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Obesity among Student Nurses and Midwives in Ghana

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

ABSTRACT

Background

Obesity is an avoidable disease of medical and community health significance. This can result in different forms of non-communicable diseases and also untimely death. Globally, obesity is on the rise and mostly among the youths. The current study assessed the prevalence of obesity among student nurses and midwives in Ghana.

Methods

A cross-sectional analysis was done among 209 student nurses and midwives aged 17 - 40 years. The students were engaged from the five (5) Nursing and Midwifery Training Colleges. Data was gathered by the utilization of structured questionnaire in addition to anthropometric data form to compute for BMI values. SPSS-18 was applied to analyze the data amassed.

Results

Out of 209 student nurses and midwives, 7 (3.35%) were very severely underweight, 56 (26.79%) were normal, 29 (13.88%) were overweight, 37 (17.7%) obese class I, 15 (7.18%) obese class II, and 65 (31.10%) obese class III.

Conclusion

The study settles that, the prevalence of obesity among student nurses and midwives in the region is pretty high. Therefore, educating student nurses and midwives on overweight and obesity is of great importance since health issues attached themselves to these conditions. This will help to lessen the occurrence of overweight and obesity among them in the community, and the nation as well.

Keywords: *Student Nurses and Midwives, Obesity, Overweight, BMI*

1. INTRODUCTION

Obesity is a multifaceted disease encompassing an excessive aggregate of body fat [1]. Obesity is a key healthcare dilemma in humans and there is a growing incidence of obesity in individuals. In people, obesity is a composite illness relating to diet, level of exercise, social factors, socioeconomic influences, nature exposures, heredities, metabolism, as well as the microbiome. Obesity can also result in type 2 diabetes mellitus, and cancers in people [2]. Obesity prevalence throughout the past 30 years has risen in many nations around the globe. It is described as a 30 or greater body mass index (BMI) value [3]. Obesity was declared as a general populace health puzzle in 1997. Over 650 million grown-ups are considered to be obese by the World Health Organization (WHO). Internationally, the incidence of obesity has risen intensely in the past four decades [4].

Universally, obesity in addition to overweight is a key public health worry, and also there are more obese or overweight than underweight grown-ups. Around 2016, 40% of women and 39% men aged 18 and above, counting for closely 2 billion grown-ups, were overweight, and also 11% of men together with 15% of females, above half a billion, were found to be obese globally [5].

In the United States of America, obesity prevalence has intensified from 30.5% to 42.4% within the years of 2017 to 2018 therefore describing obesity as a familiar, grave, and costly sickness [6]. The prevalence of obesity examined among 350 medical students of a Medical institution in Trivandrum, Kerala was 25.71% [7].

It is reported in a study that out of 610 students, 10.7% were reasonably obese in addition to 7.9% who were seriously obese [8]. Obesity ratios are cumulating in all African counties with Southern African provinces being the most touched. The rate of obesity is greater amid women than in men as well as in urban zones likened to rural parts. Socioeconomic position, age, marital class, bodily inactivity, body weight insights, and raised energy are influential predictors of obesity in sub-Saharan Africa [9]. The increasing heights of obesity in Africa is possible to worsen the problem of diabetes in addition to cardiovascular diseases (CVD) if actions are not undertaken to control the issue [10].

In Ghana, a study revealed that out of 500 students, 290 (58.00%) being males and 210 (42.00%) being females, the prevalence of obesity was 0.80% [11]. Moreover, approximately 19% of kids in Ghana are obese. Higher prevalence of obesity exists in the in rural locations more than in urban places [12]. Indication shows obesity is therefore connected with severe health dangers. It is important that keeping an eye on obesity prevalence will be significant for public health plans that center on dropping or stopping obesity incidences [13].

Obesity is considered to be part of the biggest confronts that Ghanaians ought to shake away. Students precisely at the nursing and midwifery training colleges are not immune to this disease because of their daily routines together with their eating ways as well as their insufficient involvement in exercise. These can therefore lead them in acquiring obesity associated health threats. There is paucity of data on the prevalence of obesity among student nurses and midwives. It is therefore important to conduct this study. This study is to measure the prevalence of obesity among student nurses and midwives.

2. METHODS

Study design and population

The present study was a cross-sectional one. This was carried out among student nurses and midwives in the Nursing Training Colleges in the Western Region of Ghana. The Western Region covers a space of roughly 2,391 square kilometres. The inhabitants of the region are about 1,924,577, forming about 10 per cent of the entire population of the nation. The Western region has numerous post-secondary institutes, comprising nursing and teachers'

colleges, plus two universities, one at Takoradi (Technical University formerly known as Takoradi Polytechnic), and the other Tarkwa (UMaT). There are five (5) Nursing and Midwifery Training Colleges in the Western Region.

Taking part in the study was voluntary and also anonymity was guaranteed. The researcher respected all ethical rules in relation to the gathering of data.

Sampling

A total of 209 participants (students) were engaged. They were of different course backgrounds (Registered Nursing Assistant, Registered General Nursing, Registered Midwifery, and Post-Basic Midwifery). Data was self-administered by the investigator.

Data collection

The participants' demographic data such as sex, age, ethnicity, and course of study were collected using a structured questionnaire. Their body weight in kilograms were measured with a weighing scale. They were not allowed to place their shoes on the weighing scale as this might affect the values. The heights of the students were then measured using a stadiometer.

Their BMI with the help of the weights and heights obtained were calculated as body weight (in kilogramme) divided by height (in metre square). The BMI values were further categorized into Very Severely Underweight, Severely underweight, Underweight, Normal, Overweight, Obese class I, Obese class II, Obese class III [14]. Data gathering was conducted at the colleges' locations.

Statistical analysis

Statistical analysis was conducted using SPSS v.18.0. Descriptive statistics were employed to summarize the demographic and the anthropometric data. Each variable was deemed statistically significant at 95% confidence interval ($p < 0.05$).

3. RESULTS

The mean age of the respondents was 26.5 ± 0.50 . Out of the 209 subjects, 185 (85.5%) were females, and 24 (11.5%) were males. The majority of the respondents 86 (41.1%) study general nursing, 78 (37.3%) study midwifery, 45 (21.5%) study nursing assistant clinical, and 1 (0.5%) study post-basic midwifery. Most of the respondents 171 (81.8%) were Akans with the least 4 (1.9%) being Mole-Dagbons.

Table 1: Body Mass Index (BMI) of Participants

Parameters	BMI (Kg/m ²)	Number of Participants (N)	Percentage (%)
Very Severely Underweight	≤ 15.9	7	3.35
Severely underweight	16.0 – 16.9	0	0
Underweight	17.0 – 18.4	0	0
Normal	18.5 – 24.9	56	26.79
Overweight	25.0 – 29.9	29	13.88
Obese class I	30.0 – 34.9	37	17.70
Obese class II	35.0 – 39.9	15	7.18
Obese class III	≥ 40.0	65	31.10

Source field: 2021

4. DISCUSSION

In these current years, obesity and overweight are regarded as rocketing sicknesses within the world. The measurement of Body Mass Index (BMI) is deemed as a descriptive of obesity and overweight. In this present study, roughly 69.86% student nurses and midwives were not having normal BMI (13.88% were overweight, 17.7% obese class I, 7.18% obese class II, and 31.10% obese class III).

The current findings are in line with a study which indicated that upon calculating the BMI of students, there was 26% were overweight as well as 4.5% being obesity I and II [15]. Measurements of students' BMI revealed that 13.2% of the students were overweight and 5.2% obese. Some of the students were also underweight [16]. These outcomes support the present study. Outcomes from the 2015–2016 National Health and Nutrition Examination Survey (NHANES) by utilizing calculated heights and weights implied that, 18.5% of U.S. kids as well as youths aged 2–19 years were obese, 5.6% were severely obese, and also an extra 16.6% were overweight. These individuals were all students [17]. These results back the present study findings.

Also, this current study outcomes agree to one study which showed that, the collective incidence of overweight-obesity projected by BMI was 32.4% in the entire students' populace in the university [18]. This is evident of the prevalence of obesity among students. Moreover, it was reported that out of 290 students, 14.8% were realized to be overweight. Pre-obese students were 15.9% of the total and 5.2% were noticed to be obese. This revealed that the occurrence of overweight and obesity amid the students of AIMST University was on the high and which affirms this current study outcomes [19].

Further the present study findings are congruent with the study which showed that the predominance of overweight in addition to obesity was 13.6% and 2.2%, respectively. This suggested that the students had higher body mass index indicating obesity occurrences [20]. Results of the current study is consistent with Jiang et al., study which conducted a multistage survey among 11,673 college students. The outcome was that the incidence of obesity and overweight was 9.5%. [21]. Also, in a study, the occurrence of obesity was 61.3% based on Waist-to-Hip Ratio (WHR) categorization, 40.8% according to Waist-to-Height Ratio (WHtR) categorization, 26.1% according to Waist Circumference, and 14.8% based on the BMI classification. This shows that, there is a high prevalence of obesity is among populace [22]. These findings support the current study conducted.

It was informed that the occurrences of overweight and obesity were considerably greater with university students of Bangladesh [23]. However, it was detailed that nearly one-third of the students in university in Dubai were overweight as well as obese [24]. The prevalence of obesity amongst the teenagers was discovered to be 47.06%. This settles that, the occurrence of obesity among the youths which comprises students too is high compared to percentages in some developed nations [25]. This therefore affirms the recent study on the prevalence of obesity. Also, the current study is supported by a study which showed that the incidence of obesity, and overweight were 7.85, and 22.74, for guys then 3.02, and 8.42 for ladies, respectively. These were all college students [26].

The present study results are in line with a study conducted in Ghana by Mohammed & Vuvor in 2012. Their outcomes indicated that out of 270 students sampled at random, the incidence of obesity was found to be 10.9%, which is very high and upsetting [27]. Moreover, this current study is affirmed by a study done by Ofori & Angmorterh in 2019. They showed that there is a higher prevalence of obesity among students in Ghana. Among 120 students recruited, 21.7% of the students were obese [28]. Gyamfi et al., study revealed that of the 1004 students' participants, obesity occurrence was 8.8% in basic school and 8.9% among high schools. This shows a significant high prevalence [29]. The students'

obesity realized in this study can be thought to be an extreme one. A cross-sectional study done among students in Tamale to evaluate the overweight/obesity and thinness reported obesity occurrence of 17.4% [30]. Also, in a study conducted by Adom et al., among 543 students, a prevalence rate of obesity was 16.4%. These students either attended private school or public school [31]. This therefore confirms the current study outcomes showing that in Ghana, there is an increase in obesity among students.

The outcomes of the present-day study in addition to earlier papers have testified that the incidence of obesity among students is at greater level, therefore, it demands intervention on urgency grounds.

5. CONCLUSION

The study deduces that, the prevalence rate of obesity among the student nurses and midwives was significantly high. More than half of the respondents were obese which can lead to potential health threats. It is therefore of great importance to address this situation.

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