (17.0%) between 41-50 years, (5.5%) above 50 years, and (1.5%) less than 20 years. Also, almost all (81.0%) were Yoruba, (11.0%) Igbo, (1.5%) Hausa and (6.0%) other ethnic groups. In regard to the income (56.5%) earned between #5,000 - #20,000 daily, (26.5%) earned between #21,000 - #35,000 daily, (9.0%) earned between #36,000 - #50,000 daily and (7.5%) earned #50,000 and above daily. In regard to the business, (30.5%) engaged in foodstuff business, (25.0%) engaged in provision business, (19.5%) engaged in other business, (17.5%) engaged in boutique business and (7.0%) engaged in cosmetics business. Also Body Mass Index (BMI) results indicated that (1.5%) underweight, (37.5%) normal weight, (40.0%)over weight and(21.0%)obese. Significant association ($p<0.05$) exits between BMI and number of children, BMI and family type. It could be concluded that overweight and obesity is on the high side among market women in Ilaro.

Keywords: overweight, obesity, malnutrition, market women, BMI.

## INTRODUCTION

Obesity is a consequence of energy imbalance, where energy intake exceeds energy expenditure over a considerable period of time, there are actually many different genetic, physiological, social, environmental and behavioral factors that interact to affect individual's susceptibility to weight gain (WHO, 2000). High-fat, energy dense diet and sedentary lifestyle have been shown to be strongly and positively associated with obesity (Popkin *et al*., 1995; Prentice *et al.,* 1995).
Obesity is a growing concern because it imposes serious health and economic costs on both the individual and the society. Defined by the WHO as "the disease in which excess body fat has accumulated to such an extent that health may be adversely affected", obesity is a key factor of cardiovascular disorders, and certain types of cancers (Must *et al*., 1999; WHO, 2000).These conditions cause premature death and substantial disability (Fontaine *et al*., 2003; Flegal*et al*., 2005).

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have an adverse effect on health leading to reduced life expectancy and or increased health problems. It also occurs when body mass index equal or greater than 30kg/m$^2$ (WHO, 2005). The cause of obesity is said to be multifactorial with a combination of genetic and environmental factor (Orzano*et al*., 2000). Most market women in urban areas are ignorant of their sedentary life style. They sit in their shops, consume main and in-between meals that are rich in fat and sugar. World Health Organization discovered that there is a global shift in diet towards increased intake of energy dense foods that are high in fat and sugar but low in vitamins, minerals and other micronutrients (WHO, 2005).Women constitute the greatest percentage of traders found in various markets where they stay from dawn to dusk. Their dietary habits may lead to poor and even dangerous lifestyle. Activities in the market may influence lifestyle or determine the lifestyle which may eventually affect their nutritional status. It is also an occupational environment that can predispose individuals to obesity due to the sedentary nature and enhanced access to food (Afolabi*et al*., 2004). Market women spend most hours of the day sitting down and involve in many other sedentary activities and consume diets with mean daily energy intake higher than recommended levels (Afolabi *et al*., 2004)..

Obesity and overweight have become a global epidemic problem. According to World Health Organization (WHO) Overweight and obesity are the fifth leading risk of deaths, resulting in around 2.8 million deaths of adults globally every year. In 2008, 35% of adults aged 20 years and above were overweight (BMI > 25kg/$m^2$), in 2008 10% of men and 14% of women in the world were obese (BMI >30kg/$m^2$) compared with 5% of men and 8% of women in 1980. It was projected that more than 700 million adults worldwide will be obese by 2015 (WHO, 2011).A study of traders across various parts of Nigeria revealed prevalence of obesity to be 16.3% in Ibadan (Balogun *et al*., 2007), 12.3% in Lagos (Odugbemi*et al*., 2012) and 28.1% in Sokoto (Awosan*et al*., 2014).

This study is therefore necessary to assess the nutritional status and dietary habits of these groups to know if they are at risk of obesity. However, there is no information or study on market women in this area, hence a need for this study in this area. This work would further contribute to knowledge by providing information about market women in this area which could serve as a reference for any form or intervention program either by the government of non-governmental organization.

**Materials and Methods**

**Study Area**

This study was carried out at the following market Sayedero, Igbo Aje, Orita, Ikosi, Library, and Sabo market in Ilaro, Yewa South, Ogun State, Nigeria. Ilaro is a town in Ogun state, Nigeria. Ilaro is the headquarters of Yewa south local government, now known as YEWALAND which replaced the Egbado division of the former western state, and later became part of Ogun state of Nigeria, West Africa till this day.

**Study design:** This is a cross-sectional and descriptive study that involved market women in selected markets in Ilaro town.

**Sample size**

**Determination of Sample Size**

A total of two hundred (200) market women were randomly selected and contacted for the study.

**Sampling Procedure**

Multi-stage sampling was used in selecting the market women.

**Method of Data Collection**

A validated structured questionnaire was administered to the market women and it has four sections. They include;

Section A: Socio demographics (Age, sex, ethnic group, religion, family type, number of children) and socio economic (Monthly income) characteristics of respondents.

Section B: Anthropometry measurements involved weight, height, BMI (kg/$m^2$). Body weight was measured using a bathroom scales (Saca), with the person wearing light cloths and no shoes. Body weight was expressed in kilograms. The bathroom scales were calibrated before and during the study. Height/size was measured using height guage with the subject standing barefoot. Height was expressed in meters. BMI, which corresponds to the person's weight divided by the square of the person's height (kg/$m^2$), was used to define underweight (BMI <18.5kg/$m^2$), normal weight , (BMI ≥18.5 and <25.0kg/$m^2$), overweight (BMI ≥25.0 and <30.0kg/$m^2$) and obesity (BM ≥ 30.0kg/$m^2$) according to WHO recommendation. The frequency of dietary intake of respondents was also gotten.

**Data analysis**

Data collected were analyzed using the Statistical Package for Social Sciences (SPSS) version 20. Data from questionnaire were represented using descriptive statistics (Frequency, percentages, mean values and standard deviation). Chi-square was used to establish association between socio-economic status and Body Mass Index (BMI).Statistical significance was set at $p<0.05$.

**RESULTS**

Table 1 below shows the socio-demographic and socio-economic characteristics of the respondent. Majority of the respondents (40.0%) were between the ages of 31-40 years, some of the respondent (36.0%) were between 21-30 years, (17.0%) were between 41-50 years, (5.5%) were above 50 years, while few (1.5%) of the respondents were less than 20 years. Nearly allthe respondents (81.0%) were Yoruba, (11.0%) were Igbo, (1.5%) were Hausa and (6.0%) belongs to other et hnic group. More than half of (62.0%) were Christian and (38.0%) were Muslim. Majority (83.5%) of the respondents were married, (11.5%) were single, (3.5%) were divorced. In regard to the income (56.5%) earned between #5,000 - #20,000 daily, (26.5%) earned between #21,000 - #35,000 daily, (9.0%) earned between #36,000 - #50,000 daily and (7.5%) earned #50,000 and above daily. Majority (28.0%) had two children, (23.5%) had three, (22.5%) had more than four and (16.0%) had one.

In regard to the business, (30.5%) engaged in foodstuff business, (25.0%) engaged in provision business, (19.5%) engaged in other business, (17.5%) engaged in boutique business and (7.0%) engaged in cosmetics business.

**TABLE 1: Socio-Demographic and Socio-Economic Characteristics of the Respondent**

| Variable | Frequency | Percentage |
|---|---|---|
| **Age** | | |
| Less than 20 years | 3.0 | 1.5 |
| 21 – 30 years | 72.0 | 36.0 |
| 31 – 40 years | 80.0 | 40.0 |
| 41 – 50 years | 34.0 | 17.0 |
| Above 50 years | 11.0 | 5.5 |
| **Ethnic group** | | |
| Yoruba | 162.0 | 81.0 |
| Igbo | 22.0 | 11.0 |
| Hausa | 15.0 | 7.5 |
| **Marital Status** | | |
| Married | 167.0 | 83.5 |
| Single | 23.0 | 11.5 |
| Divorce | 10.0 | 4.5 |
| **Religion** | | |
| Christianity | 124.0 | 62.0 |
| Islam | 76.0 | 38.0 |
| **Income** | | |
| #5,000 - #20,000 | 113.0 | 56.5 |
| #21,000 - #35,000 | 53.0 | 26.5 |
| #36,000 - #50,000 | 18.0 | 9.0 |
| >#50,000 | 15.0 | 7.5 |
| **Number of Children** | | |
| One | 32.0 | 16.0 |
| Two | 56.0 | 28.0 |
| Three | 47.0 | 23.5 |
| >Four | 45.0 | 22.5 |
| **Kind of business** | | |
| Provision | 50.0 | 25.0 |
| Foodstuff | 61.0 | 30.5 |
| Cosmetics | 14.0 | 7.0 |
| Boutique | 35.0 | 17.5 |
| Others | 39.0 | 19.5 |

**Nutritional status of the respondents**

The table 2 shows the nutritional status of the respondents. Majority (37.5%) of the respondents had a normal weight, (40.0%) of the respondents were overweight, (21.0%) were obese and (1.5%) were underweight.

**Table 2: Nutritional Status of the Respondents**

| Variable | Frequency | Percent |
|---|---|---|
| Underweight | 3 | 1.5 |
| Normal | 75 | 37.5 |
| Overweight | 80 | 40.0 |
| Obese | 42 | 21.0 |

**Association between socio-demographic characteristics and nutritional status of the respondents**

The table 3 below shows the association between socio-demographic characteristics and the nutritional status of the respondents. It reveals that there is a significant association at ($p<0.05$) between nutritional status and socio- demographic characteristics (number of children and family type). While there are no significant association with other variables.

**TABLE 3: Association between socio-demographic characteristics and nutritional status of respondents**

| Variable | Nutritional status | | | | | |
|---|---|---|---|---|---|---|
| | Underweight | Normal | Overweight | Obese | $X^2$ | P-Value |
| | f (%) | f (%) | f (%) | f (%) | f (%) | |
| **Sex** | | | | | | |
| Female | 3(100) | 80(100) | 75(100) | 42(100) | | |
| **Age** | | | | | | |
| Less than 20 | 0(0.00) | 2(2.50) | 0(0.00) | 1(2.40) | 16.053 | 0.189 |
| 21-30 | 1(33.30) | 31(38.80) | 32(42.70) | 8(19.00) | | |
| 31-40 | 1(33.30) | 32(40.00) | 30(40.00) | 17(40.50) | | |
| 41-50 | 1(33.30) | 12(15.00) | 11(14.70) | 10(23.80) | | |
| **Religion** | | | | | | |
| Christianity | 2(66.70) | 46(57.50) | 51(68.00) | 25(59.50) | 1.971 | 0.500 |
| Islam | 1(33.30) | 34(42.50) | 24(32.00) | 17(40.50) | | |
| **Ethnic group** | | | | | | |
| Yoruba | 3(100.0) | 70(87.50) | 60(80.00) | 29(69.00) | 9.261 | 0.410 |
| Igbo | 0(0.00) | 8(10.00) | 8(10.70) | 7(16.70) | | |
| Hausa | 0(0.00) | 1(1.30) | 1(1.30) | 1(2.40) | | |
| Other | 0(0.00) | 1(1.30) | 6(8.00) | 5(11.90) | | |
| **Marital status** | | | | | | |
| Married | 2(66.70) | 65(81.30) | 63(84.00) | 37(88.10) | 13.308 | 0.149 |
| Single | 1(33.30) | 13(16.30) | 8(10.70) | 1(2.40) | | |
| Divorce | 0(0.00) | 1(1.30) | 2(2.70) | 4(9.50) | | |
| Others | 0(0.00) | 1(1.30) | 2(2.70) | 0(0.00) | | |

"Statistically significant ($p<0.05$)"

**TABLE 3: Association between Socio-Demographic Characteristics and Nutritional Status of Respondents (Cont'd)**

| Variable | Nutritional status | | | | | |
|---|---|---|---|---|---|---|
| | Underweight | Normal | Overweight | Obese | $X^2$ | P-Value |
| | f (%) | f (%) | f (%) | f (%) | f (%) | |
| **Monthly Income** | | | | | | |
| #5000- # 20000 | 3(100.0) | 40(50.60) | 49(65.30) | 21(50.00) | 14.862 | 0.095 |
| #21000-#35000 | 0 (0.00) | 27(34.20) | 17(22.70) | 9(21.40) | | |
| #36000-#50000 | 0(0.00) | 9(11.40) | 4(5.30) | 5(11.90) | | |
| >#50000 | 0(0.00) | 3(3.80) | 5(6.70) | 7(16.70) | | |
| **Number of children** | | | | | | |
| One | 0(0.00) | 14(19.40) | 13(18.30) | 5(12.20) | 21.873 | 0.039* |
| Two | 1(33.30) | 21(29.20) | 24(33.80) | 10(24.40) | | |
| Three | 0(0.00) | 23(31.90) | 17(23.90) | 8(19.50) | | |
| >Four | 1(33.30) | 11(15.30) | 16(22.50) | 17(41.50) | | |
| Five | 1(33.30) | 3(4.20) | 1(1.40) | 1(2.40) | | |
| **Family type** | | | | | | |
| Monogamy | 2(66.70) | 53(69.70) | 52(72.20) | 26(63.40) | 37.563 | 0.000* |
| Polygamy | 0(0.00) | 19(25.00) | 17(23.60) | 15(36.60) | | |
| Others | 1(33.30) | 1(1.30) | 0(0.00) | 0(0.00) | | |
| **Business type** | | | | | | |
| Provision | 0(0.00) | 23(29.10) | 20(26.70) | 7(16.70) | 7.440 | 0.827 |
| Food stuff | 2(66.70) | 24(30.40) | 23(30.70) | 12(28.60) | | |
| Cosmetics | 0(0.00) | 5(6.30) | 4(5.30) | 5(11.90) | | |
| Boutique | 0(0.00) | 12(15.20) | 14(18.70) | 9(21.40) | | |
| Others | 1(33.30) | 15(19.00) | 14(18.70) | 9(21.40) | | |

"Statistically significant ($p<0.05$)"

**DISCUSSION**

This study assessed the socio-demographic and nutritional status of market women in Ilaro. The result in this study revealed that majority (40.0%) of the respondents were overweight while (21.0%) were obese. This result is similar to a study carried out in Nigeria which reflected that (20.4% and 31.3%) overweight and (12.3% and 48.0%) obese (Oladoyinbo*et al.,* 2015). It could be inferred that market women in this location are at risk of obesity since the percentage of overweight is high. The respondents also accounted for 1.5% underweight. This results is also similar to the study conducted in Sokoto State and Ondo State amongst market women which showed that (1.7%) and (1.0%) were overweight. (Awosan*et al.,* 2014; Folahan*et al.,* 2015).

Women within age category (31-40 years) had the highest incidence of overweight (40%) and obesity (40.5%). This could be attributed to the level of sedentary lifestyle by market women. This study relates to the study of (Abdulai, 2010) and doubles the Nigeria National Survey which showed that 11% of woman were underweight and 25% were obese (NPC, 2013).

There was a strong association between socio-demographic characteristics and the nutritional status of the respondents. It reveals that there is a significant association at ($p<0.05$) between nutritional status and number of children, nutritional status and family type. While there is no significant association with other variables.

The rate of obesity reported in this study was lower than 69% reported among a group of market women in Abeokuta (Mebude, 2010), but higher than 16.3% reported among female traders in Ibadan (Balogun *et al.,* 2007). The differences in the rate may be related to differences in genetic makeup and socio economic status of the three different groups of market women. The high prevalence of overweight and obesity among market women could be attributed to cultural norms in Africa where being fat is associated with affluence, beauty and healthy living (Okafor *et al.,* 2015).

Based on the result, the anthropometric assessments showed that most of the market women were overweight and obese (37.5% and 21% respectively). This result agreed to the findings of (Abubakari*et al*., 2008) and (Wolfe, 2010) which reported high prevalence of overweight and obesity in their studies (10% and 21% respectively). The prevalence of overweight and obesity among market women may be as a result of high fatty street food, sugar and starchy food from vendors, which is contributing to increasing prevalence of obesity and overweight. This result agreed with the work of (Popkin, 2012) who reported that most of the market women sit in their shops and eat food that are high in calorie diet. This study agree with the review that dealt with the possible predisposing factors of overweight and obesity and these include sedentary lifestyle, age above 40 years and a high energy diet (Amira *et al*., 2011, Oyeyemi *et al*., 2012, Adedoyin *et al*., 2009, Desalu*et al*., 2008). This review indicated that the prevalence of overweight and obesity among market women in Nigeria is on the rise. There is a need for the relevant agencies involved in health management in the country to pay more attention to combating this menace.

**CONCLUSSION**

In Nigeria, women are usually responsible for producing and preparing food for the household, so their knowledge of good nutrition or lack of it can affect the health and nutritional status of the entire family. Studies from Nigeria have revealed a high prevalence of both under nutrition and over nutrition, as well as nutrients deficiencies including; iron, folate, vitamin D and vitamin A among women (Berti*et al*., 2016).

Obesity result from over-nutrition, low physical activity, change of dietary habit. Exercise can help a patient reach a target weight. Dietary control may be more effective for the treatment of obesity. Also, it was noted that obesity could be as a result of poverty, genetics and lack of credible information about obesity. Nutrition education should be emphasized through community healthcare and all other possible opportunities should be utilized more effectively to increase awareness of healthy nutrition amongst market women to improve their feeding habit and practice. This would reduce malnutrition and other related disease such as hypertension, diabetes mellitus etc. Green leafy vegetables and fresh fruits should be included in the diet. There should be sustainable and health promoting food systems, elevation of nutrition in the national development agenda, improved accessibility, quality and implementation of nutrition services across public health programs and settings. To manage obesity, restricting food intake and engaging in physical fitness are necessary. Government should promote nutrition education through media such as television, radio, articles and paper, this would aid proper nutrition education.

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