

## Lifestyle disease risk behaviour among Medical Students in Central India

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### Abstract

Lifestyle related disease risk factors are mainly implicated for increased burden of cardio-vascular diseases. The risk factors are increasing among adolescent and adult population. As medical students are future physicians, it is essential to assess lifestyle disease risk behaviour among these students. So this study is carried out to find out lifestyle disease risk behaviour related to nutrition, exercise, smoking, alcoholism, sleep etc. among students in a medical college and to find out association between sex of student and risk behaviour. A cross sectional study was conducted among 120 medical college students using a predesigned pretested self-administered questionnaire. Questionnaire consisted of socio-demographic data and detailed information related to lifestyle disease risk behaviour. Only 9.62% students reported consumption of adequate intake of fruits. Frequent consumption of fast food and carbonated drinks was reported by 41.67% and 26.67% medical students. 67% students were not doing regular exercise and 58% were not involved in sports activity. 35% students were spending more than 2 hours in sedentary activity. 15% students were smokers and 23.33% were alcoholic. More than 45% students had duration of sleep less than 8 hours and irregular pattern of sleep. Involvement in sports and physical activity was found less among female students while smoking and alcoholism was common among male students. It was found to be statistically significant. Unhealthy lifestyle disease risk behaviour is prevalent among medical students. Health education sessions should be conducted and students should be motivated to adapt healthy lifestyle practices.

**Keywords:** Lifestyle disease, Risk behaviour, Nutrition, Physical activity, Habits.

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### Introduction

India is faced with double burden of communicable and non-communicable diseases. By 2020, 57% of disease burden of India will be due to non-communicable diseases. In developing countries CVD is an emerging public health problem and trend is rising<sup>(1)</sup>. Prevalence of CVD is rising in younger age group.

The major cardiovascular disease risk factors tobacco use, inappropriate diet and physical inactivity explain 70-85% new cases of coronary heart disease<sup>(2)</sup>. In absence of elevation of these risk factors coronary heart disease is a rare cause of death. CVD tends to occur earlier in life in Indians<sup>(3)</sup>.

Medical students are future health care providers. Medical students are more prone to poor eating habits, lack of sleep or acquisition of new habits, such as smoking and alcohol. All these factors do not contribute positively to the development of healthy lifestyles. Research related to these risk factors among medical students is essential, considering their role as future physicians and as a model in public health intervention programmes<sup>(4)</sup>. No such study has been conducted among medical students in Central India. So the present study was conducted to assess lifestyle disease risk

behaviour related to nutrition, exercise, smoking, alcoholism, sleep etc. among students in a medical college and to find out association between sex of student and risk behaviour.

### Material and Methods

A cross-sectional study was conducted among students from a private medical college in a central India. Purposeful sampling was done. Out of total 140 students from the batch of II MBBS students, 120 students who willing to participate were included in the study. Before starting of the study, permission was taken from Institutional ethics committee. Informed consent was taken before starting the study.

All the information was collected using pre-designed pretested self-administered questionnaire. The questionnaire was validated by expert faculties. Anonymity was maintained. The questionnaire consisted of information regarding socio-demographic factors. Socio-economic status was calculated by using modified B. G. Prasad's classification. Detailed history of nutrition, physical activity, smoking, alcoholism, sleep pattern etc. was included in the questionnaire. History of daily consumption of fruits, vegetables, salad, milk and breakfast during last week was included. Frequency of consumption of carbonated drinks and fast food during last week was asked. History of physical activity for at least 30 minutes for 3 or more than 3 days in last week was enquired. Duration of hours in spending time in sedentary activity such as watching Television, computer and mobiles and history of involvement in sports activity was included. Also, history of smoking, tobacco chewing and

alcoholism and sleep was included. The data was entered in the excel sheet. Data was analysed by using Epi-Info 7 statistical software. Chi –square test was used to find out association between sex of student and risk behaviour.

**Results**

Total 120 students participated in the study. Out of total 120 students, 62(51.67%) were females and 58(48.33%) were males. Maximum students i.e. 63% were hostellites. 80% of students belonged to Hindu religion and 80% belonged to nuclear family. 70% students belonged to upper socio-economic status as per modified B. G. Prasad’s classification. Only 38% students consumed vegetarian diet while 62% consumed mixed diet.

Out of total 120 students, 16 (8%) and 12(6%) students reported family history of diabetes mellitus and hypertension respectively. Family history of obesity, coronary heart disease and cancer was present in 2.5%, 1.66% and 0.5% students respectively.

**Table 1: Food habits among medical students (n=120)**

	Consumption of food during last week	No.	%
1.	Fruit consumption (daily)		
	Yes	52	43.33
	Fruit Serving /day (n=52)		
	1	34	65.38
	2	13	25
	≥3	5	9.62
2.	Salad consumption (daily)		
	Yes	10	8.33
3.	Eating breakfast (daily)		
	Yes	83	69.17
4.	Milk drinking (daily)		
	Yes	54	45
5.	Frequency of Consumption of fast food		
	<5	70	58.33
	≥5	50	41.67
6.	Frequency of Consumption of carbonated drinks		
	<5	88	73.33
	≥5	32	26.67

Out of 120 students, only 43% (52) of students have consumed fruits daily. Out of 52 students who consumed fruits daily, only 5(9.62%) students reported eating of 3 or more than 3 servings of fruit/ day. Only 10(8%) students have consumed salads. Maximum number of students 83(70%) had a habit of eating breakfast. 66(55%) students had no habit of drinking milk. 50(42%) and 32 (27%) students respectively reported frequent consumption of fast food and soft drinks during last week ( for≥5times)(Table 1).

**Table 2: Physical activity among medical students**

	Physical activity	No.	%
1.	Frequency of exercise in days/week (at least 30 minutes a day)		
	<3	80	66.67
	≥3	40	33.33
2.	Spending time on TV/computer/mobiles in hours/day		
	<2	78	65
	≥2	42	35
3.	Involved in sports activity		
	Yes	50	41.66
	no	70	58.34

Only 40(33%) students reported of performing exercise of at least 30 minutes /day for 3 or more than 3 days in last week. 35% students reported sedentary activity of spending ≥2 hours per day on Television, computer and mobiles. 70 (58.34%) students were not involved in sports activity (Table 2).

**Table 3: Smoking, tobacco chewing and alcoholism among medical students**

	Smoking, tobacco chewing, alcoholism	No.	%
1.	Smoking		
	Yes	18	15
	no	102	85
	Frequency of smoking(n=18)		
	Daily	8	44.45
	Occasionally	4	22.22
	Once in a lifetime	6	33.33
	Smoking before/after admission to MBBS (n=18)		
	Before	3	16.67
	after	15	83.33
2.	Tobacco chewing		
	Yes	2	1.67
	no	118	98.33
3.	alcoholism		
	Yes	28	23.33
	no	92	76.67
	Alcoholism before /after admission to MBBS		
	Before	8	28.57
	after	20	71.43
	Frequency		
	Daily	0	
	occasionally	9	32.15
	Once in a lifetime	19	67.85

Out of total 120 students, 18(15%) students were having habit of smoking while only 2 (1.67%) students were tobacco chewers. Out of total 18 students who were smoking, 8 students had habit of smoking daily. More than 80% students developed habit of smoking after admission to MBBS. This may be due to peer pressure.

History of alcoholism was reported by 28 students. Prevalence of alcoholism was found to be 23%. More than 70% of students developed habit of alcoholism after admission to MBBS. 32% of students reported of occasional consuming of alcohol (Table 3).

**Table 4: Duration and pattern of sleep among medical students**

	Sleep	No.	%
1.	Duration in hours		
	≥8	64	53.34
	<8	56	46.66
2.	Regular	62	51.67
	irregular	58	48.33

47% students reported duration of sleep for less than 8 hours. 48% students reported irregular sleep pattern (Table 4).

**Table 5: Association between sex and lifestyle disease risk behaviour**

	Risk behaviour	Males (%) N=58	Females (%) N=62	Chi square value	P value
1.	Skipping breakfast	14(24.14)	23(37.096)	2.35	0.124
2.	No consumption of fruits	28(48.27)	32(51.61)	0.30	0.58
3.	Excess Consumption of fast food(>5times)	27(46.55)	23(37.096)	1.102	0.293
3.	Not involved in sports activity	23(39.65)	45(72.58)	10.399	0.00128*
4.	Inadequate physical activity	26(44.82)	48(77.41)	13.46	0.0024*
5.	Sedentary activity > 2 hours	20(34.48)	22(35.48)	0.013	0.908
6.	alcoholism	17(29.31)	7(11.29)	5.52	0.018*

\*P<0.05, statistically significant

The habit of skipping breakfast was more common among female students (37.096%) as compared to male students (24.14%). But it was not found to be statistically significant (P>0.05). The prevalence of physical inactivity was more among female students (77.41%) as compared to male students (44.82%) and it was found to be statistically significant (p<0.05). Similarly more number of male students were involved in sports activity as compared to female students. A statistically significant association was found (p<0.05).

Habit of alcoholism was more common among male students(29.31%) as compared to female students(11.29%). It was found to be statistically significant(p<0.05). No significant association was found between sex of student and consumption of fruits, excess consumption of fast food, sedentary activity (Table 5).

## Discussion

Out of 120 students in the present study, only 43% (52) students had reported intake of fruits daily during last week. Out of 52 students who had daily fruit intake, only 5(9.62%) students reported eating of recommended 3 or more than 3 servings of fruit/ day. In a study conducted among undergraduate students in a medical college of Delhi, 12% students consumed 5 or

more than 5 servings of fruits /day which was higher than the present study<sup>(4)</sup>. In a study conducted among medical students of Karachi only 36% students had reported to eat ≤2 units of fruit per week which was found to be lesser than the present study<sup>(5)</sup>. In a study conducted among medical college students in South India, 96.7% students had inadequate intake of fruits and vegetables<sup>(6)</sup>. Rustagi et al reported frequent consumption of carbonated drinks and fast food among 23.7% and 32% students respectively which was similar to the present study (26.67% and 41.67%)<sup>(4)</sup>. One author reported 91.3% prevalence of consumption of fast food among medical students which was more than the present study<sup>(6)</sup>. Mahmood S E and Ansari SH found adverse food intake among 56.6% medical students<sup>(7)</sup>.

In the present study, only 40(33%) students had reported regular physical activity. Few authors had reported findings similar to the present study<sup>(4-5,7)</sup>. In our study, 35% students reported sedentary activity of spending ≥2 hours per day on Television, computer and mobiles. Paul B et al reported 47.6% students spending 4 or >4 hrs in sedentary activity which was higher than the present study<sup>(6)</sup>. Dinesh Kumar found daily Television watching among 88% of urban high school students from Tamil Nadu<sup>(3)</sup>. A study reported 35.6%

students were not involved in any exercise or physical activity which was similar to the present study<sup>(6)</sup>.

In the present study 18(15%) students had reported a habit of smoking while 2 (1.67%) students were tobacco chewers and 23.33% were alcoholic. In a study conducted in Barielly 14.1% students reported a habit of smoking which is similar to the present study<sup>(7)</sup>. Few authors reported approximately 5%-8% medical students had a habit of smoking which is lesser than the present study<sup>(4-6)</sup>. Jagnany et al conducted a study among medical college hostel students in Mumbai and found 39% students were smokers<sup>(8)</sup>. It was higher than the present study findings. As the study was conducted among hostel students, due to peer pressure the proportion of smokers might be more. Rustagi N et al reported 28.8% students had a habit of alcohol consumption which was similar to the present study<sup>(4)</sup>. Few authors reported consumption of alcohol among 6%-10% of medical students which is lesser than the present study<sup>(6-7)</sup>. In a study conducted among undergraduate students in a medical college hostel, proportion of alcoholism was found to be more<sup>(8)</sup>.

More than 45% students had duration of sleep <8 hours with irregular pattern of sleep. In a study conducted in Egypt among students in Alexandria university hostel, approximately 80% students reported improper sleep behaviour<sup>(9)</sup>.

Involvement in sports activity and regular physical exercise was found more among male students as compared to female students and was found to be statistically significant. This might be due to behavioural and cultural factors. Few authors reported similar findings<sup>(6-7,9)</sup>. Habit of smoking was not found among female students. Cultural factors in India might be the reason for present study findings. Some authors had similar study findings<sup>(7,9)</sup>. Mahmmud SE and Ansari SH reported proportion of smoking more among male students as compared to females. But it was not found to be statistically significant<sup>(7)</sup>.

## Conclusions

Unhealthy lifestyle disease risk behaviour is prevalent among medical students. There is an urgent need to intervene and to bring about a change in students' health behaviour. Health education sessions should be conducted regularly and students should be motivated to adapt healthy lifestyle practices.

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