

INCIDENCE OF OBESITY IN OKRIKA

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ABSTRACT

There is paucity of knowledge and awareness on the incidence of obesity in the country. The incidence of obesity study was carried out in Riverine area of Rivers State, Okrika as a case study. The aim of this study was to evaluate the incidence of obesity in Okrika. The study revealed that 50.0% of the female and 45.5% of the male were obese respectively. Body mass index of 52 participants, 42.3% were males and 57.7% were females with ages between 22 to 60 years. The study shows that BMI (kg/m^2) were: Mean \pm SD = 28.58 \pm 8.58; Minimum (Min)= 16.22; Maximum (Max) = 44.15 for males(N =22) and Mean \pm SD = 28.82 \pm 6.71; Min =18.37 and Max= 44.06 for females (N =30). Total participants (N =52), Mean \pm SD =28.72 \pm 7.48; Min = 16.22; and Max= 44.15. Also, the height(m^2) were: Mean \pm SD =1.63 \pm 0.07; Min = 1.49; Max =1.72 for males, while Mean \pm SD = 1.60 \pm 0.08; Min = 1.41; and Max= 1.78 for females. Total participants: Mean \pm SD = 1.62 \pm 0.08; Min = 1.41 and Max = 1.78. However, total participants' weight (kg) were: Mean \pm SD = 74.44 \pm 18.08; Min = 46.00; and Max = 112.00. For male's participants, Mean \pm SD = 75.41 \pm 20.01; Min = 46.00; Max = 112.00 and for females participant, Mean \pm SD = 73.73 \pm 16.84; Min = 46.00 and Max = 110.00.

KEYWORDS: Incidence, Obesity, Okrika.

INTRODUCTION

The incidence of obesity is increasing and becoming apprehensive and fear in developed, developing and under developed countries across the globe. Due to Westernization, the incidence of obesity and overweight set to be increasing amongst wealthy people of less developed nations. Obesity means deposition of excess fat in the body (Guyton and Hall, 1996). Obesity is the most common nutritional disorder in Britain (Tylor et al, 1997). A person is described as obese if they weigh at least 20% more than the average for someone of their height and overall frame size. Obesity is caused when energy input as a result of eating, is greater than energy used and extra fat, carbohydrate, protein or alcohol can be converted into body fat (Tylor et al, 1997). The amount of food needed to produce obesity may be relatively small and over time regular small excesses accumulate and cause obesity Apart from quantity of food, the nature of the food may also be a factor (Tylor et al, 1997).

The World Health Organization (WHO) also acknowledges that obesity (body mass index $> 30\text{kg}/\text{m}^2$)

is a world-wide problem which also affects many developing countries {Kumar & Clark, 2005}. Obesity can create emotional problems and life expectancy is reduce as a result of obesity (Tylor et al, 1997).

Obesity could be understood as an accumulation of excessive fat overtime, thus constituting severe health problems (Niehues et al. 2014; Rossouw et al. 2012). Overweight and obesity are significantly associated with health problems such as breast cancer, asthma, diabetes mellitus, hypertension, coronary artery disease, attention deficit, hyperactivity disorder and occupational injuries (He et al. 2014).

Factors that contribute to the development of obesity includes: occupations like cooks, barmen, sales executives, directors of companies and those whose jobs are mainly sedentary are predispose to obesity, obesity runs in families and genetics factors are also important, psychological factors such as women who are anxious or depressed tend to over eat, endocrine and metabolic factors, age – obesity is common in middle-life although it can occur at any age, physical inactivity, pregnancy,

drugs such as oral contraceptives, steroids, insulin and phenothiazines stimulate appetite (Falase and Akinkugbe, 2007).

Obesity can be classified according to body mass index (BMI in kg/m^2), in males – 20 to 25, females – 18 – 23 (normal); Overweight BMI is between 25 – 30; Underweight in males BMI below 18 and females BMI below 16 and obesity is occur when BMI is more than 30 (Alagappan, 2011). Obesity can also be grade as follows: Grade 1: BMI is between 25 – 30 (overweight); Grade 11: BMI is between 30 – 40 (obese) and Grade 111: BMI is more than 40 (gross obesity), (Alagappan, 2011).

Obesity can manifest clinically as: hyperlipidaemia, hyperuricaemia, hypertension, amenorrhoea and other menstrual abnormalities (Falase and Akinkugbe, 2007), and with the following complications: Insulin resistance, Atherosclerosis, Coronary artery disease, Gallstones, Diabetes mellitus type -2, Hypertension (Alagappan, 2011).

In 2008, more than 1.4 billion adults (20 years and above) were overweight, and of these over 200 million men and nearly 300 million women were obese (WHO, 1995). Previous study shows that, the rates of overweight and obesity females and males were 20.3% and 12.5%,

respectively, and were higher in females than in males (Adedoyin *et al*, 2009).

MATERIALS AND METHOD

The weighing scale (ranges from 0 to 120kg), the brand is Bathroom scale max, manufacture in France, wooden measuring tape, and chalk were used. 52 participants (22 males and 30 females) with ages ranging between 22 – 60 years in both sexes. The participants weight was measured using a weighing scale. Participants removed their shoes, sandals, slippers, and mount the scale, one after the other and readings were recorded in kilograms on the questionnaire for each person. The height of the participants was also measured. It was achieved by asking each participant to remove their shoes, sandals, and slippers and stand erect and a chalk was used to mark the participant's height on the wooden tape and readings recorded in meters square on the questionnaire. Then, values gotten from the height and weight measurements were used for the calculation of body mass index (BMI) =

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

The study lasted for a period of 4 weeks in Okrika communities. Statistical analysis of data was done using SPSS. $p < 0.05$ was significant for data.

RESULTS

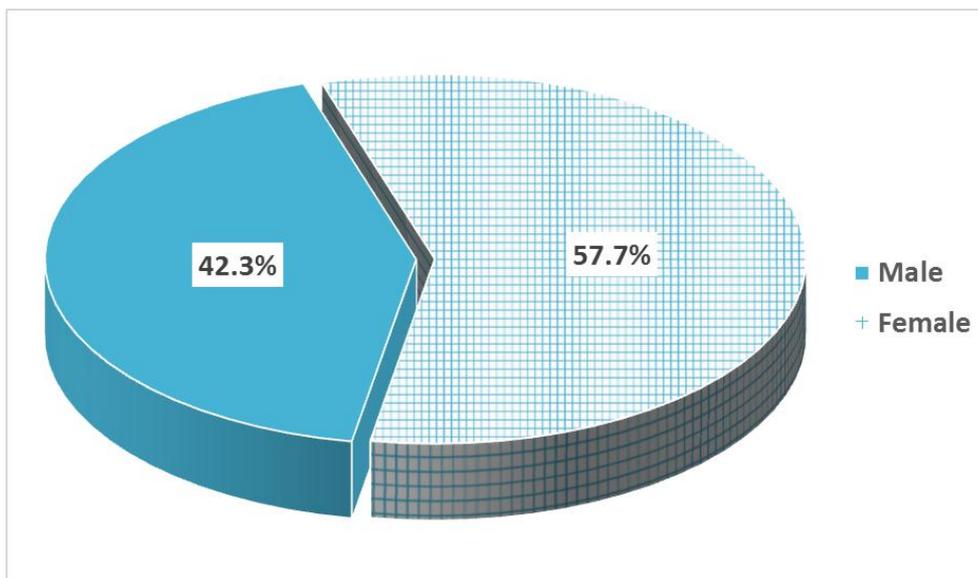


Figure 1: Distribution of the Subjects according to Sex.

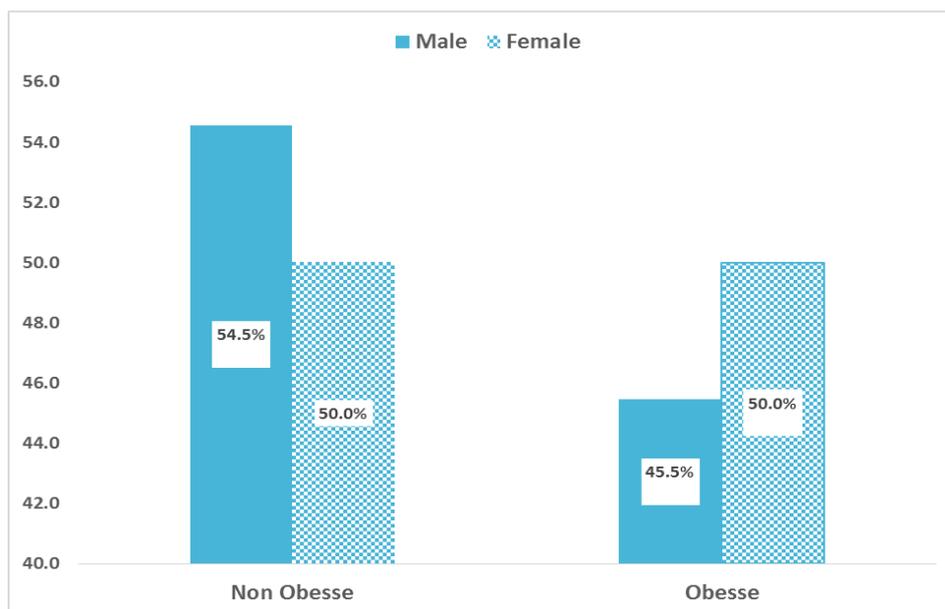


Figure 2: Distribution of the Subjects according to Body Mass Index (BMI).

Table 1: Descriptive statistics of the measured parameters.

Variables	MALE [N = 22]			FEMALE [N = 30]			TOTAL [N = 52]		
	Mean±SD	Min	Max	Mean±SD	Min	Max	Mean±SD	Min	Max
Age (years)	40.68±10.86	22.00	56.00	37.30±11.00	22.00	56.00	38.73±10.96	22.00	56.00
Height (m)	1.63±0.07	1.49	1.72	1.60±0.08	1.41	1.78	1.62±0.08	1.41	1.78
Weight (kg)	75.41±20.01	46.00	112.00	73.73±16.84	46.00	110.00	74.44±18.08	46.00	112.00
BMI (kg/m ²)	28.58±8.58	16.22	44.15	28.82±6.71	18.37	44.06	28.72±7.48	16.22	44.15

BMI = Body Mass Index, **N** = Number of Subjects, **Min** = Minimum, **Max** = Maximum, **SD** = Standard Deviation.

Table 2: Descriptive statistics of the measured parameters according to body mass index (BMI).

Variables	BMI (kg/m ²)	N	Mean	SD	T-test			
					Df	t-value	p-value	Inference
Age (years)	Non-Obese	27	37.85	12.02	49.31	-0.60	0.55	Not Significant
	Obese	25	39.68	9.86				
BMI (kg/m ²)	Non-Obese	27	22.64	3.05	40.61	-11.38	0.00	Significant
	Obese	25	35.28	4.72				

BMI = Body Mass Index, **N** = Number of Subjects, **SD** = Standard Deviation, **df** = degree of freedom

DISCUSSION

Obesity may be developed following personal lifestyle and it is disturbing when one finds his or her self in such situation. Our study revealed that most of the participants were worried about obesity and they have no knowledge or awareness on the causes and complications resulted from obesity. Most of the participants were educated, in fact some of them were principal of colleges and were not aware of how to carry out preventive measures about obesity and to reduce it. The study shows 50% of the female's participants were obsessed and 45.5% of the male's participants were also obsessed (Figure: 2). Also, the study revealed that, the minimum values for the 52 participants were: height – 1.41; weight – 46.00 and BMI – 16.22, and maximum values were: height – 1.78; weight – 112.00 and BMI – 44.15 (Table 1). This implies that female obsessed were more than their male counterparts. This study agreed with previous studies by Desalu et al (2008) and Adedoyin et al (2009) that females were more obsessed than male. The study also

shows that out of 52 participants, 25 of them were obsessed (Table 2) resulting in increase in incidence of obesity in Okrika.

The high in incidence of obesity could lead to mortality rate and expose the people to several diseases like hypertension, strokes, diabetes mellitus, gall stones, infertility, cardiovascular diseases and others.

Also, the high incidence may be related to increase energy intake over energy expenditure with little or no exercise. However, the dietary pattern was not study and the need for dietary pattern study.

Recommendations

1. Regular exercise that may prevent obesity.
2. Calories intake should always equal calory expenditure.
3. Restaurants and food industries should ensure that their food and products are low in calories.

4. Those who are prone to obesity should be counselled.

CONCLUSION

Incidence of obesity in Okrika is high and this could lead to increase in mortality rate and also exposes them to several diseases. The incidence is high in female than their male counterparts and this agreed with previous studies. Most of the participants lack knowledge and awareness about causes and complications that may arise from obesity.

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