

**ASSESSMENT OF NUTRITIONAL STATUS AMONG POST GRADUATE STUDENTS IN  
TERTIARY CARE HOSPITAL OF JHARKHAND**Kumari Asha Kiran<sup>1</sup>, Manisha Kujur<sup>2</sup>, Anju Prabha Kumari<sup>2\*</sup>, Santosh Kumar Soren<sup>3</sup> and Vivek Kashyap<sup>4</sup><sup>1</sup>Associate Professor, Dept. of PSM, RIMS, Ranchi, Jharkhand.<sup>2</sup>Senior Resident, Dept. of PSM Ranchi, Jharkhand.<sup>2\*3</sup>JRA, Dept. of PSM, RIMS, Ranchi, Jharkhand.<sup>4</sup>Professor & H.O.D, Dept. of RIMS, , Ranchi, Jharkhand.**\*Corresponding Author: Dr. Anju Prabha Kumari**

JRA, Dept. of PSM, RIMS, Ranchi, Jharkhand.

Article Received on 06/09/2020

Article Revised on 28/09/2020

Article Accepted on 18/10/2020

**ABSTRACT**

**Objectives:** Post graduate students, the future health frontiers ranging from periphery to the apex organization, are compressed with academic, clinical and emergency shifts along with their family responsibilities. So it was the felt need from Department of Community Medicine to assess the dietary and lifestyle habits among the Post Graduate students and to identify the determinants of malnutrition among the study population. **Methodology:** This cross sectional study was carried out among the Post Graduate medical students of RIMS, Ranchi for a period of three months. Total 60 students were enrolled in the study by systematic sampling technique. Data collection tool was STEPS questionnaire followed by anthropometric measurements. Data collected was entered in Ms Excel sheet and was analyzed using SPSS software, version 20. **Result:** The study participants were of age 26 to 33 years. Majority (88.3%) of the total study population belongs to nuclear family and 61.66% had urban residence. Less than a half (40%) of the participants had smoking habits. We found that 40% of the participants were suffering from malnutrition namely pre-obesity and consumption of junk food and lack of physical activities were the possible determinants. **Conclusion:** From our result we can conclude that participants are susceptible to non communicable diseases due to malnutrition. Awareness and motivation program to be organized at regular interval for balanced diet intake and life style modifications.

**KEYWORDS:** Nutritional status, malnutrition, Post Graduate medical students.**INTRODUCTION**

Nutritional assessment is an in depth evaluation of both objective and subjective related to an individual's food and nutrient intake, life style and medical history.<sup>[1]</sup> Proper nutrition is the prerequisite of good health. Our food choices are important not only for getting the regular adequate fuel and maintenance but it also helps us in prevention of non communicable diseases. It is well known fact that the nutritional status can alter the health and well-being of a person. Similarly, physical activity helps to expand and maintain healthy bones, muscles, and joints in early life; to enhance flexibility, balance, and survival for all ages; and to prevent or impede the development of high blood pressure, cardiovascular disease, and diabetes in adults.<sup>[2]</sup>

At present malnutrition is the global issue. In a world population of 7 billion, about 2 billion people suffer from malnutrition. Nearly 800 million people suffer from calorie deficiency. Out of 5 billion adults worldwide, nearly 2 billion are overweight and obese. Out of 129 countries, 57 countries have serious levels of both under nutrition and adult overweight.<sup>[3]</sup>

The data of NFHS-4 revealed that 20.7% women are obese or overweight, and 18.6% men are overweight or obese in India. At the same time according to NFHS-4 data in Jharkhand 10.3% women are overweight where as 11.1% men are overweight or obese.<sup>[4]</sup>

Post graduate medical student is different with other population in that he/she has to handle emergencies and ICU, mugging up regular updates in addition to his regular academic activities and hospital duty. Moreover extended working hours, compromising sleep hours, intense peer pressure and constant need to meet or exceed colleague standards further led to bad adopting mechanism like over eating, low interest for physical workout and on top of that substance abuse.

Medical students have the privilege to learn the nutrition facts and its implication on health as a part of academic learning. But even after the excellent knowledge, he is unable to take proper diet as per his extensive requirement due to various underlying factors. With this background this study was conducted to find out the

dietary habits and its effect over health over the post graduate students.

### Objectives

- (i) To assess the dietary and lifestyle habits among the Post Graduate students.
- (ii) To identify the determinants of malnutrition among the study population.
- (iii) To compare the results of male and female post graduate students.

**Methodology:** This institutional based cross sectional study was carried out among the Post Graduate medical students of Rajendra Institute of Medical Sciences (RIMS), Ranchi for a period of three months, during September 2019 to November 2019. The study setting was Post graduate hostels of RIMS, Ranchi. Participants were chosen by systemic systematic sampling technique. The first room was selected randomly and was marked as room no.1 and then every fourth room was taken into consideration. We approached to 70 Post Graduate students and could enroll only 60 participants after taking their consent.

Data was collected using modified STEPS questionnaire followed by anthropometric measurements. The questionnaire had 3 sections, the first section was designed to collect information on demographic characteristics (age, sex, marital status, religion, ethnicity, types of family, number of family members, residence); second part included the variables on personal habits (cigarette smoking, alcohol consumption, working hours, sleeping hours), third part was for collecting information on dietary habits (diet preference, junk food consumption, use of food supplement) and fourth part was meant to collect information on history of any disease & anthropometric measurements (to obtain Body Mass Index and Waist-Hip ratio).

Data collected was entered in Ms Excel sheet and was analyzed using SPSS software, version 20. Frequencies and percentages were determined for categorical variables. Means and standard deviations were calculated for continuous variables.

### RESULT

**Demographic characteristics:** A total of 60 post graduate students (30 male and 30 female) with mean age of 29.5(3.79) years participate in this study. Majority (66.7%) of them were of age 29 to 30 years. More than half (56.6%) participants were married, 90% participants were following Hinduism, 61.66% were urban dwellers, 88.3% participants were from nuclear family. Detail of the demographic characteristics is shown in table 1.

**Life style and personal habits:** Out of total 60 participants, 58.3% had routine weekly physical activity and 71.7% participants reported that they had duty hours of 9-10 hours. More than two third (70%) participants reported to have less than 8 hour sleep. Details of the personal habits are shown in table 2.

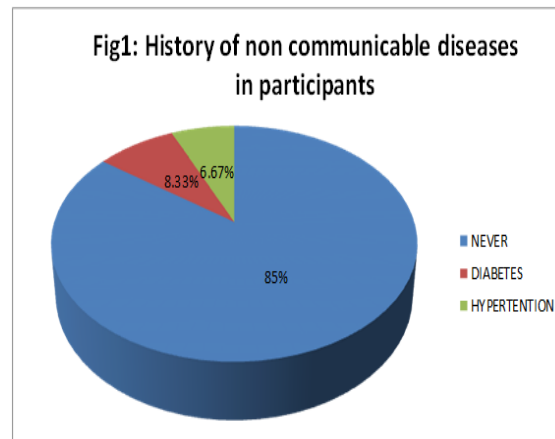
**Dietary habits:** Regarding food preference, 53% participants reported to prefer non vegetarian diet. Less than a half (48.3%) of the participants liked munching junk food every day however only 33% of the participants included fruits in their regular diet.

**Anthropometric measurements:** The mean (SD) BMI for male and female was found to be 26.62(1.69) and 20.33(1.75) respectively. The mean(SD) W-H ratio for male and female was recorded as 0.95(.09) and 0.80(0.03) respectively. Details of anthropometric measurement are presented in Table 3.

**Table 1: Socio-demographic profile of the participants.**

Characteristics	Description	Frequency	Percentage	
Age group(in years)	<28	6	10.0	
	29-30	40	66.7	
	31-32	13	21.7	
	>33	1	1.7	
Sex	Male	30	50.0	
	Female	30	50.0	
Religion	Hindu	54	90.0	
	Muslim	2	3.3	
	Christian	2	3.3	
	Sarna	2	3.3	
Ethnicity	Tribal	5	8.3	
	Non Tribal	55	91.7	
Residence	Urban	37	61.6	
	Rural	23	38.3	
Marital Status	Married	Male	14	23.3

		Female	20	33.3
	Unmarried	Male	16	26.6
		Female	10	16.6
Type of family	Nuclear		53	88.3
	Joint		7	11.7
No. of family members	<5		52	86.6
	<8		8	12.9



**Fig: 1.** Shows the prevalence of NCDs among the participants.

**Table 2: Personal habits of the study participants.**

Characteristics	Description	Frequency (n=60)	Percentage
Working hours	6-8	14	23.3
	9-10	43	71.7
	11-12	3	5.0
Sleeping hours	<8	42	70.0
	>8	18	30.0
Physical activity(routine)	Never	11	18.3
	Weekly	35	58.3
	Occasionally	13	21.7
	Daily	1	1.7
Cigarette smoking	Never	36	60.0
	<3 cigarette	16	26.6
	<8 cigarette	8	13.3
Alcohol consumption	Never	37	61.
	Occasional	12	20.0
	Weekly	10	16.7
	Daily	1	1.7

**Table 3: Details of the food consumption among the participants.**

Characteristics	Description	Frequency (n=60)	Percentage
Junk food	No	3	5.0
	Daily	29	48.3
	Weekly	20	33.3
	Monthly	8	13.3
Fruits	Daily	20	33.0
	Weekly	40	67.0
Food supplement	Yes	46	76.7
	No	14	23.3
Food preference	Vegetarian	7	11.7
	Non vegetarian	53	88.3

**Table 4: BMI & W-H Ratio of the study participants.**

Characteristics	Description	Male n=30(%)	Female n=30(%)
BMI*	Under weight	0(0)	1(3.3)
	Normal	10(33.3)	26(86.7)
	Pre obese	20(66.7)	3(10)
W-H ratio**	Low	18(60.0)	19(63.3)
	Moderate	8(26.7)	7(23.3)
	High	4(13.3)	4(13.3)

\*Body Mass Index \*\*Waist Hip ratio

## DISCUSSION

This study was intended to assess the dietary and life style habits among the Post Graduate students. Our study revealed that 66.7 % of the respondents come under the age bracket of 29-30 years. In this age group the students has to bear family responsibilities in terms of marriage, child bearing etc. In the present study, married participants constituted 56.6% of the total population.

Among our participants 71.7% population works for 9-10 hours and 70% reported that they had less than 8 hours sleep. Out of total participants 40% had history of smoking habit and 38.3% participants have adopted alcohol consumption. In the professional institute one starts smoking and alcohol consumption as a party fun but gradually it becomes the habit and ultimately makes an individual susceptible for non communicable diseases.

Our maximum (88.3%) participants had preference for non vegetarian diet. In addition junk food is consumed daily by 48.3% of the study population. The reason behind might be easy availability, bulk storage and acceptability even during the duty hours. Similar finding of daily snacking was found in a study conducted among Saudi students.<sup>[5]</sup>

However the daily fruits consumption was reported by 33% of the population only. The rising fruit price, poor storage and availability might be the reason. Our findings are consistent with the results of a study of university students in Douala, Cameroon where university students have less fruit consumption.<sup>[6]</sup>

Moreover 76.7% population relies on the regular diet provided in the mess only and they do not prefer using food supplement. In Malaysian study, 80% of participants stated that they take food supplement to maintain good health.<sup>[7]</sup>

The prevalence of malnutrition was found to be in 40%, in which over weight and underweight accounts for 38.33% and 1.6% respectively. Based on our results, the possible reason for preobesity may be summarized as lack of routine physical activity and junk food consumption. We also found that prevalence of diabetes and hypertension to be 8.3% and 6.6% respectively among the study population.

Conclusions: Post Graduate students are the future health leaders of the nation and therefore their good health are

fundamental to nation's development. Being in the medical institution, they have the privilege to witness the consequences of unhealthy lifestyles in their clinical exposure as well as to learn the food facts as a part of curriculum. The need is to make them aware and keep motivated towards healthy diet and lifestyle. For a start the hospital administration may take the initiative for the mandatory physical education classes, and the students may be given options to join it either morning or evening shift. In addition, the special food corner can be established so that even during night shifts and odd hours, the resident doctors can have healthy eating options rather than munching on junk foods. In order to promote and sustain healthy diet and life style, intervention programs can be conducted at regular interval.

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