



ORIGINAL RESEARCH PAPER

Medicine

HEALTH-RISK BEHAVIOURS AMONG UNDERGRADUATE MEDICAL STUDENTS IN A SOUTH INDIAN CITY – A CROSS-SECTIONAL STUDY

KEY WORDS: risk behaviours, medical students, smoking, dietary habits

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ABSTRACT

Introduction: Health-risk behaviours among young people are a major public health problem. Youth Risk Behaviour Surveillance System (YRBSS) listed the major health-risk behaviours as behaviours that contribute to unintentional injuries and violence, tobacco use, alcohol and other drug use, unhealthy dietary behaviours, inadequate physical activity and sexual risk behaviours.

Objective and methodology of the study: The present study is designed to estimate the prevalence and describe the pattern of various health-risk behaviours among undergraduate medical students from a selected medical college in South India using a pre-designed questionnaire.

Results: Among 260 of the 436 students involved in driving two wheelers, 107 (41.1%) had never wore a helmet while driving, 40 (11.2%) used mobile phones during driving. Out of 436 participants, 202 are involved in car driving and among them, 74(17%) never wear seatbelt. Among the 436 students, 23 (5.3%) ever tried cigarette smoking, 14 (3.2%) ever tried any other forms of tobacco, 37 (8.5%) have ever tried to consume alcohol and 242 (55.5%) were not involved in any physical activity in past 7 days

Conclusion: The present study has identified various risk behaviours affecting the health of medical students warrants immediate action to halt and prevent such activities.

Introduction:

Health-risk behaviours among young people are a major public health problem worldwide. Youth Risk Behaviour Surveillance System (YRBSS) listed the major health-risk behaviours as behaviours that contribute to unintentional injuries and violence, tobacco use, alcohol and other drug use, unhealthy dietary behaviours, inadequate physical activity and sexual risk behaviours¹.

Those behaviours reduce the academic performance, skills and leads to major non-communicable diseases in later age. As per WHO estimates, 2.6 million people in 10-24 years die every year and a huge number of these suffer from risky behaviours which causes disease, disability and death among them².

As per Global Adult Tobacco Survey (GATS) India Report 2010, 18.4% people aged 15-24 years have consumed tobacco³. Parasuraman et al in India showed 2.4% women and 39.8% men in 15-24 years have consumed alcohol⁴. Ministry of Road Transport and Highways states every 3.7 minutes there is a death because of road traffic accident and 30.3% of it was among people aged 15-24 years⁵. Youth Violence and Alcohol Fact Sheet released by WHO reported that worldwide around 565 adolescent and young people of 10-29 years die every day due to interpersonal violence⁶.

Reports show that around 1, 35,585 persons have committed suicide in India during 2011⁷. World Health survey report of India shows that 77.6% of people in 18-24 years age group consume insufficient fruits and vegetables and 24% prevalence of inadequate physical activity among this age group⁸.

Worldwide and nationwide different studies have assessed prevalence of various health-risk behaviours among students⁹⁻¹⁴. There is paucity of evidence regarding the presence of these behaviours among students in this geographic region. So the present study is designed to identify and understand the occurrence of these risky behaviours in this setting for planning appropriate interventions to modify and prevent their consequences

Objectives

1. To estimate the prevalence and to describe the pattern of health-risk behaviours related to unintentional injuries and violence, tobacco use, alcohol use, unhealthy dietary behaviours, inadequate physical activity and sleep behaviour among

undergraduate medical students from a selected medical college in South India.

Materials and methods:

Type of study: Cross-sectional study

Study population and sample size: Undergraduate Medical students (total of 487 MBBS students) from 1st to 7th semesters in a selected medical college in Madurai, South Indian city in Tamilnadu state were approached for participation in the study.

Study duration: 3 months (May - July 2016)

Study instrument:

Study instrument was a pre-designed, pre-tested structured questionnaire. Part of the questions in the questionnaire were retrieved from 1995 National College Health Risk Behaviour Survey Code book, developed by Centers for Disease Control and Prevention (CDC), Washington, a validated tool. A sample of the questionnaire has been attached in the **appendix**.

Procedure: After getting approval from Institute Ethical Committee, all the 487 undergraduate medical students were approached for participation in the study. Purpose of the study was informed; and confidentiality was assured. Among 487 medical students, only 436 consented for the study and a written informed consent was obtained from them. Data was collected using a self-administered, anonymous questionnaire administered during the leisure time of the students.

Results

Out of 436 respondents, 30.7% are in 19 years. Mean age among study participants is 19 years. Out of 436 participants, 290 (66.5%) are female students and 146 (33.5%) are male students.

Table.1. Health risk behaviours identified among study participants

Variables	Responses	Number	%
Practice of wearing helmet while driving * (n=260)	Never wore a helmet	107	(41.1)
	Occasional use of helmets	131	(30)
	Always wore a helmet	22	(5)
Mobile phone use while driving * (n=260)		40	(11.2)
Use of indicators while driving* (n=260)	Never	50	(20)
	Sometimes	38	(14.6)

Practice of maintaining speed limit* (n=260)	Never	67	(26)
	Sometimes	83	(32)
Practice of wearing seatbelt **	Never wear a seat belt	74	(37)
	Occasional use of seat belt	63	(31)
	Most of the times wear a seat belt	65	(32)
Ever met with accident in their life (n=436)		102	(23.4)

*176 were not involved in riding motorcycle during past 1 year, so remaining 260 were considered for this analysis **234 were not involved in car driving, so remaining 202 were considered for this analysis

Out of 436 study participants, 40 (9.2%) have had a ride with someone who had alcohol in the past 30 days. Among the 436 study participants, 5 (1.1%) were involved in car driving while under alcohol in the past 30 days

UNINTENTIONAL INJURIES AND VIOLENCE RELATED BEHAVIOURS:

Among the 436 participants, 31 (7.1%) have involved more than once in physical fight in the past 12 months and 25 (5.7%) have involved once. Among the 436 study participants, 32 (7.3%) have ever considered for attempting suicide. Among them 18 are females and 14 males.

TOBACCO USE AMONG THE STUDY PARTICIPANTS:

Among the 436 study participants 407 (93.3%) have agreed that tobacco products are dangerous to health, 23 (5.3%) perceived it as harmless and 6 (1.4%) were not aware of it. Students were asked to point the harmful tobacco products and only 142 (32.6%) correctly identified all the tobacco products Cigarette, Bidi, Pawn parag, Tobacco leaves, Betel leaves, Hans and remaining identified only cigarettes as the tobacco product. Among the participants, 36% has a family member or neighbour involved in smoking. Among the 436 study participants, 23 (5.3%) have ever tried cigarette smoking and 14 (3.2%) have ever tried any other forms of tobacco (Ex. Pawn parag, Tobacco leaves, Betel leaves, Hans...) in their lifetime.

Among the 37 participants, 10 have had at least one drink of alcohol on at least 1 day during the 30 days before survey and among the 10 who have had at least one drink of alcohol in the past 30 days, 7 had five or more drinks of alcohol in a row within a couple of hours on at least 1 day during the 30 days before the survey, 37 participants who had consumed alcohol mentioned curiosity, peer influence and social gatherings were major reasons identified for initiation.

Table.2. Pattern of unhealthy dietary habits identified among study participants

Variables studied	Number	Percent
Frequency of consumption of fruits in the past one week Consumed daily	196	45
1-3 times in the past one week	115	26.4
4-6 times in the past one week	63	14.4
Not consumed fruits in the past one week	62	14.2
Frequency of consumption of soft drinks in the past one week Not consumed soft drinks in the past 7 days	219	50.2
1-3 times during past 7 days	108	24.8
4-6 times during past 7 days	22	5
1-2 times per day	71	16.3
3-4 times per day	16	3.7
Consumption of cooked vegetables		
Consumed daily	236	54.1
Occasional use in the past 7 days	179	41.1
Not consumed in the past 7 days	21	4.8
Consumption of fast foods Have not consumed in the past one week	233	53.5

1 or 2 times in the past one week	176	40.3
3 or more times	27	6.2

Participants were asked regarding their involvement in physically activity in the past 7 days before the survey and the results were as follows,

Fig.1. Physical activity involvement among the study participants (n=436)

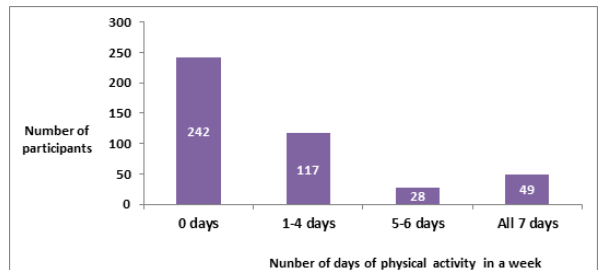


Table.3. Health risk behaviours among study participants (n=436)

Variables	Frequency	Percent
Habit of watching television 3 or more hours per day in the past 7 days	121	27.8
Mobile phone use in a day < 3hours	147	33.7
>3 hours	181	41.5
Sleep behaviours in past 7 days < 8 hours	160	36.7
> 8 hours	276	63.3

Discussion

The present study has identified risk behaviours affecting health among undergraduate medical students in a south-Indian city.

Risk behaviours related to following safety measures while driving:

Among 260 participants involved in driving two wheelers in the past 12 months, 107 (41.1%) had never wore a helmet while driving, 40 (11.2%) used mobile phones during driving, 50 (20%) never use indicators while changing lane, 67 (26%) have never maintained speed limits, 1.1% were involved in driving under alcohol influence in the past 30 days.

Out of 436 participants, 102 (23.4%) have ever met with accident in their life. Among 436 participants, 202 are involved in car driving and among them, 74(37%) never wear seatbelt.

Study by **Kulkarni et al** ⁹ among 260 undergraduate medical students in India showed 20% of students have used mobile phones while driving which is high when compared with present study.

Unintentional injuries and violence related behaviours:

Study done by **Kamal et al** ¹¹ in Egypt among 1200 university students showed 4.9% have involved in physical fight in the past 12 months, which is high when compared with present study in which 31 (7.1%) have involved.

In the present study, 32 (7.3%) had previous suicidal ideations. Few studies have reported high prevalence of suicidal ideations, study by **Kamal et al** ¹¹ in Egypt and study by **Etzersdorfer** ¹² et al showed 8.7% and 16.8% of previous suicidal ideations.

Behaviours related to use of tobacco products and alcohol use:

Study by **Kulkarni et al** ⁹ among 120 medical students in Nagpur showed 15% prevalence of smoking and among them 44.45% were involved in smoking daily. This is high when compared with the present study which shows 5.3% prevalence of smoking and 22% daily smokers among medical students.

Study by **Goel et al**¹⁴ in India among medical students showed 8% prevalence of smoking among medical students with more prevalence among males, early age of initiation of use and curiosity and peer pressure as reasons for initiation of substance use. This is comparable with present study which showed 5.3% prevalence of smoking with only male students involvement, with early age of initiation and curiosity, peer pressure and social gatherings as common reasons for initiation of substance use.

Study by **Kulkarni et al**⁹ showed 1.6% medical students were involved in using smokeless tobacco products, which is less when compared with present study which showed 3.2% prevalence.

Alcohol use:

Among the 436 participants, 37 (8.5%) have ever tried to consume alcohol. Study by **Srivastava et al**¹³ among medical students reported that 3.8% were involved in heavy drinking and 1.8% with binge drinking which is less when compared with present study which showed 8.5% alcohol users and 18% heavy drinkers.

Behaviours related to unhealthy dietary habits:

WHO recommends 400g of fruits and vegetables intake daily to prevent chronic diseases such as heart disease, cancer, diabetes and obesity. Study by **Srivastava et al**¹³ among medical students in India showed 78.9% of students had carbonated drinks ≥ 1 time per day in past 30 days, 63.5% had consumed fast foods ≥ 3 times/week, 97.1% had fruit intake at least once a day in the past 7 days. These results are high when compared with the present study in which 20% are consuming soft drinks daily, 6.2% have consumed fast foods 3 or more times in a week and only 44.9% consume fruits daily.

Behaviours related to physical inactivity:

Among 436 participants, 242 (55.5%) were not involved in any physical activity in past 7 days. WHO recommends physical activity of at least 30 minutes in at least 5 days of a week, which is not observed in 55.5% of students in the present study.

The present study reported 27.8% of students had habit of watching television 3 or more hours per day in past 7 days and 41.5% students spending more than 3 hours in mobile phones daily in past 7 days. This is comparable with study done by **Kulkarni et al**⁹ reported 35% students involved in sedentary activity spending ≥ 2 hours /day on television, mobiles and computer.

Conclusion

The present study has identified few risk behaviours affecting the health of medical students and prevalence of these risk factors at early age can lead to the development of several non-communicable diseases later and it may lead to morbidities and mortalities. So prevalence of these risk factors among medical students warrants immediate action. Students has to be provided opportunities to get involved in more necessary and meaningful activities in the community to identify, understand the risks of such behaviours and correct themselves and prevent others from involving in such behaviours.

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