

A questionnaire-based survey to study Prevalence and risk factors associated with substance use in students

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Abstract

Background: In India, a variety of psychoactive substances like alcohol, cannabis and opioids have been used for hundreds of years. The recent changes in lifestyle and economy have put young and adolescents at risk of various behavioral factors predisposing to the development of NCDs and adolescents have been identified as a major at risk population for NCDs by the WHO. Present cross-sectional study was conducted in the local area, which is the field practice area of the Department of Community Medicine of our tertiary hospital. **Material and Methods:** Present study was school based, cross – sectional study conducted in students of 16-19 years age, of either gender willing to participate. A self-designed, self-report questionnaire to assess effect of various factors related to substance use (tobacco, alcohol and other substances) was prepared. The questionnaire was provided in English as well as local language. The translated version was validated before the survey. **Results:** 828 students were assessed. After analysing questionnaires, 189 (22.83 %) students had history of substance abuse. Among substance abuse group majority were from 18-19 years age group (68.78 %), boys (96.3 %), from 11th class (34.39 %), from lower middle socioeconomic class (58.2 %), from nuclear family (78.84 %) and living with family (70.09 %). In present study, pan chewing / gutakha consumption (18.72 %) was most common substance abuse noticed followed by smoking (cigarette/beedis) (16.06 %), alcohol (10.99 %) and least was narcotics (3.38 %). In tobacco smoking group 81.95 % smoked cigarettes while 18.05 % had beedi smoking. 16.54 % had daily smoking while 13.53 % had weekly smoking. In students who had oral tobacco consumption Gutakha was common in 73.35 % while 26.45 % had pan chewing. 36.77 % had daily oral tobacco, while 14.91 % had weekly oral tobacco. In students had history of alcohol use majority had used single item (52.75 %), only 2.2 % had daily alcohol, while 12.09 % had weekly alcohol consumption. **Conclusion:** Alarming rise in substance use (alcohol, cigarette/beedis smoking, pan chewing / gutakha, narcotics) was noted in students of 16-19 years.

Keywords: students, substance use, tobacco, alcohol.

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In India, a variety of psychoactive substances like alcohol, cannabis and opioids have been used for hundreds of years. In modern times, however, the pattern and dimensions of use of such psychoactive substances has assumed pathological proportions.¹ Students are increasingly recognized as a vulnerable population, suffering from higher levels of anxiety, depression, substance abuse, and disordered eating compared to the general population.² Substances such as tobacco, alcohol, cannabis and various allopathic drugs have been widely abused by students for

various reasons despite their known ill effects.³ Previous researches have shown that significantly higher proportion of substance abuse was associated with predisposing factors like joint family, parental abuse status, working status, and illiteracy/school dropout, migration, loosening of the traditional methods of social control, etc.^{4,5} The recent changes in lifestyle and economy have put young and adolescents at risk of various behavioral factors predisposing to the development of NCDs and adolescents have been identified as a major at risk population for NCDs by the WHO.⁶ Present cross-sectional study was conducted in the local area, which is the field practice area of the Department of Community Medicine of our tertiary hospital.

MATERIAL AND METHODS

Present study was school based, cross-sectional study conducted in 2 Government and 1 Private schools of urban areas by department of psychiatry, at Belagavi Institute of Medical Sciences, Belagavi, India. Study duration was of 6 months (July 2019 to December 2019). The study was approved by the Institutional ethics and review committee.

Inclusion criteria: Students of 16-19 years age, of either gender willing to participate

Exclusion criteria: Students who submitted incompletely filled, wrongly filled and the proforma left blank questionnaire.

Initial meetings were conducted with school officials and they were informed in person/writing about the importance of survey. After permission from school officials, students were asked to participate in the study voluntarily and informed consent from the students and school authorities was obtained.

A self-designed, self-report questionnaire to assess effect of various factors related to substance abuse (tobacco, alcohol and other substances) was prepared. The

questionnaire was intended to be multi-purpose model instrument with core standardized questions relating to substance use that can be administered with minimal training and supervision to arrange different target populations. The questionnaire was provided in English as well as local language. The translated version was validated before the survey.

Information on tobacco, alcohol and substance use was collected from students of class 10–12 (ages: 16–19 years) studying in 4 different schools of local area. A total of 900 eligible students were selected and questionnaires were distributed. Sociodemographic profile, parental information (occupation and literacy status) was collected. Anu use of these substances by parents and siblings, peer influence, reason of initiation, places of consumption, etc., was also recorded.

Data was collected and compiled using Microsoft excel and statistical analysis was done using descriptive analysis.

RESULTS

Among 900 students selected, we received completely filled questionnaires regarding substance use (alcohol, cigarette/beedis smoking, pan chewing / gutakha, narcotics) from 828 students. Age group wise 47.34 % were from 16-17 years age group while 52.66 % were from 18-19 years age group. Majority were boys (67.87 %), from 11th class (44.69 %), from lower middle socioeconomic class (52.17 %), from nuclear family (65.58 %) and living with family (89.61 %). After analysing questionnaires, 189 (22.83 %) students had history of substance abuse. Among substance abuse group majority were from 18-19 years age group (68.78 %), boys (96.3 %), from 11th class (34.39 %), from lower middle socioeconomic class (58.2 %), from nuclear family (78.84%) and living with family (70.09 %).

Table 1: Socio-demographic data

Socio-demographic data	No. of students (n=828) (%)	No. of students with substance use (n=189) (%)
Age group (years)		
16-17	392 (47.34 %)	59 (31.22 %)
18-19	436 (52.66 %)	130 (68.78 %)
Gender		
Boys	562 (67.87 %)	182 (96.3 %)
Girls	266 (32.13 %)	7 (3.7 %)
Academic Class		
10th	240 (28.99 %)	16 (8.47 %)
11th	370 (44.69 %)	65 (34.39 %)
12th	218 (26.33 %)	108 (57.14 %)
Socioeconomic status		
Upper middle	106 (12.8 %)	32 (16.93 %)
Lower middle	432 (52.17 %)	110 (58.2 %)
Upper lower	290 (35.02 %)	47 (24.87 %)

Type of family		
Nuclear	543 (65.58 %)	149 (78.84 %)
Joint	285 (34.42 %)	40 (21.16 %)
Living with family		
Yes	742 (89.61 %)	134 (70.9 %)
No	86 (10.39 %)	55 (29.1 %)

After analysing questionnaires, 189 (22.83 %) students had history of substance abuse. In present study, pan chewing / gutakha consumption (18.72 %) was most common substance abuse noticed followed by smoking (cigarette/beedis) (16.06 %), alcohol (10.99 %) and least was narcotics (3.38 %).

Table 2: Distribution based on substance abuse.

Characteristics of Substance use * (n=828)	frequency	percentage
Pan chewing / Gutakha	155	18.72
Smoking (Cigarette/Beedis)	133	16.06
Alcohol	91	10.99
Narcotics	28	3.38
Substance abuse among acquaintances (n= 189)		
Friends	155	82.01
Relatives	142	75.13
Parents	104	55.03

*One or more substance abuse may present simultaneously

In tobacco smoking group 81.95 % smoked cigarettes while 18.05 % had beedi smoking. 16.54 % had daily smoking while 13.53 % had weekly smoking. In students who had oral tobacco consumption Gutakha was common in 73.35 % while 26.45 % had pan chewing. 36.77 % had daily oral tobacco, while 14.91 % had weekly oral tobacco. In students had history of alcohol use majority had used single item (52.75 %), only 2.2 % had daily alcohol, while 12.09 % had weekly alcohol consumption.

Table 3: Characteristics of tobacco usage (N=65).

Substance Use								
Smoking (n=133)	Frequency	Percentage	Oral tobacco (n=155)	Frequency	Percentage	Alcohol (n=91)	Frequency	Percentage
Cigarette	109	81.95	Pan chewing	41	26.45	Single item	48	52.75
Beedi	24	18.05	Gutakha	114	73.55	Multiple item	43	47.25
Frequency		0	Frequency		0			0
Just Once	41	30.83	Just Once	42	27.1	Just Once	53	58.24
Monthly	52	39.1	Monthly	34	21.94	Monthly	25	27.47
Weekly	18	13.53	Weekly	22	14.19	Weekly	11	12.09
Daily	22	16.54	Daily	57	36.77	Daily	2	2.2

DISCUSSION

Early uptake of these substances increases their likelihood to adopt other risk behaviors as well at a later age, such as multiple substance use, violence, and delinquency.⁷ Other authors have also cited that peer and parental influences are synergistic, with the maximum rates of substance use observed among children of substance-abusing parents, siblings, and friends.⁸ Narain R *et al.*,⁹ conducted a cross-sectional study among school students. of class 7th–12th (ages: 11–19 years) studying in schools through a pretested self-administered questionnaire through multistage sampling design. “Ever use of substance” (alcohol or tobacco) was found in 14.3% students and was 1.2 times more among boys in comparison to girls ($P < 0.05$). About 29.5% of these students initiated the habit before 11 years of age and its prevalence was significantly

more among boys from government schools as compared to private schools. The habits were 2.2, 3.8, and 4.6 fold higher among students if the father, mother, siblings, or friends also used substances. Substance use was less frequent among children of white-collared father and more educated parents. One-third of students up took the habit to make friends. In a study by National Commission for Protection of Child Rights (NCPCR),¹⁰ study sample comprised of 4,024 children between 5-18 years of age (average age: 15.6±2.1years). Girls comprised 4.2% (n=169) of sample. Majority of children reported lifetime use of a variety of substances. Tobacco (83.2%) and alcohol (67.7%) were the most common substances ever used followed by cannabis (35.4%), inhalants (34.7%), pharmaceutical opioids (18.1%), sedatives (7.9%) and heroin/smack (7.9%). Use of injectable substances was reported by a significant proportion (12.6%). The gateway

substance appeared to have an early onset before the use of illicit substances. The mean age of onset was lowest for tobacco (12.3 years) followed by onset of inhalants (12.4 years), cannabis (13.4 years), alcohol (13.6 years), proceeding then to use of harder substances -opium, pharmaceutical opioids, heroin (14.3-14.9 years) and then finally use of substances through injecting route (15.1 years). Regarding risk factors in other studies, substance abuse is significantly associated with domestic violence, maltreatment of the child, nuclear families, runaway status and working status of the child. Most of them took to substances as a way of street life or to remain in the peer group.¹¹ Raphael L *et al.*,¹² studied 402 college student participants using a self-administered pretested semi structured questionnaire, 31.8% used or abused any one of the substances (alcohol, smoking, pan chewing) irrespective of time and frequency in lifetime. Age, gender, place of residence, attitude towards ban were significantly associated with substance abuse. The alarming trend of substance abuse among the youth reveals the urgent need to curb the menace. Adolescent counselling sessions might ensure preventing such behavior from being inculcated in early adolescence. Vartika S *et al.*,¹³ studied 511 male adolescents, students of 10th to 12th class from the four intermediate schools of the Doiwala block of Dehradun district. 46.9% students accepted substance abuse. In 75.5% cases, friends were providing the substances. 80.2% substance abusers expressed their desire to quit the habit. The study is indicative of need for developing a supportive environment involving both parents and teachers so that adolescent can decide and sustain with the right choices for healthy life. Qadri SS *et al.*,¹⁴ conducted a descriptive cross-sectional survey, among 1500 students (13-19 years) studying in classes 7th-12t, using the Self-Administered WHO Model Core Questionnaire. Overall prevalence of substance abuse was 60.0% for ever users and 34.93% for regular users. Substance abuse was more among male urban students belonging to nuclear families ($p < 0.001$). Among ever users, alcohol (44.49%) was the most common substance abused while tobacco (14.42%) was mostly consumed by regular users. Substance abuse was more in age group of 17-19 years. Overall 42% were using more than one drug combination. Prevalence of substance use among school children in Northern India is high and causes significant physical and psychosocial problems in this population. A large proportion of those using drugs reported serious adverse effects, raising the necessity of targeted interventions to reduce the risk of subsequent substance dependence and other deleterious consequences. Mahmood *et al.*,¹⁵ with results on prevalence in Bareilly, Uttar Pradesh with 3.2% children admitted to having consumed alcohol in the past 30 days and 5.2% having consumed alcohol in the past. Jain *et al.*,¹⁶ reported a

prevalence of 4.6%, of which 57.9% were males and 42.1% were females. Mangalore Bukelo *et al.*,¹⁷ reported in their study with a similar setting that only one boy admitted to having consumed alcohol. Mohammad *et al.*,¹⁵ reported a past smoking rate of 5.2%, currently smoking adolescents were 4.8%, 4.8% were also noted to be using smokeless tobacco, 2.4% used smokeless tobacco in the past. Puwar *et al.*,⁶ in Surat reported no adolescent smoking in their study. Jain *et al.*,¹⁶ reported 1.2% of students all males to have smoked tobacco, and only 4 students to have smoked about 5 cigarettes three times a week in the past 30 days. The main reason reported by students for adopting the substance habit was to make friends and to look smart, whereas other authors have highlighted enjoyment, curiosity, and socialization as the most common reasons for substance use by adolescents.^{18,19} Prevention programs should address all forms of drug abuse, alone or in combination, including the underage use of legal drugs (e.g., tobacco or alcohol); the use of illegal drugs (e.g., marijuana or heroin); and the inappropriate use of legally obtained substances (e.g., inhalants), prescription medications, or over-the-counter drugs.²⁰ Educational material regarding substance abuse and their harmful effects can be imparted to teachers and later introduced in school curriculum. Adolescent counselling sessions might help students to reveal family issues and take preventive measures.

CONCLUSION

Alarming rise in substance use (alcohol, cigarette/beedis smoking, pan chewing / gutakha, narcotics) was noted in students of 16-19 years. Preventive measures should be geared in form of awareness in classes, disadvantages of unhealthy habits during adolescence, awareness to parents to reduce bad influence of family to reduce substance use in students. Government should also pro-actively ban on such substances.

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