THE PREDISPOSING FACTORS OF OBESITY AMONG THE NURSES IN NAGPUR CITY

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ABSTRACT **Introduction:** Obesity is the most common cause of cardiac conditions among the adult population. India is just behind US and China in this global hazard list of top 10 countries with the highest number of obese people. India is a developing country that requires the constant support and involvement of health care professionals. The prevalence of obesity and overweight is increased in recent years. This study is focused to find the prevalence of obesity among nursing personnel. **Objectives:** To assess the predisposing factor of obesity among nursing personnel in Nagpur city. **Method:** This is a non-experimental descriptive study and purposive sampling was used to select the sample and collect the data. The 100 nursing personnel having BMI greater than 25kg/m2 in Government Medical College and Hospital Nagpur were involved in the study. The study was conducted in a government medical college and hospital, Nagpur. Self-structured questionnaires were used to collect the data of the study. Descriptive statistics were used for the analysis of the data. **Result:** All the samples were obese and the BMI was more than 25kg/m2. Maximum samples were from the age group 41-50 years. About 78% of the samples were GNM nurses. 10 different factors were studied and about the 3-4 factors were found more significant during the study includes bad eating habits, lack of exercise, and heredity. Among the samples, physical inactivity was found in about 85% of people and bad eating habits were found in 86% of people also the genetic factor contributed to 46% and rest of all are surgical interventions, pregnancy, mental or emotional stress, health problems, physical stress, medications, and menopause respectively. The samples having age more than 40 years were found more obese as compared to the younger ones. The samples having age more than 40 years (73%) were more prone to bad eating habits (66%) and physical inactivity (61%). Obesity is more found in the low socio-economic group but there is no significant relationship between economic condition and predisposing factors. **Conclusion:** Those three predisposing factors significantly affect the health of the person and cause obesity. Inactivity is the key factor for increasing the risk of obesity among nurses. There is a need of doing exercise and improving dietary habits.

KEYWORDS : Obesity, Nursing Personnel, Overweight, BMI, Nurses

INTRODUCTION

Obesity was once considered a rare condition now becomes a global concern. Health organizations such as WHO now taking steps forward to build awareness and control obesity in the public. In the last few decades, the knowledge regarding the health hazards and risk of developing the related disease conditions due to obesity has increased. Nurses' health study (NHS) II survey study shows that the prevalence of obesity among the nurses increase and nearly two-thirds of the US women are overweight or obese. The survey also supports that the overweight increases the risk of chronic disease morbidity and mortality.[1]

Nurses work closely with the lifestyle management and treatment modalities of the diseases, despite that there is a high rate of obesity among the nurse. The prevalence rate of obesity is varying from 23% to 61.4%. Studies conducted in different areas of the world reported the prevalence of obesity among nurses. Many factors contribute to the cause of obesity among which poor quality of diet, low physical activity[2], high workload, shorter work breaks, staff demand are the barriers for the nurse's good eating habits.[3-4] Stress factors also affect the health maintenance factors such as job-related stress and physical immobility remain main concern regarding risk factors for obesity. The person who experiences stress can land up overeating sweet foods due to poor coping mechanisms. Shift work with unhealthy eating behavior is also one of the reasons for the nurses to experience stress.[5]

According to the 'textbook of preventive and social medicine, the excess energy intake by the person is stored in the body as adipose tissue. It can be affected by the host factor such as age, sex, physical exercise, genetic factor, feeding behavior overfeeding during infancy[6], environmental factors, etc. it is found that obesity increases as age increases. Females are found more obese than males. The people who do sedentary work or involve the high expenditure of energy have a low prevalence of obesity. The studies conducted on mice show predisposition of genetic factors in obesity. The disturbed feeding pattern is found in obese persons. Some obese people are tending to eat more food when getting emotional and it is difficult to control their eating habits. Overfeeding during infancy and childhood can be a cause of obesity among adolescents and adults. Environmental factors such as socioeconomic environment, availability of food, surrounding, etc. increase the chances of obesity.[7]

This study is conducted to identify the predisposing factors regarding overweight and obesity among the nurses in planning to generate data for further management.

NEED OF THE STUDY

In India the lifestyle of nurse is getting change due to the need of the hospital and population change. This factor can affect the nurse's point of view towards the job satisfaction, stress, reaction to stress and coping with the stress and stressful situations.[14-15] These factors can affect the person's health to some extent and contribute to the obesity.[13-20] The clear impact of the obesity on health is broad and can affect the many body systems. It also compromises the work performance of the nurses.[21-22] The clear data regarding the prevalence of obesity among nurses is not available. This study is the approach to gather the data regarding the prevalence and contributing factors among the nurses.

OBJECTIVES OF THE STUDY

1. To assess the predisposing factor of obesity among nursing personnel.
2. To co-relate the predisposing factors of obesity of nursing personnel with their demographic variable.

MATERIAL AND METHOD

Study type and setting

This study is a non-experimental, quantitative descriptive study. This study was conducted in selected hospitals of Nagpur city.

Inclusion criteria:

1) Nursing personnel having BMI >25kg/m2
2) Nursing personnel available at the time of study

Exclusion criteria:

1) Nursing personnel who are not willing to participate in the study

Population: Nursing personnel of Nagpur city.
Sample: 100 Nurses having BMI greater than 25kg/m^2 in selected hospitals of Nagpur city.
Sampling technique: Purposive sampling

Tool of the study

The self-structured questionnaire includes two sections, Section 1 having the questions related to the demographic profile of the nurses and Section 2 having the questions regarding the predisposing factors of obesity. The reliability of the tool was calculated by using Cronbach's alpha and found reliable (0.76) and found valid

Ethical considerations

➢   The institutional ethical committee of Government Medical

College Nagpur had approved the research
➢ Inform consent was taken from all the participants before involving in the study
➢ Assurance was given to participants regarding the confidentiality of the information

Statistical analysis
The data were coded and transferred onto an excel sheet, and statistical analysis was done using the manual method. Descriptive and inferential statistics were used for data analysis frequency, percentages were used to describe the socio-demographic variable and predisposing factors of obesity. Chi-square tests were used to check the association between a predisposing factor and socio-demographic variable

RESULT
In the present study, among all the participants nearly half of them that is 49% were aged between 41-50 years followed by 24%, 17%, and 10% falls in the age group 51-60, 31-40, and 21-30 years of age respectively. Almost all the participants are 96% were female nurses and only 4% were male. Among all participant nurses, 36% of them have 11-15 years of experience followed by 29%, 26%, and 9% had 6-10, more than 15, and up to 5 years of experience respectively. More than half that is 87% of the participants were married and only 4% were unmarried, 5% were widowed and 4% were divorced. Among all the participants more than half of them have income more than 100000 were as 22%, 5%, and 1% have 200000, 300000 and more than 300000 respectively.

Among all the predisposing factors the most prevalent factor was bad eating habits and physical inactivity which stands for 25% followed by a genetic factor (13%), pregnancy (7%), mental and psychological stress (6%), physical stress (5%), menopause (4%) and surgical intervention (4%) respectively. (Table 1)

The association between selected demographic factors and predisposing factors was calculated by using the chi-square test. It is found that the association between age and genetic factors, menopause was found significant (Table 2). Monthly income is found significant with taking medication. The rest of the factors were found non-significant (Table 3).

DISCUSSION
This study is conducted to generate data regarding the predisposing factors of obesity among nurses. The most prevalent factors of obesity among nurses are physical inactivity and bad eating habits. The different studies show different findings regarding the predisposing factors such as the study conducted by the Al-Latham et al found that the urban residence and high waist circumference predispose for obesity[8]. Gokosmanoglu et al conducted a study on 750 adolescents s showing that irregular physical exercise, family history of obesity, and consuming pastry food leads to obesity[9]. Baratin et al conducted a study on 5898 adults cross-sectional study shoes negative life events and stress as the workplace are responsible for obesity[10]. Similarly, baalwa et al conducted a cross-sectional study with 683 samples showing urban residence, alcohol consumption, smoking, physical inactivity, using the vehicle for transport and richness are responsible for obesity[11]. Al kibria et al conducted a study on 647 females found that older age, ever pregnant, ever married, being muslin, high education level, wealthy and urban residence contribute to obesity[12]. Further studies are needed to investigate the factors that cause obesity among nurses.

CONCLUSION
The current study was conducted to assess the prevalence of predisposing factors among nurses in Nagpur city. Among all the factors physical inactivity and bad eating habits were found the most prevalent. This factor shows that the nurses are not giving importance to their health and leads to cause health problems. There is a need to focus on the health of health care workers in India.

Relevance for clinical practice
Nurses in the clinical area work closely with the patient and they need to be active and idealistic to the patient to provide care, if the nurses remain unhealthy then that affects the care to be given to the patient. If the nurses are found obese or with health problems the patient might not accept the nurse as she is or it creates doubts among patients, so it is necessary to monitor and do some interventions regarding the health of nurses.

Tables:
Table 1: frequency and percentage of predisposing factors of obesity

s. no.	Predisposing factors	F	Percentage
1	Genetic factor	46	13%
2	Pregnancy	23	7%
3	Menopause	15	4%
4	Bad eating habits (overeating, anorexia nervosa, etc.)	87	25%
5	Taking medications	16	5%
6	Health problems	21	6%
7	Physical inactivity	85	25%
8	Physical stress	18	5%
9	Mental/psychological stress	22	6%
10	Surgical interventions	14	4%

Table 2: The association of predisposing factors of obesity and age (N=100)

Predisposing factors		Number	Age in years				Chi2-value	p-value
			21-30	31-40	41-50	51-60		
Genetic factor	Yes	46	8	4	23	11	8.1277	0.045, S
	No	54	2	13	26	13		
Menopause	Yes	15	0	3	4	8	9.9812	0.023, S
	No	85	10	14	45	16		

Table 3: Association of predisposing factors of obesity and monthly family income (N=100)

Predisposing factors		Number	Monthly Family Income				Chi2-value	p-value
			≤100 000	1000 01-20 0000	200 001-30 0000	>300 001		
Taking medications	Yes	16	16	0	0	0	7.4074	0.037, S
	No	84	56	22	5	1		

Ethical compliance section
Ethical clearance
The ethical clearance was obtained from the institutional ethical committee. Prior permission was taken from the principal of the college of nursing.

Informed consent
Written informed consent was obtained from the participants. Participants were assured of confidentiality with autonomy to withdraw themselves from the study before data collection.

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