SHORT ARTICLE

Substance use among young adults in professional degree colleges of urban Bengaluru

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Citation

Article Cycle

Abstract

Background: Substance use is a significant problem in our societies and is increasing day by day due to factors like easy availability, rapid socioeconomic changes, etc. The professional degree students are at risk as they are exposed to high levels of stress and competition. **Aim & Objective**: To find out the burden of substance use among young adults in professional degree colleges, to assess the effect of substance use on health among study subjects, to compare the health status between substance users and non-users. **Settings and Design**: This cross-sectional study was conducted among students studying in various professional degree colleges of Urban Bengaluru between July 2017 to December 2017. **Methods and Material**: A total of 1400 study subjects were included and administered a pre-tested, semi structured questionnaire and relevant information was obtained using Alcohol, Smoking and Substance Involvement Screening Test (WHO ASSIST) V3.0 scale. **Statistical analysis used**: Data was entered using MS Excel 2016 and was analysed in Stata 12.1 (Stata Corp, Texas, USA). Z test for proportions, Univariate logistic regression and Multivariate logistic regression were used as appropriate. **Results**: The overall prevalence of substance use was 35%. Dizziness was the most common health symptoms observed in substance users. Male, students staying in hostels/ paying guest, foreign nationals, substance use in the family and presence of conflict were found to be significant risk factors for substance use. **Conclusions**: The burden of substance use was observed in about one third of the subjects. Substance use was significantly associated with health problems.

Keywords

Substance Use; Young Adults; Alcohol; Tobacco; Health Problems

Introduction

A substance is defined as something that is deemed harmful and usually subject to legal restriction.(1) The Diagnostic & Statistical Manual-5 (DSM-5) recognizes substance-related disorders resulting from the use of 10 separate classes of drugs: alcohol, caffeine, cannabis, hallucinogens, inhalants, opioids, sedatives, stimulants, tobacco and other substances. (2) Rapid urbanization and changing lifestyles have forced many youth to seek refuge in the dark world of substance abuse. (3) In 2016, 275 million (5.6%) of the world population aged 15-64 years had used an

illicit drug.(4) The National Mental Health Survey of India Report 2015-16 revealed the prevalence of tobacco and alcohol use to be 20.9% and 4.6% respectively.(5) Cannabis is the most commonly used illicit drug (3.3–4.4% among 15–64 years).(6) Substance Use Disorders (SUDs) in adolescents can lead to psychosocial impairment, interpersonal conflict, academic failure, risk-taking behaviour and suicides(7) The professional degree students are at an increased risk due to high levels of stress, competition, peer pressure, etc. Knowledge about the problem will help in planning for appropriate intervention strategies. Information about the problem in this age group is limited and scattered in India.

Aims & Objectives

1. To assess the effect of substance use on health.
2. To compare the health status between substance users and non-users.

Material & Methods

This cross-sectional study was conducted among 1400 students studying in Professional degree colleges of Urban Bengaluru who gave consent, over a period of 18 months using multistage sampling technique. Taking the prevalence value (p) as 38%, (based on a study of drug abuse pattern in youth(8)), the sample size was calculated using the following formula:

$N = \frac{(z\alpha/2)2pq}{d2}$ where   n→ sample size; α→ complement of level of confidence = 0.05

Zα = 1.96 (Z α/2)2= 3.84   p→prevelance = 38%, q→100-P = 62% d→precision /allowable error = 10%

$N = \frac{3.84 \times 38 \times 62}{14.44} = \underline{626}$

Assuming a non-responder's rate of 10%, 626 + 63 (10% of 626) = 689. Taking into consideration the doubling effect, the total sample size was 689 + 689=1378 which was rounded off to 1400.

WHO ASSIST V3.0 scale (Internal Consistency of 0.68-0.88, sensitivity of 95%-100%; specificity of 79%-93%) for measurement of substance used including tobacco products, alcohol, cannabis, cocaine, amphetamine type stimulants, inhalants, sedatives, hallucinogens, opioids, etc. The scale had questions on use of any of the above-mentioned substance anytime in the past and also had questions which measured the past 3 months details regarding frequency of substance use. Based on the above scale, specific substance involvement scores was calculated and the users were graded as mild (0-3),

moderate (4-26) or high risk (27+) of developing health problems for each substance used separately.(9) The relationship between substance use and health/social/financial problems was also observed. At the end of the study, health education regarding the harmful effects of substance use was given to all the study subjects and advised to seek professional help if needed.

Statistical Tests: Data was entered using MS Excel 2016 and was analysed in Stata 12.1 (Stata Corp, Texas, USA). Substance use disorder was diagnosed using a scoring scale. Z test for proportions was used to test for difference in specific substance use between males & females and to test for difference in health problems between users & non-users. Association between individual variables and substance use was tested using Univariate logistic regression and Multivariate logistic regression.

Ethical Approval: The ethical clearance was obtained for the study by the Institution Ethics Committee. (Ref No.: KIMS/IEC/D-11/2016). ICMR guidelines for research studies were followed during the entire study. Signed informed consent was obtained from all the study subjects.

Results

490 (35.0%) subjects had used some or the other form of substance at least once in their life. 429 (87.5%) subjects had consumed alcohol, 226 (46.1%) subjects had consumed tobacco products, 83 (16.9%) subjects had used cannabis, 35 (7.1%) subjects had used sedatives, 17 (3.5%) subjects had used Hallucinogens, 9 (1.8%) subjects had used Inhalants, 7 (1.4%) subjects had used Cocaine & Opioids each and 4 (0.8%) subjects had used Amphetamine type stimulants. Among the substance users, 150 (30.6%) users were studying Engineering, 98 (20.0%) users were studying MBBS, 89 (18.2%) users were studying Dentistry, 64 (13.1%) users were studying Nursing, 50 (10.2%) users were studying Physiotherapy and 39 (7.9%) users were studying MBA. 179 (36.5%) subjects had history of substance use in the family. Out of the 429 alcohol users. 21 (4.9%) subjects had used it daily/almost daily, 117 (27.3%) subjects had used it weekly, 80 (18.6%) subjects had used it monthly, 152 (35.4%) subjects had used it only once/twice and 59 (13.8%) users had not used it in the past 3 months. Out of the 226 tobacco users143 (63.3%) subjects had used it daily/almost daily, 20 (8.8) subjects had used it weekly, 14 (6.2) subjects had used it monthly and 49

(21.7) subjects had used it only once/twice. A statistically significant difference was observed between Males and Female substance users for Alcohol (Z value=3.65, p value<0.001), Tobacco products (Z value =4.63, p value<0.0001) and Cannabis (Z value =2.5, p value<0.05). 2 (0.1%) subjects had history of intravenous drug use. The details regarding substance use in the past 3 months is shown in [Table 1].

There was a moderately positive correlation seen between Alcohol consumption and Tobacco use based on the specific substance involvement scores obtained, which was statistically significant (ρ =0.659, P< 0.0001). There was a very strongly positive correlation seen between Alcohol consumption and Cocaine use which was statistically significant (ρ =0.906, P< 0.05). Majority i.e. 316 (64.5%) subjects reported Social gatherings with friends and family as the reason for substance use, 144 (29.4%) subjects reported peer pressure, 85 (17.4%) subjects reported exam stress.

The most common symptom observed among users was dizziness, seen in 184 (37.5%) subjects, hangover seen in 162 (33.1%) subjects and148 (30.2%) subjects had frequent headaches. Among the social problems, fight with friends was the most common problem among users, seen in 67 (13.7%) subjects, followed by violence, seen in 32 (6.5%) subjects. There was a statistically significant difference seen between users and non-users with respect to health symptoms. Age, gender, religion, place of stay, domicile place, history of substance use in the family, history of conflict with others were statistically significant and may be considered as independent risk factors for substance use as shown in [Table 2].

Discussion

In the present study, it was found that among all the study participants, the ever use of substances was 35%, which is higher compared to the study conducted by A Arora et al, among medical students in a private medical college in Meerut, where the prevalence of ever use of substances was 20.43%[10]. Majority of the substance users were males (59%) which was similar to studies conducted in Hyderabad & Gujarat by Gopiram P et.al (75%) & Dadwani RS et.al (79.8%) respectively.[11,12] 21.8% subjects reported that they had a conflict with either friends, parents, neighbours or relatives and 36.5% subjects had history of substance use in the family, which was found to significantly associated with substance use. This was in concordance to a study by Gopiram P et.al, where family history of substance was significantly high among the users (55%) as compared to the non-users (20%).[12] Planners of higher and professional education should lay emphasis on the risks of psychoactive substance use in their respective curriculums, while governmental and non-governmental bodies should focus increased attention on young adults in campaigns against substance abuse.

Conclusion

The burden of substance use was observed in about one third of the subjects. The most common substance used was alcohol in both males and females. Dizziness, hangover and frequent headaches were the most common health symptoms observed in substance users. Males, students staying in hostels/ paying guest, foreign nationals, substance use in the family and presence of conflict were found to be significant risk factors for substance use.

Recommendation

There is a need for regular screening and health education among college students for substance use. The Colleges should display health education materials like posters, banners at strategic locations on ill effects of substance use. Counselling can be provided by counsellors.

Limitation of the study

Information on details of substance use and health problems described are based on the history given by the study subjects. The associations found out in the study cannot be demonstrated as causal relationship as it was a cross sectional study.

Relevance of the study

The professional college students need awareness and education as much as students of other basic disciplines if we aim at reducing the prevalence of substance abuse among young adults.

Authors Contribution

Both authors have contributed equally.

Acknowledgement

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Tables

TABLE 1 DISTRIBUTION OF SUBSTANCE USERS ACCORDING TO WHO ASSIST V3.0 SPECIFIC SUBSTANCE INVOLVEMENT SCORE

Type of Substance	Level of Risk		
	Mild (0-10)	Moderate (11-26)	High (27+)
Alcohol(n=429)	282 (65.7)	125 (29.2)	22 (5.1)
	Mild (0-3)	Moderate (4-26)	High (27+)
Tobacco (n=226)	31 (13.7)	155 (68.6)	40 (17.7)
Cannabis(n=83)	42 (50.6)	38 (45.8)	3 (3.6)
Sedatives (n=35)	12 (34.3)	22 (62.9)	1(2.8)
Hallucinogens(n=17)	10 (58.8)	7 (41.2)	-
Inhalants (n=9)	8 (88.9)	1(11.1)	-
Cocaine(n=7)	3 (42.8)	2 (28.6)	2 (28.6)
Opioids (n=7)	7 (100)	-	-
Amphetamine (n=4)	3 (75)	1 (25)	-

TABLE 2 ASSOCIATION BETWEEN INDIVIDUAL VARIABLES AND SUBSTANCE USE USING MULTIVARIATE LOGISTIC REGRESSION

Variables	Adjusted Odds ratio [95% CI]	Standard Error	Z	P
Age group(in completed yrs)				
17-21	-	-	-	-
22-26	1.78[1.34-2.40]	0.26	3.95	<.001
Gender				
Female	-	-	-	-
Male	2.25[1.72-2.87]	0.29	6.15	<.001
Religion				
Muslims	-	-	-	-
Hindu	1.81[1.01-3.24]	0.54	2.01	0.04
Christian	1.29[0.67-2.50]	0.43	0.76	0.45
Others	33.9[6.69-172.1]	28.1	4.25	<.001
Place of stay				
Home	-	-	-	-
Hostel	1.67[1.14-2.4]	0.33	2.64	0.008
Paying guest	2.17[1.08-4.35]	0.77	2.19	0.03

Domicile place				
Bengaluru	-	-	-	-
Outside Bengaluru	0.93[0.60-1.43]	0.2	-0.34	0.74
Other states	1.02[0.70-1.50]	0.2	0.13	0.89
Foreign National	3.11[1.84-5.24]	0.83	4.26	**<.001**
Substance use in the family				
Absent	-	-	-	-
Present	4.67[3.44-6.34]	0.73	9.87	**<.001**
History of conflict with others				
Absent	-	-	-	-
Present	0.07[0.04-0.13]	0.41	4.95	**<.001**

Figures

FIGURE 1 PIE OF PIE CHART SHOWING BURDEN OF SUBSTANCE USE AMONG MALES AND FEMALES.