

NUTRITIONAL STATUS AND KNOWLEDGE ABOUT OBESITY AMONG NURSING STUDENTS OF BANARAS HINDU UNIVERSITY, VARANASI

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ABSTRACT

Introduction: There has been growing concern about nutritional status of Indian young population especially girls. This study was planned to find out nutritional status of nursing students using BMI and their knowledge about obesity. **Method:** A cross sectional study was conducted at college of nursing, IMS, BHU among 112 nursing students by using a pre-tested, semi-structured questionnaire. The weight and height was taken at that time. Data analysis was done by using excel. **Result:** Out of 128 girls 42.2 % were undernourished with BMI <18.5 and 17.2% out of 29 boys were undernourished. Family size, type of ration card, year of study, source of drinking water and per capita monthly income seems to have no role on BMI. About 18.5% of students think that substance abuse does not contribute to obesity. 29.3% of nursing students do not consider obesity as a disease. **Conclusion:** Though Indian govt. is running programs nutrition supplementation and upliftment, even in educated individuals the percentage of under nutrition is high. Malnutrition leads to vicious cycle of disease occurrence and malnutrition.

Keywords: BMI, Under Nutrition, Overweight, Obesity

Introduction:

Nutrition is an issue of great academic and public importance, as change in dietary habits could result in a healthier life and longevity^{1, 2}. It is generally believed that there is a need for improved teaching of nutrition in medical schools. Over the past few decades, the food and home environments have changed tremendously. Environmental influences that affect eating behaviors include the changing nature of the food supply and increased reliance on foods consumed away from home.³

With excessive consumption of processed foods and high fat diets obesity is on the rise. The high popularity of junk foods and carbonated beverages were likely to precipitate obesity.⁴

Adolescents formed highest proportion of meal skippers (53.9% vs 49.1%). 68.7% of subjects consumed fast foods daily or frequently. 53.7% of adolescents and 40.2% of adults had snacks regularly. Adolescents from low SES had higher percentage of daily consuming of fast foods and bakery items.⁵

A questionnaire survey in cardiologists and internists revealed lapses in their nutrition knowledge and, as these specialties are thought to be crucial for prevention policy of Cardio Vascular Disease (CVD), the need for further improving the nutrition knowledge of both medical professionals and general population is compelling.⁶

Nutrition it is a vital component of health promotion, disease prevention and treatment. Therefore, it is important that health professionals have adequate knowledge in nutrition⁷. The nutritional roles of nurses include conducting nutritional screening to identify nutritionally vulnerable patients⁸ and offering nutritional counseling services.⁹

Studies have confirmed that surgical patients confronted with malnutrition experience higher rates of complications, such as urinary tract infections, pneumonia and electrolyte imbalances¹⁰, which, in most cases, delay wound healing, compared with patients who are adequately nourished.¹¹

Materials and Methods:

A cross sectional study was conducted at The College of Nursing, Institute of Medical Sciences, Banaras Hindu University using a pre-tested, semi-structured questionnaire in the months of December 2014 and January 2015, among 157 nursing students. First, second and third year students were included in the study. Final year students were not included in the study because they were

Results:

The mean weight of girls was 45.8 SD \pm 5.8 kg whereas boys were 61.0 SD \pm 10.4 kg. About 42.2% of females were underweight in comparison to 17.2% males. Under nutrition was significantly associated with females than males (p value $<$.05 Table 3). About 46% of SC and 43% general caste students were underweight.

As diseases like obesity, hypertension, diabetes, chronic heart diseases which are directly related to diet and nutrition are increasing, it is becoming very important for nurses to have good knowledge about nutrition so that they monitor the nutrition of in patients accurately and give correct advice to them and their relatives.

The need to determine the nutritional competency levels of nursing students has been emphasized¹², perhaps because of reports that little emphasis is placed on clinical nutrition during the training of nurses¹³.

There has been growing concern about nutritional status of Indian young population especially girls. According to UNICEF more than half of adolescent girls in India are anaemic and undernourished. Malnutrition leads to vicious cycle of disease occurrence and malnutrition. This study was planned to find out nutritional status of nursing students using BMI and their knowledge about nutrition and malnutrition.

not available due to their university exams. Consent was taken from the principal and participating students of the college. The questionnaire was distributed separately in the first, second and third year classes to the students present at that time. The weight and height of each student was taken separately. Data analysis was done by using SPSS ver. 16.

The mean height of girls was 155.1 SD \pm 7.3 cm whereas that of boys was 167.7 SD \pm 5.7 cm. The mean BMI was 19.53 \pm SD. 2.79 and the mean BMI of females and males was 19.0 SD \pm 2.3 and 21.7 SD \pm 3.6.

According to Asian Cut-offs 13.8% of males were obese in comparison to 1.6% females (Table 1). None of the SC or ST

student was obese. It seems family/per capita income, family size, source of drinking water and type of ration card are not related to malnutrition.

156 out of 157 think that obesity and malnutrition are a cause of rise of

several diseases in India and it is necessary to increase awareness about proper nutrition in the community and also 147 out of 157 believes that physical exercise is the best way to decrease obesity. Many nursing students (29.3%) still do not consider it as a disease (Table 4).

Table- 1: Frequency table of nursing students by WHO BMI cut-offs (for Asian Population) ¹⁹

Variables	Sub-variables	Under weight (n=59)		Normal (n=80)		Over weight (n=12)		Obese (n=6)		Total (n=157)
		No.	%	No.	%	No.	%	No.	%	
Gender	Male	5	17.2	13	44.8	7	24.2	4	13.8	29
	Female	54	42.2	67	52.3	5	3.9	2	1.6	128
Caste	SC	14	46.7	14	46.7	2	6.6	0	0.0	30
	ST	1	25.0	2	50.0	1	25.0	0	0.0	4
	OBC	27	32.1	46	54.9	6	7.1	5	5.9	84
	General	17	43.6	18	46.1	3	7.7	1	2.6	39
Percapita income INR	0 - 1000	20	35.7	32	57.1	3	5.4	1	1.8	56
	1001 - 5000	21	33.9	31	50.0	7	11.3	3	4.8	62
	>5000	18	46.1	17	43.7	2	5.1	2	5.1	39
Family size	1-4	10	52.6	8	42.1	1	5.3	0	0.0	19
	5-6	34	39.5	41	47.7	7	8.1	4	4.7	86
	7-9	9	26.5	22	64.7	1	2.9	2	5.9	34
	≥10	6	33.3	9	50.0	3	16.7	0	0.0	18
Ration card	APL	52	37.7	71	51.5	9	6.5	6	4.3	138
	BPL	7	38.9	9	50.0	2	11.1	0	0.0	18
	Antyoday Yojana	0	0.0	0	0.0	1	100	0	0.0	1
Source of drinking water	Hand pump	14	26.9	31	59.6	5	9.6	2	3.8	52
	Govt supply	21	46.7	21	46.7	3	6.7	0		45
	Private	19	36.5	25	48.1	4	7.7	4	7.7	52
	Well/others	5	62.5	3	37.5	0		0		8

APL – Above Poverty Line; BPL- Below Poverty Line

Table- 2: Frequency table of nursing students by WHO BMI cut-offs for International Classification

Variables	Sub-variables	Under Nutrition (n=59)		Normal (n=92)		Over weight (n=12)		Total (n=157)
		No.	%	No.	%	No.	%	
Gender	Male	5	17.2	20	69.0	4	13.8	29
	Female	54	42.2	72	56.2	2	1.6	128
Caste	SC	14	46.7	16	53.3	0	0.0	30
	ST	1	25.0	3	75.0	0	0.0	4
	OBC	27	32.1	52	61.9	5	6.0	84
	General	17	43.6	21	53.8	1	2.6	39
Percapita income INR	0 - 1000	20	35.7	35	62.5	1	1.8	56
	1001 - 5000	21	33.9	38	61.3	3	4.8	62
	>5000	18	46.1	19	48.8	2	5.1	39
Family size	1-4	10	52.6	9	47.4	0		19
	5-6	34	39.5	48	55.8	4	4.7	86
	7-9	9	26.5	23	67.6	2	5.9	34
	≥10	6	33.3	12	66.7	0		18
Ration card	APL	52	37.7	80	58.0	6	4.3	138
	BPL	7	38.9	11	61.1	0	0.0	18
	Antyoday Yojana	0	0.0	1	100.0	0	0.0	1
Source of drinking water	Hand pump	14	26.9	36	69.2	2	3.8	52
	Govt supply	21	46.7	24	53.3	0		45
	Private	19	36.5	29	55.8	4	7.7	52
	Well/others	5	62.5	3	37.5	0		8

APL – Above Poverty Line; BPL- Below Poverty Line

Table- 3: Chi square test for under nutrition in males and females

Gender	Under nutrition (n=59)		Normal/overweight (n=98)		Total (n=157)		Pearson χ^2
	No.	%	No.	%	No.	%	
Male	05	17.2	24	82.8	29	100.0	6.272 P = 0.012
Female	54	42.2	74	57.8	128	100.0	

Table- 4: Perception of obesity among nursing students.

Variables	Sub-variables	Under weight (n=59)		Normal (n=92)		Over weight (n=6)		Total (n=157)
		No.	%	No.	%	No.	%	
Is obesity a disease?	Yes	39	35.1	68	61.3	4	3.6	111
	No	20	43.5	24	52.2	2	4.3	46
Most common obese are people	Who work while sitting only	38	38.4	57	57.6	4	4.0	99
	Who escape from work, labour	15	35.7	26	61.9	1	2.4	42
	Rich people	06	37.5	9	56.2	1	6.2	16
Does drug/ substance abuse contribute to obesity?	Yes	47	36.7	77	60.2	4	3.1	128
	No	12	41.4	15	51.7	2	6.9	29
Which age group are more affected?	10-20	0	0.0	6	100	0	0.0	6
	20-50	55	39.0	80	56.7	6	4.3	141
	Above 50	04	40.0	6	60.0	0	0.0	10

Discussion:

The mean BMI was 23.00 ± 4.4 . A total of 25.6% of the students were obese and 17.4% were overweight. Non nutritious food, lack of physical exercise and irregularity in breakfast were prominent drivers of obesity, in addition to other lifestyle behaviour (Chhaya S, Jadav P.)¹⁴

According to Boo N Y, Chia G J Q, Wong L C *et al.* median body weight of the medical students participants was 59.0 kg, the mean body height was 166.1 cm (standard deviation [SD] 8.5 cm), and the mean body mass index (BMI) was 21.8 kg/m² (SD 3.4 kg/m²). Based on the World Health Organization BMI cut-offs for the Asian population, 30.1 percent (n is equal to 72) of the students were overweight or obese, with a BMI that was equal to or greater than 23.0 kg/m². Based on the WHO International classification of body weight, 68.8% of the subjects were of a normal body weight and 16.1% were overweight or obese.¹⁵

Chaitali A Gore, Mangala Subramanian, Mini Jayan found the prevalence of overweight and obesity was

19.1 % and 22.1 % respectively according to WHO's classification for Asians among the medical students of Bangalore.¹⁶ 49.7% were overweight or obese (58.2% of the females; 31.4% of the males) (Van den Berg VL, Okeyo AP, Dannhauser A, Nel M.)¹⁷. Suresh K. Sharma *et al* in study among nursing students in Ludhiana Punjab found the undernutrition in students to be 19.5% and 11% to be obese according to international cutoffs of BMI.¹⁸

There is variation in BMI levels of medical/nursing students among different countries as well as in different parts of India itself, however under nutrition is more commonly seen in females than males in India.

Conclusion:

Though Government of India is running many programmes for nutritional supplementation, the percentage of under nutrition is high even in educated individuals, especially females. Regarding obesity, many still do not consider it as a disease. Physical exercise is considered as the best way to decrease obesity.

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