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Health Risk Behaviours among Students of Professional Courses In Colleges Of Coastal City Of Visakhaptnam, Andhra Pradesh - A Cross-sectional Study

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Abstract
Introduction: Youth, the productive and dynamic section of the population is considered as the most valuable human resource. It is marked with immense physiological, psychological and behavioural changes along with social interactions and relationships which leads them into multiple risk behaviours affecting their health. **Objective:** To assess the multiple health risk behaviours among students of professional courses in colleges and to determine their association with other covariates. **Methodology:** A cross-sectional study was conducted among the students aged above 18 years of professional courses in colleges located in campus of Anil Neerukonda Educational Society (ANES) in Visakhapatnam with a sample size of 402. The data was collected from the study subject by a using a pre-designed, pretested and self-administered questionnaire. **Results:** The mean age of the students was 21.13 ± 1.50 years. Physical activity of more than 300 minutes per week was observed in 20.9% of the students. Mobile phone usage was more than 6 hours per day in 49.2% of students. There were significant associations between gender and mobile phone usage (p=0.040), gender and time spent on social media every day (p=0.002), students of professional courses and duration of mobile phone usage (p<0.001) and students of professional courses and duration of use of social media(p<0.001). 61.4% of the students consumed fast foods as meals and the association of fast food and gender was found be significant. (p=0.016).Similarly association of soft drink consumption and gender was found to be significant.(p=0.001).3.5% of the students were involved in drunken driving.15.2% of them were found to be driving vehicles at speeds more than 100 kmph.17.9% of them used mobile phones while driving. Association between gender and road traffic accidents (RTA) was found to be significant. (p=0.001). Students of Engineering courses were more involved in RTAs then students of other courses and the association was found to be significant. (p=0.005) Significant association was present between gender and addiction (p<0.001) and between students of various courses and addiction.(p=0.046). **Conclusion: S**tudents of the professional courses in this study showed various health risk behaviours**.** Health education is the most effective intervention in initiating behavioural changes at the earliest which lead to prevention of development of health risk behaviours.
Keywords: Students, health risk behaviour**,** mobile phone, addiction.

Introduction

Youth, the productive and dynamic section of the population, is considered the most valuable human resource for fostering economic, cultural and political development of a nation. This period is marked with immense physiological, psychological and behavioral changes coupled with varying patterns of social interactions and relationships. This also leads to engagement in multiple risk behaviors.

During recent year's researchers have started focusing on youth risk behaviors. This is because the major causes of youth morbidity and mortality are not diseases but preventable behaviors, in interaction with social and environmental factors. Adolescent health problems are mainly related to sexual and reproductive health and the use of substances such as tobacco, alcohol, and psychoactive drugs. Accidents (especially traffic incidents), suicide, and violence from others are the leading causes of death in individuals aged between 10 and 19[1,2].

The health concept not only consists of the elimination of diseases but, also includes the goal of gaining the abilities for individuals to continue, protect, and develop their health[2].

Many risk factors such as alcohol consumption, smoking, low level of physical activity, and inadequate nutritional status are the major determinants of developing chronic illness in the later stage of life and thereby greatly contributing to adult morbidity and mortality[3,4]. Health behavior that is formed during the early period of life can have a significant impact on the occurrence of future illness[5,6]. Modification of these health risk behaviors can enhance health and lessen the risk of chronic illness in later life. Most young people are presumed to be healthy but as per WHO , an estimated 2.6 million young people aged 10 to 24 year die each year and a much greater number of young people suffer from illnesses, 'behaviours' which hinder their ability to grow and develop to their full potential . Nearly two-thirds of premature deaths and one- third of the total disease burden in adults are associated with conditions or behaviours initiated in their youth (e.g., tobacco use, physical inactivity, high risk sexual behaviours, injury and violence and others)[7] .

It is crucial to understand health problems of this population, processes and mechanisms that affect their health, identify interventions and strategic approaches that protect their health and develop and implement policies and programmes. Students from professional courses who will be the future opinion leaders can very much be role models in terms of health-related behaviors. With this background information, a study was undertaken among the students of professional courses in colleges located in Vishakapatnam .

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Aim and objectives
To assess the multiple health risk behaviors among students of professional courses in colleges in Visakhapatnam and to determine the association between health risk behaviors of students and other covariates.

Materials and Methods
Study type
Observational study, descriptive type.

Study design
A cross-sectional study was conducted among the students of professional courses.

Study setting
This study was conducted in the various colleges like medical, dental, nursing and engineering located in the campus of Anil Neerukonda Educational Society, Visakhapatnam.

Study duration
Two months (1st August 2021- 30th September 2021).

Study Population
Students of professional courses.

Sample size
A total of 402 students of professional courses were selected using purposive sampling technique which included 196 students from a medical college, 52 students from a dental college, 114 students from a nursing college and 40 students from an engineering college.

Inclusion criteria
All the under graduate students of professional courses in various colleges.
All students > 18 years of age.

Exclusion criteria
Those students who were absent on the day of survey.
Those students who were not willing to participate

Study procedure and Data Collection
Approval was taken from Institutional Research Committee and Institutional Human Ethics Committee before the start of the study.

After getting the approval, the students from first year to final year of the medical, dental, nursing and engineering colleges were selected by purposive sampling technique. The time and venue for data collection was fixed as per consensus. The purpose of the study and filling up the questionnaire was explained to the students and Informed written consent was obtained. The anonymous, pre-designed, pre-tested and self-administered questionnaire was used to collect the data from the students. The sitting arrangement was done considering the privacy of the students. Informed consent was taken from them. The students who are were not willing to participate in the study were asked to return the empty form. The students were given 30 minutes for completion of the questionnaire Complete anonymity was ensured to encourage the students to express their true opinions followed by the collection.

Data entry and analysis
The data collected was entered into MS Excel spreadsheets and was analyzed using SPSS version 22. (Statistical Package for Social Sciences). The quantitative data was summarized using Mean, Standard deviation and the qualitative data was summarized using Frequency and percentage. Chi -square test was done to test the associations.

Ethical approval
Approval from Institutional Ethics Committee (**SERIAL NO: IEC/NRIIMS/2021/08**) was obtained prior to the start of the study.

Consent
Written informed consent was obtained from the students in the Informed Consent Document before the commencement of the study.

Results
In the present study, it was seen that the minimum age of the students was18 yrs and the maximum was 25 yrs. The mean age was 21.13 ± 1.50 yrs. There were more females (69.4%) compared to males (30.6 %). Out of the 402 students majority (48.7%) were from medical college followed by 28.3% of nursing college, 12.9% of dental college and 9.9 % of engineering college. Majority of the students who participated in the study were in final year of the respective courses. Out of the 402 students, 62.9 % were from urban areas. 71.9% of them belonged to nuclear family 37.3% of the students' father's occupation was private and 73.4 % of the students' mother's occupation was homemakers. **[vide Table 1]**

Table 1: Socio-Demographic profile of the students (N=402)

Variable	Category	Total N (%)	Medical N (%)	Dental N (%)	Nursing N (%)	Engineering N (%)
Gender	Male	123 (30.6)	73 (37.2)	11 (21.2)	23 (20.2)	16 (40.0)
	Female	279 (69.4)	123 (62.8)	41 (78.8)	91 (79.8)	24 (60.0)
Year of Study	First Year	71 (17.7)	30 (15.3)	05 (9.6)	30 (26.3)	06 (15.0)
	Second Year	40 (10.0)	24 (12.2)	06 (11.5)	08 (7.0)	02 (5.0)
	Pre-final Year	113 (28.1)	76 (38.8)	13 (25.0)	23 (20.2)	01 (2.5)
	Final Year	178 (44.3)	66 (33.7)	28 (53.9)	53 (46.5)	31 (77.5)
Residence	Urban	253 (62.9)	141 (71.9)	40 (76.9)	48 (42.1)	24 (60.0)
	Rural	149 (37.1)	55 (28.1)	12 (23.1)	66 (57.9)	16 (40.0)
Type ofFamily	Nuclear	289 (71.9)	162 (82.7)	35 (67.3)	69 (60.5)	23 (57.5)
	Joint	68 (16.9)	25 (12.8)	11 (21.2)	22 (19.3)	10 (25.0)
	Single parent	45 (11.2)	09 (4.6)	06 (11.5)	23 (20.2)	07 (17.5)
Fathers Occupation	Business	122 (30.3)	61 (31.1)	13 (25.0)	32 (28.1)	16 (40.0)
	Doctor	18 (4.5)	17 (8.7)	0	0	01 (2.5)
	Government	112 (27.9)	65 (33.2)	24 (46.2)	13 (11.4)	10 (25.0)
	Private	150 (37.3)	53 (27.0)	15 (28.8)	69 (60.5)	13 (32.5)
Mothers Occupation	Business	21 (5.2)	11 (5.6)	04 (7.7)	03 (2.6)	03 (7.5)
	Doctor	13 (3.2)	12 (6.1)	0	0	01 (2.5)
	Government	40 (10.0)	20 (10.2)	10 (19.2)	05 (4.4)	05 (12.5)
	Private	33 (8.2)	13 (6.6)	03 (5.8)	13 (11.4)	04 (10.0)
	Home maker	295 (73.4)	140 (71.4)	35 (67.3)	93 (81.6)	27 (67.5)

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Out of the 402 students only 84 (20.9 %) mentioned about doing physical activity (that increased the heart rate and made them breathe hard for some time) of more than 300 min /week. Majority were not involved in proper physical activity. Mobile phone usage was more than 6 hrs per day in 49.2 % of students . 46.8 % of them used for 2-3 hrs per day. 54.2 % of the students spent 2-3 hrs on social media. 17.7 % of them spent more than 6 hrs on social media. **[vide Table 2]**

Table 2: Health Risk Behaviours related to lifestyle of the students (N=402)

Variable	Category	N (%)
Physical Activity	<150 min/week	162 (40.3)
	150-300 min/week	156 (38.8)
	>300 min/week	84 (20.9)
Mobile Phone usage	<1 hr	16 (4.0)
	2-3 hrs	188 (46.8)
	>6 hrs	198 (49.2)
Time spent in social media	<1 hr	113 (28.1)
	2-3 hrs	218 (54.2)
	>6 hrs	71 (17.7)

61.4 % of the students consumed fast foods as meals , of which 49 % ≤2fast food meals per week and 12.4 % had >2 meals per week.46.5 % the students consumed soft drinks of which 34.3 % of them consumed ≤ 2 cans per week and 49 % consumed >2 cans per week. Only 28.6 % of the total students had the habit of consuming 2 fruits per day. **[vide Table 3]**

Table 3: Health Risk Behaviours related to dietary intake of the students (N=402)

Variable	Category	N (%)
Fast food consumption	Never	155 (38.6)
	≤ 2 meals per week	197 (49.0)
	>2 meals per week	50 (12.4)
Soft drink consumption	Never	215 (53.5)
	≤ 2 cans per week	138 (34.3)
	>2cans per week	49 (12.2)
Fruits	Never	84 (20.9)
	1 fruit per day	203 (50.5)
	>2 fruits per day	115 (28.6)

Majority of the students (41.3%) were using seat belts when driving cars.42.3 % of the students were using helmets when riding two wheelers. It was observed that very few 3.5 % were involved in drunken driving. 17.9 % of the students mentioned about using of mobile phones while driving. 91 (22.6 %) of the students had met with road traffic accidents. **[vide Table 4]**

Table 4: Health Risk Behaviours related to road user status of the students (N=402)

Variable	Category	N (%)
Seat Belt usage	Always	166 (41.3)
	Sometimes	64 (15.9)
	Rarely	17 (4.2)
	Never	31 (7.7)
	NA	124 (30.8)
Helmet usage	Always	170 (42.3)
	Sometimes	77 (19.2)
	Rarely	19 (4.7)
	Never	44 (10.9)
	NA	92 (22.9)
Drunk & Drive	Yes	14 (3.5)
	No	388 (96.5)
one usage whiledriving	Yes	72 (17.9)
	No	330 (82.1)
RTA	Yes	91 (22.6)
	No	311 (77.4)

It was observed in the study that 33.1 % of the students drove vehicles at the maximum speed of 70kmph. The red bars indicate those with a speed of 81- 100 kmph.**[vide Figure 1]**
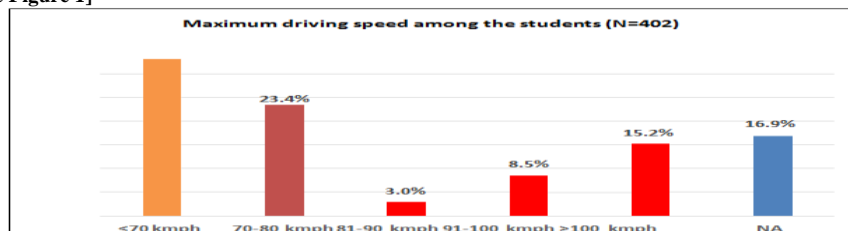

Figure 1: Health Risk Behaviours related to maximum driving speed of the students

(N=402)

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Average driving speed of 30-50 kmph was seen in majority (59.9 %) of the students. 3.7 % had an average driving speed of > 70kmph. Out of the 402 students majority 94.3 % do not have any addictions. 2.5 % of them were addicted to alcohol, 1.7 % were smokers. The duration of addiction was more than 2 yrs in 1.9 %of the students .12 (3%) were addicted since 1 to 2 years, 0.8 % were addicted for less than one year. Stress was one of the main reasons for addiction in 2.2 % of the students, 2% of them did it for fun. **[vide Table 5]**

Table 5: Health Risk Behaviours related to substance abuse among the students (N=402)

Variable	Label	N (%)
Addictions	Smoking	07 (1.7)
	Alcohol	10 (2.5)
	Others	06 (1.5)
	None	379 (94.3)
Addiction duration	<1 year	03 (0.8)
	1-2 years	12 (3.0)
	>2 years	08 (1.9)
	NA	379 (94.3)
Reasons for addiction	For fun	08 (2.0)
	Peer pressure	04 (1.0)
	Repeated consumption	01 (0.2)
	Stress	09 (2.2)
	Curiosity	01 (0.2)
	NA	379 (94.3)

In the present study 96.3 % had not smoked in the last 30 days.1% had smoked all 30 days and 1 % of them had smoked for 10-19 days. **[vide Figure 2]**
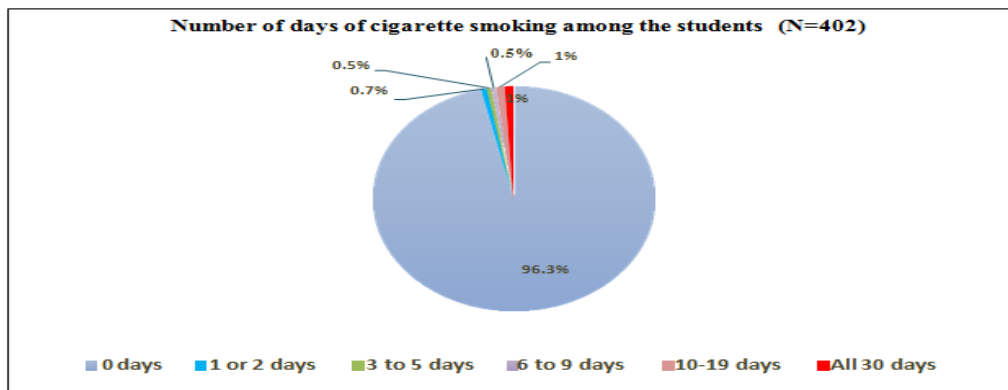

Figure 2: Number of days of cigarette smoking among the students in the last 30 days(N=402)

In this study 94.8 % of the students consumed alcohol on all 30 days. **[vide Figure 3]**
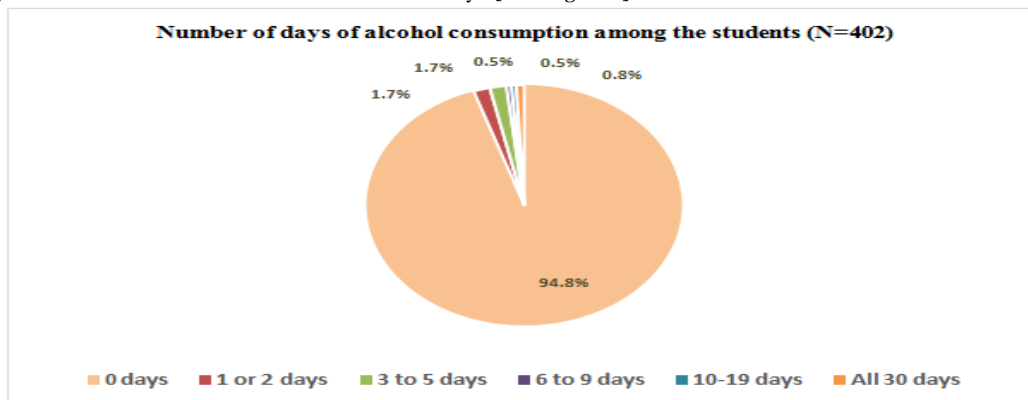

Figure 4: Number of days of alcohol consumption among the students in the last 30 days(N=402)

There is a significant association between gender and mobile phone usage, fast food consumption, soft drink consumption, addictions and road traffic accidents. **[vide Table 6]**

Table 6: Association of gender with various Health Risk Behaviours of the students

(N=402)

Variable	Category	Male N(%)	Female N(%)	p-Value
Physicalactivity	<150 mins/week	53 (43.1)	109 (39.1)	
	150-300 mins/week	38 (30.9)	118 (42.3)	
	>300 mins/week	32 (26.0)	52 (18.6)	0.066

	<1 hour	05 (4.1)	11 (3.9)	
Mobile Phoneusage	2-3 hours	46 (37.4)	142 (50.9)	
	>6 hours	72 (58.5)	126 (45.2)	**0.040**
	<1 hour	28 (22.8)	85 (30.5)	
Time spent insocial media	2-3 hours	61 (49.6)	157 (56.3)	
	>6 hours	34 (27.6)	37 (13.3)	**0.002**
	Never	42 (34.1)	113 (40.5)	
Fast food consumption	≤2 meals per week	57 (46.3)	140 (50.2)	
	>2 meals per week	24 (19.5)	26 (9.3)	**0.016**
	Never	53 (43.1)	162 (58.1)	
Soft drink consumption	≤2 cans per week	42 (34.1)	96 (34.4)	
	>2 cans per week	28 (22.8)	21 (7.5)	**<0.001**
	Yes	41 (33.3)	50 (17.9)	
RTA	No	82 (66.7)	229 (82.1)	**0.001**
	Smoking	07 (5.7)	0	
	Alcohol	08 (6.5)	02 (0.7)	
Addictions	Others	04 (3.3)	02 (0.7)	
	None	104 (84.6)	275 (98.6)	**<0.001**

There is significant association between mobile phone usage, time spent in social media, roadtraffic accidents, addictions, traffic rule violations and students enrolled in different courses. **[vide Table 7]**

Table 7: Association of enrolled course with various Health Risk Behaviours of the students(N=402)

Variable	Category	Medical N(%)	Dental N(%)	Nursing N(%)	Engineering N(%)	p-Value
Physicalactivity	<150mins/week	78 (39.8)	21 (40.4)	47 (41.2)	16 (40.0)	
	150-300mins/week	75 (38.3)	21 (40.4)	44 (38.6)	16 (40.0)	
	>300 mins/week	43 (21.9)	10 (19.2)	23 (20.2)	08 (20.0)	0.999
Mobile Phone usage	<1 hour	02 (1.0)	0	12 (10.5)	02 (5.0)	
	2-3 hours	65 (33.2)	26 (50.0)	77 (67.5)	20 (50.0)	
	>6 hours	129 (65.8)	26 (50.0)	25 (21.9)	18 (45.0)	**<0.001**
Time spentin social media	<1 hour	43 (21.9)	13 (25.0)	50 (43.9)	07 (17.5)	
	2-3 hours	109 (55.6)	36 (69.2)	49 (43.0)	24 (60.0)	
	>6 hours	44 (22.4)	03 (5.8)	15 (13.2)	09 (22.5)	**<0.001**
RTA	Yes	32 (16.3)	15 (28.8)	28 (24.6)	16 (40.0)	
	No	164 (83.7)	37 (71.2)	86 (75.4)	24 (60.0)	**0.005**
	Smoking	03 (1.5)	01 (1.9)	01 (0.9)	02 (5.0)	
	Alcohol	03 (1.5)	0	03 (2.6)	04 (10.0)	
	Others	02 (1.0)	0	03 (2.6)	01 (2.5)	
Addictions	None	188 (95.9)	51 (98.1)	107 (93.9)	33 (82.5)	**0.046**
Traffic rules violation	Yes	29 (14.8)	08 (15.4)	63 (55.3)	12 (30.0)	
	No	167 (85.2)	44 (84.6)	51 (44.7)	28 (70.0)	**<0.001**

There is significant association between time spent on social media and traffic rule violation with the year in which the students were enrolled. **[vide Table 8]**

Table 8: Association of Year of study with various Health Risk Behaviours (N=402)

Variable	Category	First Year N (%)	Second Year N (%)	Pre-final N (%)	Final year N (%)	p-Value
Time spent in social media	<1 hour	31 (43.7)	10 (25.0)	33 (29.2)	39 (21.9)	
	2-3 hours	28 (39.4)	24 (60.0)	58 (51.3)	108 (60.7)	
	>6 hours	12 (16.9)	06 (15.0)	22 (19.5)	31 (17.4)	**0.032**
RTA	Yes	18 (25.4)	13 (32.5)	16 (14.2)	44 (24.7)	
	No	53 (74.6)	27 (67.5)	97 (85.8)	134 (75.3)	0.055
Traffic ruleviolation	Yes	31 (43.7)	07 (17.5)	24 (21.2)	50 (28.1)	
	No	40 (56.3)	33 (82.5)	89 (78.8)	128 (71.9)	**0.004**
Mobile phone usage while driving	Yes	10 (14.1)	03 (7.5)	19 (16.8)	40 (22.5)	
	No	61 (85.9)	37 (92.5)	94 (83.2)	138 (77.5)	0.099
Average driving speed(kmph)	<30	07 (9.9)	02 (5.0)	03 (2.7)	02 (1.1)	
	30-50	44 (62.0)	23 (57.5)	63 (55.8)	107 (60.1)	
	51-70	06 (8.5)	07 (17.5)	24 (21.2)	31 (17.4)	
	>70	0	02 (5.0)	05 (4.4)	08 (4.5)	
	NA	14 (19.7)	06 (15.0)	18 (15.9)	30 (16.9)	0.067

Discussion

The present study was conducted to assess the health risk behaviours among the 402 students of professional courses in medical, dental, nursing and engineering colleges located in the campus of Anil Neerukonda Educational Society in Visakhapatnam. The results of the study have been discussed under the following headings:

1. 1.Sociodemographic characteristics
2. 2.Health risk behaviours

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Sociodemographic characteristics

In the present study the mean age of the study subjects was 21.3years with a standard deviation of 1.5 years. There were more female students (69.4%) compared to male students (30.6 %). Rustagi,N, Taneja DK, Mishra P, and Ingle GK et al[8]. in their study in Delhi observed majority (91.2%) of the students belonged to 17-22 years age group with mean age of 20 (±3.6) years. The proportion of males (62.4%) was higher than females (37.6%). Out of the 402 students, majority (48.7 %) were from medical college followed by 28.3 % of nursing college, 12.9 % of dental college and 9.9 % of engineering college. Out of the 402 students, 71.9% of them belonged to nuclear family and 21 % were with single parent. The reason for lesser number of students from engineering college was because of covid many had not come back for their regular classes. These days more of female students have been opting for a future in medical field as a result in this study there were higher percentage of them in medical, dental and nursing college compared to engineering courses. Majority belonged to nuclear family and 21 % were with a single parent. This is indicative of the social transition that the Indian society is going through. Parental regulation and monitoring as well as parental bonding and connection are very important at this phase of life.

Health risk behaviours

The present cross-sectional study covered five domains of the important health risk behaviors among 402 students of various professional courses. These included health risk behaviours like inadequate physical activity, mobile phone usage, dietary behaviors, road user behaviour and addictions.

1.   Physical activity

Physical activity (which increases heart rate and makes one short of breath for some time) carried out in last week was assessed. In this study out of the 402 students only 84 (20.9 %) mentioned about doing physical activity of more than 300 min /week. Majority were not involved in proper physical activity.40.3 % of them did physical activity less than 150 min / week. Rustagi,N, Taneja DK, Mishra P, and Ingle GK et al[8]. in their study in Delhi observed that physical activity for at least 30 min/day for 5 or more days was reported by 35.8% students, while occasional or nil physical activity was reported by 42.6% students. About 25.6% students reported spending more than 4 h in sedentary activities on a typical day. Number of students who were inactive in past week and those spending more hours in sedentary activities significantly increased with increase in semesters of students. Low physical activity and long hours of sedentary work was also reported in other studies carried out among university students (22% - 62%)[9,10]. There was no significant association between gender, type of course and year of course and physical activity in the present study.

2.   Mobile phone usage

It was observed in the current study that mobile phone usage was more than 6 hours per day in 49.2 % of students ,46.8 % of them used for 2-3 hrs per day and 4% for less than 1 hour per day. 54.2 % of the students spent 2-3 hours on social media and 17.7 % of them spent more than 6 hours on social media. Ramesh RD, Asis De et al[11]. observed in their study that the respondents used mobile phones for a duration of about 1-6 hours a day. Further it was seen that 75% of medical students and 81% of engineering students were found using mobile phones for duration of about 1 to 6 hours. Mobile phones were used mainly for communication in both the groups. The other uses were texting SMS, playing games and checking emails. Majority of engineering students used mobile phones for internet and checking mails compared to the medical students & the difference was found to be statistically significant.

In the current study there was a significant association between gender and mobile phone usage (p=0.040). Male students were

using the phone more compared to female students. There was a significant association between gender and time spent on social media every day (p=0.002). It was observed that there was a high significant association between the courses and duration of mobile phone use, which was significantly more in medical students (p<0.001). A high significant association was observed in the duration of use of social media on phones and the courses (p<0.001). Medical students were more on social media. Study by Ramesh N et al[11]. showed a significant association between gender and addiction scale. Smartphone Addiction Scale -Short Version (SAS-SV) scale was used to assess the mobile phone addiction levels, where 36% medical and 28% engineering students had a score of 31, and 33% of both groups were at risk of becoming addicted soon with a score ranging between 22 and 30. The findings in this study are consistent with the finding in the present study Students of prefinal years spent more time on social media compared to those of other years and the association was also found to be significant. (p=0.032)

3.   Dietary habits

There is a challenge of nutritional transition, as Indians are moving away from traditional diets high in cereal and fiber to more western pattern diets high in sugars, fat, and animal- source food (fast food culture). Fruits and vegetables consumption is gradually replaced with fast foods or ready to eat foods. In the present study it was observed that 61.4 % consumed fast foods as meals, of which 49 % had ≤ 2 fast food meals per week and 12.4 % had >2 meals per week. Consumption of soft drinks was also high among the students (46.5 %). 34.3 % of them consumed ≤2 cans per week. 49 % of them consumed >2 cans per week. Among the 402 students only 28.6 % had the habit of consuming 2 fruits per day. Similar finding were reported by Mukopadhyay S , Biswas A et al[12]. Rustagi,N, Taneja DK, Mishra P, and Ingle GK et al[8]. reported at least 5 servings/day of fruits and vegetables was taken only by 12% of students. Consumption of carbonated soft drinks was reported by 23.7% students and of fast foods by 32.0% students.

In the present study there was statistically significant association between consumption of fast food and gender (p=0.016).There was highly significant association between soft drink consumption and gender (p=0.001). Rustagi, N, Taneja DK, Mishra P, and Ingle GK et al[8]. reported age and gender of students showed no significant association with intake of any dietary factors except for soft drinks where intake was significantly low among girls (11.2%) as compared with boys (31.2%) (OR = 0.26; 0.14–0.46) which was similar to the findings in the present study.

4.   Road user behaviour

Road traffic awareness among youngsters is the most important aspect toward their safety as they are the future emerging population. (41.3%) of the students in the study were using seat belts when driving cars . 42.3 % of the students were using helmets when riding two wheelers. It was observed that 3.5 % were involved in drunken driving. In a study by Kishore Yet al[13], about 55.3% of them thought that drink and drive even after taking small amount of alcohol is not advisable, but about 25.6% did driving after consuming alcohol. 17.9 % of the students in the present study mentioned about use of mobile phoneswhile driving. In a study by Kishore Y et al[13], 7.2% of the students had attended the call while driving. Ramesh RD, Asis De et al[11]. observed in their study that the respondents used mobile phones while driving. 32% of engineering students attended call while driving. Out of them, 26% of engineering students continued conversation while driving. In this study there was a significant association between gender and road traffic accidents (p=0.001) Males were more involved in road traffic accidents. The Registrar General of India (in 2001-03) showed that motor vehicle injuries contributed to 3.7 per cent of

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deaths in 5-14 years and 6.9 per cent deaths in 15-24 years (1.7 and 12.4% in females and males, respectively)[14]. In the present study students of engineering college were more involved in road accidents compared to that of other courses and the association was found to be significant (p=0.005). In a study done among engineering students in Vishakapatnam, 32% of students attended call while driving. Out of them, 26% of engineering students continued conversation while driving[11]. It was seen in the present study that first year students of the various courses violated traffic rules more often compared to that of other academic years. The association was found to be significant (p=0.004). This could be because of their low levels of awareness about the traffic rules and also careless attitude.

5.   Addictions

The vast majority of tobacco users worldwide begin the use of tobacco during adolescence. Out of the 402 students majority 94.3 % do not have any addictions. 2.5 % of them were addicted to alcohol, 1.7 % were smokers. Harmful drinking among young people is an increasing concern in many countries young Indians. The duration of addiction was more than 2 yrs in 1.9 % of the students .12 (3%) were addicted since 1 to 2 years, 0.8 % were addicted for less than one year. In the present study 96.3 % had not smoked in the last 30 days.1% had smoked all 30 days. 94.8 % consumed alcohol on all 30 days. Stress was one of the main reasons for addiction in 2.2% of the students, 2% of them did it for fun. Examination stress is quiet common in these professional courses and students. NFHS-3 revealed that 40% of males and 5% of females aged 15 to 24 yr consumed tobacco nationwide[15]. The study in Noida city also found that 8.8 % of adolescents aged 11 to 19 yr were 'ever smokers' (including current smokers),4.6% were 'ever tobacco chewers' (including current chewers), 3.7% were 'exclusive smokers' and 2.5% were 'exclusive tobacco chewers'[16].

There was a highly significant association between gender and addictions (P<.001). More of males were into smoking and alcohol consumptions. NFHS-3 also showed this gender difference[15]. Gender variations for usage of any kind of tobacco varied from 2.9 to 8.5 per cent in boys and 1.5 to 9.8 per cent in girls[16]. The NFHS-3 survey showed that 1% women and11% men aged 15-19 yr and 1.4 % women and 28.8 % women aged 20-24 yr consumed alcohol[15]. Other population based studies have shown the prevalence of alcohol consumption varying from 1.3 to 15.6 % across studies[17] with a high consumption among males (12.6 to 20.7%)[17,18]. In a study by Rustagi N et al[8]. 7.0% of students used any form of tobacco, while 28.8% of students consumed alcohol in past 30 days. Use of both tobacco and alcohol significantly increased with increase in semester of students and significantly more number of boys than girls consumed tobacco (boys 9.1%; girls 3.7%; OR = 0.31; 0.12–0.81) and alcohol (boys 33.5% ; girls 21.2%; OR = 0.60; 0.36–0.98) .

In this study a statistically significant association is observed between addiction and the various courses in the campus (p=0.046).Engineering students were more into smoking and drinking. This could be because of more free time from their regular studies and majority of the engineering students were from final year compared to that of other courses.

Conclusion

To conclude preventing the development of high-risk behaviors is easier than reversing them in adulthood. There lies the need of initiating behavioral changes at the earliest. Health education is the most effective method for protection and promotion of their health since they are likely to be receptive to changes in ideas and agreeable to modification of their habits.

Recommendations

There is a strong need for public health community to identify, prepare, integrate and implement activities that help to promote health and healthy lifestyles of young people and establish mechanisms for delivery of population-based interventions along with measuring its

impact. There is a need to generate good quality and robust population datathat can drive policies and programmes.

Strategic investments in health, nutrition, education, employment and welfare are critical for healthy growth of young people and these programmes need to be monitored and evaluated for their efficacy and effectiveness using public health approaches.

Health risk behaviors are widely prevalent among students and increase with years.

Promotion of supportive environment for strengthening student-based approaches and strategic delivery of health education is essential to target these risk behaviors among our future generations.

An integrated action strategy involving various stakeholders (decision makers, community leaders including faculty, parents and students) should be undertaken for prevention and control of health risk behaviors among students.

Focused formal and informal life skill education through colleges and other social institutions and mass media may be tried to reduce health risk behaviors of students in rural and urban areas.

Strengths

As the study design deployed was a cross-sectional study, large amount of information on health risk behavior was garnered in a relatively short time.

Health risk behavior involves actions and related attributes and perceptions that contribute to people's propensity to engage in, or avoid, activities that have been deemed by experts as hazardous or dangerous to their health. This study to identify health risk behaviors of students is an attempt to assist young people to avoid them and modify thembefore any damage occurs.

Limitations

Only few domains relating to health risk behavior could be assessed. Domains like high-risk sexual behavior and mental disorders could not be assessed in the study.

Relevance of the study

The study highlights the need for health education and behaviour change modification among students of professional courses on a continuous basis as they are the foundations and pillars of a strong and resilient nation.

Conflict of Interest

Nil

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