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Research Article

PREVALENCE OF OBESITY AMONG NURSING STUDENTS IN SRM COLLEGE OF NURSING, SRM UNIVERSITY, KATTANKULATHUR, KANCHEEPURAM DISTRICT

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ABSTRACT

Objective: The objective of the study was to determine the prevalence of obesity among the nursing students.

Methods: The research approach was quantitative and the research design adopted was cross-sectional research design. The researcher used non-probability purposive sampling technique, and 80 students were selected for the study. World Health Organization body mass index scale was used to assess the prevalence of obesity.

Results: Among 80 samples taken for the study 24 (30%) students are in the stage of underweight; 43 (53.8%) students are in normal weight; and 13 (16.2%) are in the stage of pre-obesity.

Conclusion: The study findings revealed that 16.2% of the students are in pre-obese stage; hence, awareness regarding complications of obesity may prevent obesity among the nursing students.

Keywords: Obesity, Body mass index, Complications, Underweight, Students.

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INTRODUCTION

Obesity has reached epidemic proportions in India in the 21st century, with morbid obesity affecting 5% of the country's population [1]. India is following a trend of other developing countries that are steadily becoming more obese. Unhealthy, processed food has become much more accessible following India's continued integration in global food markets. This combined with rising middle-class incomes, is increasing the average caloric intake per individual among the middle class and above income households. Obesity is a major risk factor for cardiovascular disease (CVD) and NGOs such as the Indian Heart Association have been raising awareness about this issue [2].

The estimated prevalence of obesity in children and adolescents is about 20% in the World Health Organization (WHO) Asian Region with large differences between countries and socioeconomic groups [3]. According to the WHO, obesity is one of the most common, yet among the most neglected, public health problems in both developed and developing countries [4]. According to the WHO World Health Statistics Report 2012, globally one in six adults is obese and nearly 2.8 million individuals die each year due to overweight or obesity [5]. Due to the increased risk of morbidity and mortality, obesity is now being recognized as a disease in its own right. In addition, obesity is strongly associated with other metabolic disorders including diabetes, hypertension, dyslipidemia, CVD, and even some cancers. The risk for these disorders appears to start from a body mass index (BMI) of about 21 kg/m^2 [6]. Obesity is generally classified as generalized obesity and abdominal obesity (AO). Individuals with obesity have higher rates of mortality and morbidity compared to non-obese individuals [7].

Obesity is an independent risk factor for CVD. Obesity is associated with an increased risk of morbidity and mortality as well as reduced life expectancy. The last two decades of the previous century have witnessed a dramatic increase in healthcare costs due to obesity and related issues among children and adolescents. Due to genetic tendency of Indians toward AO and its associated risk of related lifestyle diseases such as Diabetes and Heart Disease, Ministry of Health and Family welfare along with the Indian Council of Medical Research released updated guidelines (in 2012) that a BMI over 23 kg/m^2 is considered overweight. Further definitions: Normal BMI: 18.0-22.9 kg/m^2, overweight: 23.0-24.9 kg/m^2, obesity: >25 kg/m^2. In India, we have 12.1% of males and 16% of females who are overweight or obese, based on data from the 2007 National Family Health Survey [8].

India, with 1.2 billion people is the second most populous country in the world and is currently experiencing rapid epidemiological transition [9] Undernutrition due to poverty which dominated in the past, is being rapidly replaced by obesity associated with affluence [10]. Industrialization and urbanization also contribute to increased prevalence of obesity. Studies from different parts of India have provided evidence of the rising prevalence of obesity [11].

In general, Governments do not seem to take seriously the role of obesity treatment. Health-care policy to address obesity will have to improve. The role of research and medical developments need to be part of that improvement but concerted and adequate national focus and investment are critical. Equal emphasis need to be put on the methodologies used for prevention and treatment. Finding the way to combine these efforts is critical.

METHODS

A quantitative approach and cross-sectional research design was adopted for the study. The study was conducted in SRM College of Nursing among the Nursing students. The target population for this study was all the BSc nursing students. The accessible population was BSc nursing students of I and II year in SRM College of Nursing 0.80 students those who fulfilled the inclusion criteria were selected as samples. Non-probability purposive sampling was adopted. The instruments used for data collection consist of two sections which include demographic data and WHO BMI scale to calculate BMI. The reliability of the tool was assessed by rater inter-rater method. The r=0.8 which indicates a positive correlation of the tool.

The research proposal was approved by the dissertation committee before pilot study. Permission was obtained from the Dean SRM College of Nursing. Written consent was obtained from each participant for the study before starting the data collection. The assurance was given to the subjects that anonymity of each individual would be maintained. Formal permission was obtained from the dean of SRM College of Nursing at Kattankulathur, SRM University. The study was conducted from 11-1-16 to 16-1-16. The samples were seated comfortably, and a brief introduction about the investigator and the study were given. A time limit of 5-8 minutes was taken for the investigator to collect data from each sample. The data gathering process was continued till 80 samples were collected. Descriptive and inferential statistics were used to analyze the collected data.

RESULTS

Table 1 represents the frequency and percentage distribution of demographic variables of nursing students:

This table reveals that 51 (63.8%) students age are 18: 22 (27.5%) are in 19 years and 7 (8.5%) are in the age of 20. Considering the educational status of mothers 6 (7.5%) students mothers are in the category of non-formal education; 14 (17.5%) had primary level education, 21 (26.3%) had a secondary level, 26 (32.5%) had a higher secondary level, and 13 (16.3%) are degree holders.

Considering the educational status of fathers 9 (11.3%) are in the category of non-formal education; 8 (10.0%) had a primary level education; 22 (27.5%) had secondary level, 27 (33.8%) had higher secondary level and 14 (17.5%) are degree holders. Considering the occupation 12 (15.0%) are in public sectors; 23 (28.8%) are working in private sectors; 41 (51.3%) are self-employed, and 4 (5%) are unemployed. Regarding the income of parents 48 (60%) parents are earning below 10000/month; 21 (26.3%) are earning in between (10000 and 20000 rupees; 6 (7.5%) are earning in between 20000 and 30000 rupees and 5 (6.3%) are earning more than 30000 rupees.

Table 1: Frequency and percentage distribution of demographic variables related to nursing college students

Demographic variables	Nursing college students
	n (%)
Age	
18	51 (63.8)
19	22 (27.5)
20	7 (8.7)
Education of mothers	
Non formal education	6 (7.5)
Primary level	14 (17.5)
Secondary	21 (26.3)
HSS	26 (32.5)
Degree	13 (16.3)
Education of fathers	
Non formal education	9 (11.3)
Primary level	8 (10.0)
Secondary	22 (27.3)
HSS	27 (33.8)
Degree	14 (17.5)
Occupation	
Public sector	12 (15.0)
Pvt. sector	23 (28.8)
Self employed	41 (51.3)
Un employed	4 (5.0)
Income	
<10000	48 (60.0)
10001-20000	21 (26.3)
20001-30000	6 (7.5)
>30000	5 (6.3)
Type of family	
Nuclear	71 (88.8)
Joint	9 (11.2)

Considering the type of family 71 (88.8%) belongs to nuclear family and 9 (11.2%) belongs to joint family.

Table 2 reveals that among 80 nursing students 24 (30%) students are underweight, 43 (53.8%) are normal weight, and 13 (16.3%) are pre-obesity.

Table 3 reveals that there was a significant association found with age of nursing students and with the prevalence of obesity.

Table 2: Assessment of the level of prevalence of obesity among nursing students

Level of obesity	n (%)
Under weight	24 (30)
Normal	43 (53.8)
Pre obesity	13 (16.3)

Table 3: Association of prevalence of obesity of nursing college students with their demographic variables

Variables	n (%)			
	Under weight	Normal	Pre-obesity	Chi-square value
Age				
18	17 (70.8)	29 (67.4)	5 (38.5)	X^2=14.496 p=0.006 Significant
19	6 (25.0)	11 (25.6)	5 (38.5)	
20	1 (4.2)	3 (7.0)	3 (23.0)	
Education of mothers				
NFE	3 (12.5)	1 (2.3)	2 (15.4)	X^2=14.772 p=0.06 Non-significant
Primary	5 (20.8)	6 (14.0)	3 (23.0)	
Secondary	4 (16.7)	17 (39.5)	0 (0)	
HSS	10 (41.7)	12 (27.9)	4 (30.8)	
Degree	2 (8.3)	7 (16.3)	4 (30.8)	
Education of fathers				
NFE	4 (16.7)	3 (7.0)	2 (15.4)	X^2=4.86 p=0.776 Non-significant
Primary	3 (12.5)	4 (9.3)	1 (7.7)	
Secondary	5 (20.8)	14 (32.6)	3 (23.0)	
HSS	8 (33.4)	16 (37.2)	3 (23.0)	
Degree	4 (16.7)	6 (14.0)	4 (30.8)	
Occupation				
Public sector	4 (16.7)	7 (16.3)	1 (7.7)	X^2=7.945 p=0.242 Non-significant
Pvt. sector	9 (37.5)	11 (25.6)	3 (23.0)	
Self employed	8 (33.4)	24 (55.8)	9 (69.3)	
Un employed	3 (12.8)	1 (2.3)	0 (0)	
Monthly income				
<10000	12 (75.0)	23 (53.5)	7 (53.8)	X^2=6.40 p=0.38 Non-significant
10001-20000	3 (12.5)	15 (34.9)	3 (23.0)	
20001-3000	2 (8.4)	3 (7.0)	1 (7.7)	
>30000	1 (4.2)	2 (4.6)	2 (15.4)	
Type of family				
Nuclear	19 (79.2)	39 (90.7)	13 (100)	X^2=4.02 p=0.134 Non-significant
Joint	5 (20.8)	4 (9.3)	0 (0)	

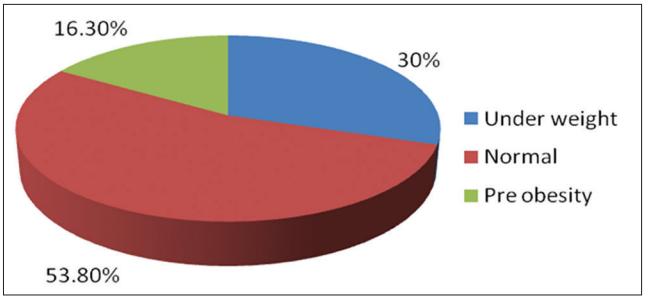

Fig. 1: Pie diagram representing the prevalence of obesity among nursing students

DISCUSSION

Obesity in adolescents and children has raised to significant levels globally with serious public health consequences. In addition to cardiovascular, emotional, and social issues, it poses a serious hazard to the basic health-care delivery system. Unless this epidemic is contained at a war footing, the implications of this global phenomenon on future generations will be serious. The results of the present study revealed that among 80 nursing students 24 (30%) students were in underweight, 43 (53.8%) were in normal weight, and 13 (16.3%) were in pre-obesity.

The study findings were supported by the study done by Gupta (2009), on "prevalence of obesity" among a total of 114 medical students (70 male and 44 female) studying in Midnapore Medical College, Paschim Medinipur, admitted between 2004 and 2007, were included in this study. The study reveals the prevalence of overweight and obesity among the study population. Of 114 students, 70 were male and 44 were female (M: F = 1.6:1). Of 70 male students, 11 were overweight, and four were obese whereas out of 44 female students, nine were found to be overweight and none were obese. An overall prevalence of overweight was calculated to be 17.5%; prevalence of obesity was 3.4% [12].

The study findings are also consistent with the study done by Goyal (2010), on the prevalence of obesity among students which was carried out in 5664 school children of 12-18 years of age and having different socioeconomic status. The obesity and overweight were considered using an updated BMI references. Age-adjusted prevalence of overweight was found to be 14.3% among boys and 9.2% among girls whereas the prevalence of obesity was 2.9% in boys and 1.55 in girls. The prevalence of obesity, as well as overweight in low socioeconomic status group, was as lowest as compared with other group [13].

CONCLUSION

The results of the present study revealed that among 80 nursing students 24 (30%) students were in underweight, 43 (53.8%) were in normal weight, and 13 (16.3%) were in pre-obesity. Hence, health-care policy needs to address the issues and challenges related to obesity. The role of research and medical developments need to be part of that improvement but concerted and adequate national focus and investment is critical. Researches should focus on lifestyle and food habit modification of students. Nurse researcher should also conduct research and provide health education for the benefit of students.

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REFERENCES

1. India Facing Obesityepidemic; Experts The Hindu 12 Oct, 2007.
2. Indian Heart Association Webpage 26 April, 2015. Available from: http://www.en.wikipedia.org/wiki/Obesity_in_India.
3. Branca F, Nikogosian H, Lobstein T. The Challenge of Obesity in the WHO European Region and the Strategies for Response. Denmark: WHO Regional Office for Europe; 2007.
4. Manios Y, Costarelli V. Childhood obesity in the WHO European region. In: Epidemiology of Obesity in Children and Adolescents. New York: Springer; 2001. p. 43-68.
5. Obesity: Preventing and managing the global epidemic. Report of a WHO consultation. World Health Organ Tech Rep Ser 2000;894(1):i-xii, 1-253.
6. World Health Organisation. World Health Statistics 2012. Geneva: World Health Organisation; 2012.
7. James WP, Jackson-Leach R, Ni Mhurchu C, Kalamara E, Shayeghi M, Rigby NJ, *et al*. Overweight and obesity (high body mass index). In: Ezzati M, Lopez AD, Rodgers A, Murray CJ, editors. Comparative Quantification of Health Risks: Global and Regional Burden of Disease Attributable to Selected Major Risk Factors. Geneva: World Health Organization; 2004. p. 497-596.
8. International Institute for Population Sciences. National Family Health Survey 2005-06. Mumbai: International Institute for Population Sciences; 2007.
9. Flegal KM, Kit BK, Orpana H, Graubard BI. Association of all-cause mortality with overweight and obesity using standard body mass index categories: A systematic review and meta-analysis. JAMA 2013;309(1):71-82.
10. World Health Organisation (WHO). Global health risks: Mortality and burden of disease attributable to selected major risks. Geneva: World Health Organisation; 2009. p. 959-1108.
11. Mohan V, Deepa R. Obesity and abdominal obesity in Asian Indians. Indian J Med Res 2006;123(5):593-6.
12. Gupta S, Ray TG, Saha I. Overweight, obesity and influence of stress on body weight among undergraduate medical students. Indian J Community Med 2009;34(3):255-7.
13. Goyal RK, Shah VN, Saboo BD, Phatak SR, Shah NN, Gohel MC, *et al*. Prevalence of overweight and obesity in Indian adolescent school going children: Its relationship with socioeconomic status and associated lifestyle factors. J Assoc Physicians India 2010;58:151-8.