

# Awareness of BMI and life style including physical activity, food habits and personal history among first year medical students at a rural medical college setup in Kerala

Santhosh Viswan<sup>1</sup>, Vishnu Radhakrishnan<sup>2\*</sup>, Jagathlal P C<sup>3</sup>, C S Bharathan<sup>4</sup>, Dona Devasia<sup>5</sup>

{<sup>1</sup>Associate Professor, <sup>3</sup>Professor & Head, <sup>5</sup>Tutor, Department of Biochemistry} {<sup>2</sup>Assistant Professor, <sup>4</sup>Professor & Head, Department of Pharmacology} PK Das Institute of Medical Sciences, Vaniamkulam, Palakkad, Kerala, INDIA.

Email: [santhoshviswan13@gmail.com](mailto:santhoshviswan13@gmail.com)

## Abstract

**Background and Objectives:** Medical education is stressful throughout the course of training. The extensive amount of material knowledge to be absorbed, social isolation, pressure of examination, discrepancies between expectation and reality all can be anticipated to bring psychological stress. As future physicians and health care providers, it is generally assumed that the medicos have better knowledge about healthy life style and dietary practices when compared to their peer age group undergoing other courses. However there is no evidence to indicate that the knowledge which has been gained is translated into practice. Also medical students have been shown to exhibit early risk factors for chronic diseases. This study is designed to assess the awareness of body mass index and life style including physical activity, food habits and personal history among first year medical college students at a rural medical college in Kerala. **Material and methods:** The study was done at PK Das Institute of Medical Science, Vaniamkulam, Ottapalam, Kerala, 134 first year medical college students were enrolled. The study was conducted between December 2017 to May 2018. A written consent was obtained from the entire student. A structured questionnaire was given to all the participants. Results obtained was tabulated and expressed in percentage. **Result and Conclusion:** As future physicians and health care providers it is very important for medical college students to have good physical health and fitness. This study has shown 71.61% of students are unaware about BMI, 49.2% do not do any physical activity, 80% do not know their calorie requirement and only 5.9% are knowing their lipid profile. Policy makers and curriculum designers should lay importance on hands on skills rather than to have material knowledge imparted. Practical sessions should include anthropometry, calculation of BMI and calorie requirement. Nutrition should be added as a practical session. De-stressing activities and yoga can be added as a part of the curriculum.

**Key Words:** Medical College students, Body Mass Index (BMI), Physical activity, Food Habits

## \*Address for Correspondence:

Dr Vishnu Radhakrishnan, Assistant Professor, Department of Pharmacology, PK Das Institute of Medical Sciences, Vaniamkulam, Palakkad, Kerala, INDIA.

Email: [santhoshviswan13@gmail.com](mailto:santhoshviswan13@gmail.com)

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## INTRODUCTION

India has the world's largest youth population, with 356 billion in the age group of 10-24 years old. The 21<sup>st</sup> century has seen a shift from communicable disease to non communicable disease globally<sup>1,2</sup>. This poses a major public health concern, the large part of which is preventable.<sup>3</sup> Obesity in childhood and youth leads to breathing difficulties increased risk of fractures, hypertension, diabetes and psychological effects leading to large amount of morbidity and mortality<sup>4</sup>. Obesity is seen to be on the rise in young individuals, of the factors contributing to obesity stress seems to be

particularly important mainly leading to irregularity in diet, lack of exercise and addiction each being independent factors leading to obesity and the prevalence of obesity worldwide.<sup>5,6</sup> Medical education is stressful throughout the course of training. The extensive amount of material knowledge to be absorbed, social isolation, pressure of examination, discrepancies between expectation and reality all can be anticipated to bring psychological stress.<sup>7</sup> As future physicians and health care providers, it is generally assumed that the medicos have better knowledge about healthy life style and dietary practices when compared to their peer age group undergoing other courses. However there is no evidence to indicate that the knowledge which has been gained is translated into practice<sup>8</sup>. Also medical students have been shown to exhibit early risk factors for chronic

diseases.<sup>9</sup> This study is designed to assess the awareness of body mass index and life style including physical activity, food habits and personal history among first year medical college students at a rural medical college in Kerala.

## MATERIAL AND METHODS

The study was done at PK Das Institute of Medical Science, Vaniamkulam, Ottapalam, Kerala, 134 first year medical college students were enrolled. The study was conducted between December 2017 to May 2018. A written consent was obtained from the entire student. A structured questionnaire was given to all the participants. Results obtained was tabulated and expressed in percentage.

**Table 1: Awareness about body mass index**

Are you aware of your of Body Mass Index (BMI)	Yes (%)	No (%)		
	28.39	71.61		
If you are aware , what is your BMI	Know (%)	Don't know (%)		
	14.9	84.1		
How did you calculate your BMI	Formula (%)	Other Methods (%)		
	100	0		
In which category your BMI falls under	Underweight (%)	Normal (%)	Overweight (%)	Obese (%)
	20	30	35	15

**Table 2: Physical activity**

Do you do physical activity	Yes (%)	No (%)		
	50.7	49.2		
If yes, how regular are you	Daily (%)	Thrice a week (%)	Twice Weekly (%)	Once weekly (%)
	39.7	22	23.5	14.6
If doing physical activity, what type of physical activity are you engaged in	Running (%)	Walking (%)	Games (%)	Others (%)
	20	30	35	15

**Table 3: Food habits**

Are you aware of your daily calorie requirement	Yes (%)	No (%)
	19.4	80.59
Are you undernourished	Yes (%)	No (%)
	5.22	94.77
Are You	Vegetarian (%)	Non – vegetarian(%)
	35.7	64.9
Do you regularly consume non-vegetarian food	Yes (%)	No (%)
	94.02	5.9
Do you regularly consume fruits and vegetables	Yes (%)	NO (%)
	43.21	56.71
Are you consuming fat-rich foods	Yes (%)	NO (%)
	88.05	11.94
Are you consuming fast food regularly	Yes (%)	No(%)
	11.9	88.0

**Table 4: Personal history**

Do you consume alcohol	Yes (%)	No (%)
	2.9	97
If yes	Regular (%)	Occasional (%)
	0	100
Are you a smoker	Yes (%)	No (%)
	0.74	99.3

**Table:** Awareness about lipid profile and associated risk factors

Do you have a family history of obesity	Yes (%)	No (%)
	41.7	85.82
Do you have a family history of Dislipidemia elevated cholesterol level in blood).	Yes (%)	No (%)
	35.77	64.92
Do you know the components in lipid profile	Yes (%)	No (%)
	76	23.88
Do you think obesity is a risk factor for diseases	Yes (%)	No (%)
	98.5	1.49
Have you ever checked your lipid profile	Yes (%)	No (%)
	5.97	94.02

## RESULTS

A detail analysis of the questionnaire was done, the results were tabulated under five divisions as awareness about body mass index (BMI), physical activity, food habits, personal history and awareness about lipid profile and associated risk factors. From Table-1, awareness about BMI 71.61% of the Students were not aware about BMI, out of the 28.39% who were aware about BMI only 14.9% knew their own BMI. All of the 14.9% of the students had calculated their BMI using the standard formula  $\text{Weight in kg} / \text{height in m}^2$  as per WHO guidelines for Asia Pacific region<sup>8,9</sup> Further out of the students who knew their BMI 20% were underweight, 35% were overweight and 15% were obese. The next analysis was based on the physical activity (Table-2), 49.2% were not doing any type of physical activity. Out of the 50.7% doing physical activity 39.7% were doing physical activity daily, 22% were doing physical activity thrice a week, 23.5% did physical activity twice weekly and 14.6% did physical activity once a week. Of the students who do physical activity 35% did play games, 30% were walking, 20% did running and 15% did other types of physical activity. The next analysis was based on food habits table-3, 80.59% of the students did not know their daily calorie requirement, 5.22% of the students felt they were undernourished, 94.02% of the students were non-vegetarian, out of which 64% of the students were regularly consuming non-vegetarian food. 43.31% have said that they consume fruits and vegetables regularly. 88.05% of the students have told that they consume fat rich foods and 88% said they were not consuming fast-food. Table-4 was based on personal history, 2.9% said that they consume alcohol and was occasional. Only one student that is 0.74% said was a smoker. The last table were questions based on the risk factors of obesity. 14.7% of the students said that there was obesity in their family. 35.77% of the student said that their family members had history of elevated lipid levels. 23.88% of the students were not aware of the components of lipid profile. 98% did say

that obesity was a risk factor for diseases. Only 5.9% of the students have checked their lipid profile.

## DISCUSSION

Body mass index is the simplest and the most widely used parameter for measuring obesity.<sup>9</sup> It is a known fact that obesity is becoming an epidemic awareness about BMI is very much needed as medical student as the study showed that 71.61% were not aware BMI, of the 14.9% who knew their BMI 20% were underweight, 35% were overweight and 15% were obese. The study conducted by Jayaraj et al has already shown the increase in obesity among the medical college student in Kerala.<sup>10</sup> 20% of the student are underweight which is also a serious concern. Physical activity is one of the major factors contributing to control obesity in the study nearly 50% of the student do not do any physical activity. Previous studies done to evaluate the physical activity, diet and fitness status revealed that the physical condition and nutritional habit of the student attribute towards health promotion and illness prevention<sup>11,12</sup> This study showed that 39.75% were regularly doing physical activity, that is daily. The rest of the students were not doing enough physical activity that is thirty minutes of moderate physical activity five days a week which is the latest guidelines. Further when the different types of physical activity was asked 35% said that they were playing games, 30% said they go walking, 20% said they went for running and 15% they said other types of physical activity. The food habits play a pivotal role in maintaining health and preventing illness, around 80.59% of students were not aware of the daily calorie required by them. 64% of the students were non-vegetarians. Of the non-vegetarians, 94.02% were regular in consuming non-vegetarian food. 56.71% of the students do not consume fruits and vegetables regularly. 88.5% of the respondents said that they consume fat rich food regularly. Only 11.9% of the students said they consume fast food regularly which is a good healthy trend. Balanced diet according to ICMR guidelines should be followed, sensitization on the same

should be made available in the curriculum .Good eating habits helps in maintaining good health and prevent illness.<sup>8,12,13</sup> Tobacco and alcohol abuse is a major public health and social issue, medical students also face the issue.<sup>14,15</sup> In this study only 2.9% consumed alcohol and were occasional drinkers. Only one student that is 0.74% said was a smoker .In addition to social and health problem the medical course is very stressful, pushing students to addiction mainly tobacco and alcohol abuse. Regular counseling sessions for students should be made mandatory. Family history of obesity and knowing family members with elevated cholesterol levels can be helpful in preventing morbidity and mortality.14% of the students said that there was family history of obesity.35.77% said that there was family history of elevated cholesterol levels.98.5% were of the view that obesity is a risk factor for various diseases.76% of the respondents told that they knew about the components of lipid profile but only 5.97% have checked their lipid profile. The results of this study has thrown clarity and added an evidence that material knowledge is not been transferred to practical implications. As medical students our study has thrown light for the need of skill based learning .As the study has indicated maintaining BMI with good life style including adequate physical activity, good eating habits, early screening for obesity related risk factors among medical students is need of the hour for medical students.

## CONCLUSION

As future physicians and health care providers it is very important for medical college students to have good physical health and fitness .This study has shown 71 .61 % of students are unaware about BMI,49.2% do not do any physical activity,80% do not know their calorie requirement and only 5.9% are knowing their lipid profile. Policy makers and curriculum designers should lay importance on hands on skills rather than to have material knowledge imparted. Practical sessions should include anthropometry, calculation of BMI and calorie requirement. Nutrition should be added as a practical session. De-stressing activities and yoga can be added as a part of the curriculum.

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