

Article

Prevalence of obesity among Nigeria nurses: The Akwa Ibom State experience

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This study sought to investigate prevalence of obesity among Nigeria nurses, with particular reference to Akwa Ibom State of Nigeria. A survey research design was used for the study. 500 nurses were randomly selected from 1082 nurses in Akwa Ibom State Public Health Institutions. Questionnaire was the instrument for data collection. Data collected were analyzed using percentages frequency. 62.2% nurses showed prevalence of obesity. It was concluded that many Nurses in Akwa Ibom State showed the prevalence of obesity. Eating habits and marital status contributed to this prevalence. It was recommended among others, that nurses should practice the theoretical knowledge base and the need for more opportunities for physical activities at hospital sites was emphasized.

Key words: Prevalence, obesity, nurses, experience, Nigeria.

INTRODUCTION

There is a growing area of knowledge that is beginning to demonstrate without question that physical inactivity and increased sedentary nature of our daily living habits are serious threats to the body, causing havoc to normal body function and job productivity.

Yet, human beings are constantly looking for ways to make life even easier, that is, from the viewpoint of conserving efforts and human energy. The health sector is not left out. Health personnel having the knowledge of implications of sedentary lifestyle are living such a lifestyle. Average health personnel are on the fat side and nobody is asking question(s) on why they are like that.

Technological advancements in medical science have simplified life to the lowest term. But technological advancement) mechanization and automation) demands a price for the benefits it brings and that price may be the care and cultivation of the mind and the body.

Recently, it seems some of the female health personnel in our health sector are becoming social cripples, 'too tired' to attend to emergency situation, 'too tired' to assist the patients that needs assistance, 'too tried' to go for ward round and may be they are 'too tired' to even administer

drugs. What they get in return is a disease condition known as obesity. Obesity does not occur overnight. Overweight and obesity are as a result of energy imbalance over a period of time. Obesity can be said to be a global epidemic given the high prevalence in the world today. In fact, obesity is swiftly becoming a global epidemic, which is not restricted to the more "developed" countries.

Currently, pacific islanders, especially women, are the fattest people in the world. For example 55% of Tonga women, 74% of Samoan women and women living in Nauru are obese (Galassie, 2004). Aldair (2005) also reported that obesity is now a major disease in Africa, along with HIV/AIDS and malnutrition. He further stated that in South Africa, one in every three men and more than half the female population are obese, while in Morocco 40% of the population is obese.

In Nigeria, there are no data to back up the prevalence of obesity among members of the entire population. Some attribute this to lack of interest by the government towards the welfare of her citizenry. Day-in-day-out, people are complaining about the sluggish attitude of the nurses in the health sector in reaction to emergency situations in particular and patient case in general. The nurses with the requisite education are equipped to promote health, prevent illness and also care for the sick as

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a member of the health team. Abnormal body weight, dietary concerns and unhealthy weight gain behaviors are increasingly being observed among health personnel (nurses) in Nigeria.

This research therefore, derives its impetus from concern about the weight of health personnel and their health status. There is the need to critically examine the prevalence of obesity, the likeable causes of obesity among nurses in Nigeria and profound likeable solution.

MATERIALS AND METHODS

Participants

The study area is Akwa Ibom state and it is situated in the southern corner of Nigeria. The state covers a total area of 8,421 km², with an average density of 280 km² per persons (Tables 1 and 2). It is one of the smallest states in Nigeria in terms of landmass (Usoro, 2000). The state is located within the oil rich Niger-Delta region of Nigeria and apart from being one of the leading petroleum producing states in Nigeria, it is endowed with variety of food stuffs and protein sources especially aquatic foods. There are 145 health institutions in Akwa Ibom State located within the 31 Local Government areas of the state. The state also boasts of a University teaching hospital, three government owned schools of nursing and midwifery and two schools of nursing and midwifery owned by the missionaries. The majority of the personnel in these health institutions are women.

500 nurses were randomly selected from the three health zones in Akwa Ibom State. In Uyo zone, 200 nurses were selected while in Eket and Ikot-Ekpene zones, 150 nurses each were selected. The choice of selecting more nurses from Uyo health zone was made owing to the high percentage of nurses (42.9%) present in the zone compared to Eket and Ikot-Ekpene zone which are having 28.9% and 28.2% respectively. The populations examined are basically government trained female nurses in Akwa Ibom State public health institutions. The number of Nurses working in the state public health institutions stood at 1,082 (Akwa Ibom State Ministry of Health, 2005).

INSTRUMENTATION

Two instruments (a structured questionnaire and BMI table) were used for this study. The questionnaire consisted of 20 items and it is of two sections (A and B). Section A requested for personal data from the respondents. These data were used to measure the body mass index values and marital status of the respondents. Section B was made up of 16 likert-type items. The items were based on eating habit and job schedule of the respondents. Cronbach's alpha reliability coefficient was used to determine the reliability estimate of the various scales used in the instruments. Also BMI table was adopted from World Health Organization (WHO, 1998) to calculate the respondents' level of obesity.

The draft of the questionnaire was circulated to two professionals in psychology and test and measurement in the Faculty of Education, University of Calabar, and their criticisms and suggestion led to the construction of the final version of the instrument. The final version of the instrument was certified for face validity and therefore recommended for use in this study.

PROCEDURE

A consent letter was given by the Permanent Secretary in the State Ministry of Health. The consent letter was made available in each of

the health institution visited. Three research assistants assisted in data collection. Stratified proportionate sampling technique was used and the Local Government Areas were grouped under the three health Zones in the State. Nurses in the selected health institutions were randomly selected and studied. Copies of questionnaires were distributed to the respondents and were filled on the spot. The height and weight of the respondents were measured and recorded on the questionnaire. The entire administered copies of the questionnaire were retrieved immediately to avoid loss of any copy. After collecting the questionnaires, each questionnaire was coded and given a serial number. Each questionnaire was given an overall score by adding the scores for all the items as they were responded to. The total score obtained provided a dependable measure of the variables under consideration.

STATISTICAL ANALYSES

The data collected were coded and analyzed using percentages frequency, Population t-test, Pearson's Product Moment Correlation and 3 x 3 Contingency chi square (χ^2).

RESULTS

The result in Table 3 shows that three hundred and thirteen (62.6%) of the subjects showed prevalence of obesity while 187(37.4%) did not. This shows high prevalence of obesity among nurses in Akwa Ibom State of Nigeria.

The entries in Table 4 show the mean and standard deviation, and t-value for the prevalence of obesity among nurses in Akwa Ibom State, Nigeria. From the Table, it can be observed that the mean BMI value of 35.15 kg/m² is higher than the WHO value of 30 kg/m².

The calculated t-values of BMI (36.91) were higher than the critical t-values of 1.95 (one directional test). This means that the mean BMI standard for nurses in Akwa Ibom State, Nigeria is statistically significantly higher than expectation (30 kg/m²).

The result in Table 5 shows that a positive calculated r-value of 0.45 was obtained. This was compared with the critical r-value of 0.198 for 498 degrees of freedom at 0.05 level of significance. It was higher than the critical r-value. This means that there is a significant relationship between the eating habit of the nurses in Akwa Ibom state, Nigeria and their level of obesity. The positive r-value further indicates that the more indiscriminate the eating habit the more obese the nurses are.

The result in Table 6a shows that the calculated chi-square (χ^2) value of 44.35 was greater than the critical χ^2 value of 9.49 at 0.05 level of significance with 4 degrees of freedom. This means that there is a significance relationship between the marital status of the nurses in Akwa-Ibom State and their being obese.

The result in Table 6b shows that many (55%) of the married nurses are obese. This means that there is a direct relationship between marital status and level of obesity among the nurses.

Table 1. Distribution and selection of nurses by health zones in Akwa Ibom State Public Health Institutions.

Health zones	Number of nurses (%)	Nurses selected (%)
Eket	313 (28.9)	150 (47.8)
Ikot Ekpene	305 (28.2)	150 (49.2)
Uyo	464 (42.9)	200 (43.1)
Total	1082 (100)	500 (46.2)

Table 2. World Health Organization's classification of obesity.

WHO classification	BMI (KG/M ²)	Risk of co-morbidities
Obese	Above 30	
Class I	30.0 - 34.9	Moderate
Class II	35.0 - 39.9	Severe
Class III	Above 40	Very severe

Table 3. Percentage frequency of the prevalence of obesity among nurses in Akwa-Ibom State, Nigeria.

Nurses	Numbers	% Frequency
Obese	313	62.6
Non-obese	187	37.4
Total	500	100

Table 4. Population t-test analysis of the prevalence of obesity among nurses in Akwa Ibom State, Nigeria.

Variable	X	SD	Reference t -value	t
BMI	35.15	3.12	30	36.91

*Significant at 0.05 level (critical t-1.96 for one tail), df = 499. N = 500.

Table 5. Pearson's product moment correlation analysis of relationship between the eating habit or nurses and their index of obesity.

y	EX	EX ²	EXY	R x
	EY	EY ²		
Eating habit	10970	27968		
Obesity index	15560	40179	480941	0.45

P < 0.05, df = 498, critical r = 0.198. N = 500.

DISCUSSION

Three hundred and thirteen (62.6%) of the subjects showed prevalence of obesity while 187 (37.4%) did not. This shows high prevalence of obesity among the nurses in Akwa-Ibom State, Nigeria. Detail information on the prevalence of obesity is contained in Table 3.

According to the BMI standard and the WHO classification, people who have BMI standard of 30 kg/m² are obese. Table 4 shows high prevalence of obesity among nurses in Akwa Ibom State. The result was statistically significant than expectation. The mean BMI value of nurses (35.15 kg/m²) in Akwa Ibom State is

Table 6a. Result of contingency Chi-square (X^2) analyzing the influence of marital status on the level of obesity among nurses in Akwa Ibom State, Nigeria.

Level of obesity	Not obese	Obese	Highly obese	Total	X^2
Marital status	53 (84.15)	78 (63.90)	94 (76.95)	225	*44.35
Married	86 (66.95)	32 (50.84)	61 (61.22)	179	
Divorced	48 (18.70)	32 (27.26)	16 (32.83)	96	
Total	187	142	171	500	

$P < 0.05$ with $df = 4$, critical $x^2 = 9.49$.

Table 6b. Percentage of the obese nurses by their marital status.

Marital status	Number of the obese (%)
Married	172 (55)
Single	93 (29.7)
Divorced	48 (15.3)
Total	313 (100)

significantly higher than the WHO value (30 kg/m^2). These results agreed with the findings of Galassie (2004), Labib (2004), Aldair (2005) who reported high prevalence of obesity in the world today. Although, their findings were based on the data collected from Pacific Islands, Europe and two African countries (South Africa and Morocco), the works still remain relevant in this context. However, data obtained in this present study were significantly different from data reported by Galassie (2004), Labib (2004) and Aldair (2005), because of the difference in the research methods in all these studies.

The researchers' personal observation on the weight attitudes of the nurses also revealed that most of the nurses never perceived themselves as being obese but see their weight as signs of good living. These findings agreed with the work of Ntui (2000), who reported that certain societies thought and still think that fatness in females is an index of beauty. But, the result disagrees with Kumanyika et al. (2003) who reported that overweight Black women are weight conscious. This may be due to the fact that the present study and that of Ntui (2000) were conducted in Africa, while Kumanyika et al. (2003) was conducted in the United States of America. Cultural diversification could be attributed to this. The findings from this study also agreed with the work of Streigel-Moore et al. (2004) who reported that black women when compared to white women experienced less social pressure about their weight, because the nurses are black women and there is no social pressure about their weight.

The result in Table 5 shows that, there was a significant relationship between the eating habits of nurses in Akwa Ibom state and their level of obesity. Also, the positive r -value (0.45) compared to the critical r -value (0.198) for

498 degrees of freedom at 0.05 level of significance indicates that the more indiscriminate the eating of the nurses, the more obese they are. The result of these findings agreed with the findings of Diehl (1990), who reported that a sensible eating habit goes a long way in keeping a healthy body weight. The result also agreed with Labib (2004) who noted increased consumption of low cost, high fat, energy dense food as one of the major changes in the environment that seem to have directly contributed to the increased prevalence of obesity. This result also partly agreed with the work of Sonestedt et al. (1997) who reported that a complex on founding situation might exist that could seriously influence observed relationships between diet and disease because past food habit change is related to obesity and other lifestyle and socio-economic factors.

Table 6a shows that the marital status of the nurses is related to the level of obesity. Table 6b shows that 313 nurses were obese compared with 187 that are not obese. Within the 313 obese nurses; 172 (54.95%) nurses were married; 93 (29.72%) nurses were single; the remaining 48 (15.34%) nurses were divorced. The results of the study partly agreed with the findings of each of the following works; Lipowk-z et al. (1998), who reported a significant association ($P < 0.01$) between marital status and BMI in both men and women and Lee et al. (1999), who reported that women who divorced had BMI decrease of 0.65 kg/m^2 ($P < 0.01$) compared with 0.44 kg/m^2 ($P < 0.01$) for women who remained unmarried. The results agreed with Sobal et al. (2002), who reported that changes in social roles, such as marriage, influence physical characteristics such as body weight. However, there are variations in the figures gotten from these works due to the different statistical

techniques applied in the works.

Conclusion

Based on the results of the findings, it was concluded that:

1. Many (62.6%) of the nurses in Akwa-Ibom State of Nigeria showed prevalence of obesity.
2. The eating habits of the nurses play a major role in their level of obesity.
3. There is a major influence of the nurses marital status on their level of obesity as the married nurses are more obese than the single or the divorced nurses.

Given these findings, it is glaring that the nurses may start experiencing some health problems that are associated with obesity and if proper attention is not given the health care providers may end up been health care receivers.

RECOMMENDATIONS

Based on the findings and conclusion drawn in this study the following recommendations are made:

1. The nurses should personally put into practice what they have been taught. In this direction, the nursing and midwifery council of Nigeria according to Makinde (2004) has developed a theoretical knowledge base, specific for nursing profession and focused on:

- (a) Study of health problems.
- (b) Promotion of health.
- (c) Prevention of diseases.
- (d) Maintenance and restoration of health.

If the above listed points are followed to the last letter, the prevalence of obesity among the nurses will surely become thing of the past.

2. The State Ministry of Health should organize wellness programs for all the health personnel. Such programs will include health education campaigns for the nurses with emphasis on good nutrition and events to promote physical activities (for example, walk groups among the nurses).

3. The Hospital Management Board should create more opportunities for physical activity at hospital sites. For example, setting up mini gymnasium in all the hospitals.

4. A routine fitness test should be conducted by the State Ministry of health to ascertain the fitness status of the nurses. Such tests should be carried out by exercise physiologists in the State Ministry of Health.

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