Section: Community Medicine

Original Research Article

SUBSTANCE USE AMONG ADOLESCENT HIGH SCHOOL STUDENTS: A KNOWLEDGE, ATTITUDE, AND OPINION SURVEY

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ABSTRACT

Background: Adolescence is an important phase in a person's life as the experiences of adolescence can either make or break a person. One such experience is substance abuse which is increasingly becoming a public health problem.

Materials and Methods: A cross-sectional study was done in two conveniently selected random schools, one near the tertiary care centre and the other near the adopted area of Rural Health Training Centre associated with a tertiary care centre in a district of Western Maharashtra. A total of 314 students participated in the study.

Results: The mean age of the participating students was 14.19 ± 0.63 years. Among the sample population of 268, 22(8.94%) students were using various substances. Among users, males were found to be three times more predominant than females. Maternal education and occupation were significant factors associated with substance use among adolescents.

Conclusions: Usage of substances by family members, peers have a significant impact over adolescents' substance use. Paired with lack of proper knowledge about the dangers of substance use can have far reaching consequences over the health of adolescents and of the country.

Keywords: Substance abuse, Adolescents, School health.

INTRODUCTION

Adolescence is a stage of life marked by curiosity and the desire to explore new experiences. While some of these experiences can foster growth and have positive outcomes, others may lead to harmful consequences that can irreversibly damage an individual's life. One such harmful experience is the use of addictive substances, including alcohol and tobacco.

Substance abuse is defined as the harmful or risky consumption of psychoactive substances, such as alcohol and illicit drugs. One of its most significant effects on society is the adverse impact on public health. Additionally, substance use creates a substantial financial strain on individuals, families, and communities.[1]

In India, the problem of substance abuse has been growing steadily. Once viewed as an issue confined to vulnerable groups such as street children, working children, and trafficked children, it has now spread across all sections of society. Globally, substance use among adolescents is recognized as a matter of concern (UNDCP, World Drug Report, 1999). Young people begin using substances for multiple reasons—ranging from curiosity and the pursuit of pleasure to coping with stress. In India, an estimated 5,500 children and adolescents begin using tobacco products each day, with initiation sometimes occurring as early as ten years of age. Alarmingly, the average age of first use continues to decline.[2]

Tobacco use, in particular, is associated with six of the world's eight leading causes of death. Smoking is linked to a wide range of cancers—including those of the lung, larynx, bladder, kidney, stomach, colon, oral cavity, and oesophagus—as well as conditions such as leukaemia, chronic bronchitis, chronic obstructive pulmonary disease, ischemic heart disease, and stroke. It also increases the risk of

miscarriage, premature birth, birth defects, and infertility. These conditions lead to avoidable human suffering and loss of productive years of life. Beyond health effects, tobacco use imposes serious economic costs through lost income, reduced productivity, and rising healthcare expenditures.[3]

In India, alcohol and tobacco—though legally available—are among the most frequently misused substances and pose serious health challenges when consumed by the general population. States such as Punjab and Uttar Pradesh report particularly high rates of substance abuse. Although the Indian government has introduced programs aimed at educating and mentoring those affected, the problem continues to add to the burden of non-communicable diseases.[4]

Adolescents who use drugs are also at greater risk of engaging in antisocial activities, including bullying and violent behaviour. Depending on the substance, drug use has been linked to several mental health disorders. It is further associated with social instability, deviant behaviours, and involvement with hostile peer groups. Overall, adolescent substance use exposes individuals to a wide spectrum of psychological, social, cultural, and behavioural risks, many of which also manifest as physiological harm.[5] Thus, the focus of the study is to find the relevant factors that lead adolescents towards substance abuse.

MATERIALS AND METHODS

This study was a population-based, cross-sectional study, conducted on 314 students in classes VIII, in two high schools, conveniently selected. A self-structured questionnaire was administered.

Main outcome measures were substance use: knowledge regarding the harm, attitude, and opinion. The permission for the study was taken from the Heads of the schools well ahead of the data collection. Participants were explained the purpose of the study beforehand and were ensured strict confidentiality. Verbal informed consent was taken from all the students before giving the questionnaire. The participants were given the choice of not participating in the study if they did not want to. Only those students who were present at the time of study were allowed to participate in the study. Before data collection approval of Institutional Ethics Committee (GMCM/IEC/C/91/2025) was taken. Data was collected on the day chosen by schools on their convenience and all the questionnaires were collected on the same day. Of all the questionnaires collected only the completed ones were accepted for analysis in the study.

RESULTS

Out of total 314 students that participated in the study, about 268 responded fully. Mean age of the study population was 14.19 ± 0.63 years. In the study population, the overall prevalence of substance use was 8.94 percent.

Table 1 depicts that age, sex, and residence of the adolescents were not significantly associated with substance abuse. According to age majority of students (56.7%) were 14 years of age. Religion wise, most of the students (68.6%) were Hindus, 22.8% were Muslims and 8.6% were Christian. Prevalence of substance use was associated more with males than with females, 77.3 percent among male responders. Adolescents with mothers having no formal education ($P< 0.0001$) and working mothers ($P< 0.031$) were found to be strong predictors of substance abuse among adolescents. Father's education and occupation had no role.

Most of the students (84%) agreed that they have received prior information on substance use disorders, with the major source of awareness being schools closely followed by internet and cinema. Despite the awareness, when the students were asked about the definition of substance abuse, 57.8% of students had no knowledge about it. 52.2% of students said that the substances either have no medicinal uses or they didn't know about it. 76.1% of students have received any education about the dangers of substance abuse and 89.1% of adolescents said it is harmful to health. The knowledge of the different substances that have an addiction potential was fairly good. The most commonly used substance was reported as smoking tobacco (91.4%) while the most common disease associated with drug abuse was physical illness (75%) followed by mental health problems (33.2%).

When asked about the reasons for substance abuse 19% of responders said to relieve the stress from studying and 18.3% answered peer pressure. Almost one-third (31.8%) of the users said that they were influenced by their peers into taking up the habit and was found to be highly significant (P-value: 0.0002). In most of the cases, users themselves purchased the substances (21.6%) followed by party and friends (6.7% each). Supari/gutkha/pan/pan masala were found to be the most common substances (38.8%) followed by beedi, chewing tobacco and cigarette (13.8%). 5.2% adolescents were found to be taking alcohol.

The family history of substances abuse was found to be highly statistically significant (P-value: 0.0001), 77.27% of users said someone abused substances in the family mostly by parents or grandparents. Prior substance use was also a highly statistically significant factor (P-value: 0.0001), 68.18% of users gave a history of prior substance use. 63.63% of users admitted that they use these substances regularly, and it was also found to be highly significant (P-value: 0.0001).

Table 1: Distribution of substance use according to sociodemographic characteristics of adolescents [N = 268]

Characteristic	Substance Use: Yes, n (% of 22)	Substance Use: No, n (% of 246)	Total	p-value
Age				
13.0	4 (18.2%)	28 (11.4%)	32 [12%]	
14.0	14 (63.6%)	138 (56.1%)	152 [56.7%]	0.57
15.0	4 (18.2%)	80 (32.5%)	84 [31.3%]	0.14
Sex				
Male	17 (77.3%)	141 (57.3%)	158 [59%]	
Female	5 (22.7%)	105 (42.7%)	110 [41%]	0.068
Residence				
Urban	15 (68.1%)	152 (61.7%)	167 [62.3%]	
Rural	7 (31.8%)	94 (38.2%)	101 [37.6%]	0.55
Religion				
Hindu	10 (45.5%)	174 (70.7%)	184 [68.6%]	
Muslim	8 (36.4%)	53 (21.5%)	61 [22.7%]	0.046
Christian	4 (18.2%)	19 (7.7%)	23 [8.5%]	0.031
Father's Education				
Illiterate	7 (31.8%)	48 (19.5%)	55 [20.6%]	
Literate	15 (59.1%)	198 (67.1%)	213 [79.4%]	0.17
Father's Occupation				
Professional/Skilled Workers	15 (68.1%)	191 (77.6%)	206 [76.8%]	
Unskilled Workers	7 (31.8%)	55 (22.4%)	62 [23.2%]	0.31
Mother's Education				
Illiterate	10 (45.5%)	60 (24.4%)	70 [26.1%]	
Literate	12 (54.5%)	186 (75.6%)	198 [73.9%]	0.031
Mother's Occupation				
Works outside	15 (68.1%)	36 (14.6%)	51 [19%]	
Housewife	7 (31.8%)	210 (85.4%)	217 [81%]	0.0001

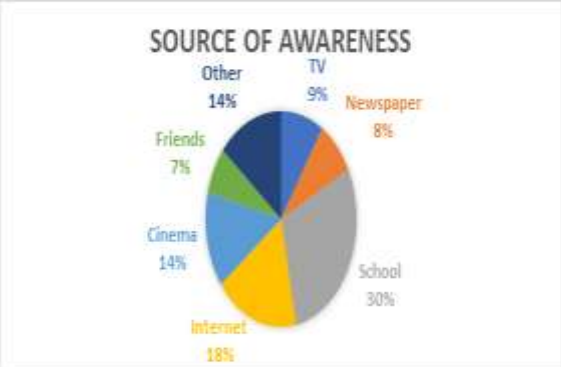

Figure 1: Sources of awareness about substance use among adolescents

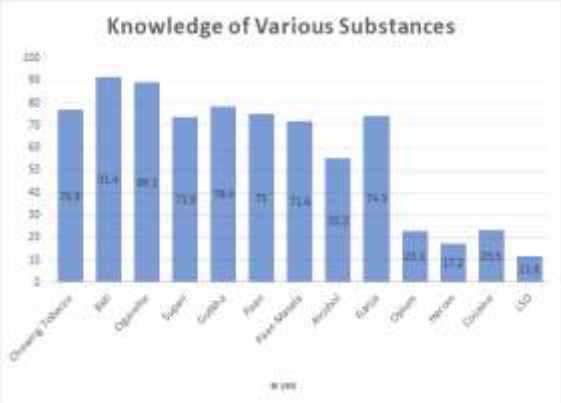

Figure 2: Knowledge of adolescents about various substances

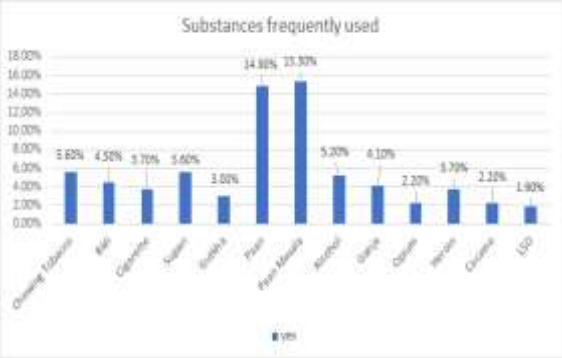

Figure 3: Common substances used by adolescents

DISCUSSION

The present study explored the prevalence, determinants, and awareness of substance abuse among adolescents. The overall prevalence of substance use was found to be 8.94%, which aligns with previous research in similar age groups, Dobhal P et al [6] (10%) and Tsering D et al [7] (12.5%). Other studies, T R Chandrashekar et al,[8] (22.83%), Jasani PK et al,[9] (30.17%), reported much higher prevalence. This indicates that substance use among adolescents continues to be a pressing public health issue even in younger populations.

Interestingly, age, sex, and residence were not significantly associated with substance abuse in this study. However, a higher proportion of users were male (77.3%), which shows greater vulnerability among boys due to social, cultural, and behavioural factors. The lack of significant difference by residence suggests that both urban and rural adolescents are equally exposed to risk factors, possibly due to the growing influence of digital

media and peer networks that transcend geographical boundaries.

A notable finding was the significant association between maternal education and employment status with adolescent substance abuse. Adolescents whose mothers had no formal education or were employed were more likely to indulge in substance use. This could reflect reduced parental supervision or limited awareness of harmful effects which were also highlighted by Dobhal P et al,[6] and Bhagavati S et al [10] in their studies. Interestingly, father's education and occupation were not found to have a significant role, underscoring the unique influence of maternal factors in shaping adolescent behaviours.

Despite the fact that 84% of students had received prior information about substance use, there existed substantial knowledge gaps. More than half of the respondents (57.8%) could not define substance abuse, and over half (52.2%) were unaware of the medicinal uses of these substances. This suggests that while exposure to information is widespread, the depth and retention of knowledge remain limited. Schools emerged as the primary source of awareness, followed by internet and cinema, highlighting both the opportunity and the challenge of using these channels effectively.

The pattern of substance use observed in this study is also noteworthy. Tobacco products (smoking and chewing) were the most commonly used, which is consistent with national surveys indicating tobacco as the gateway substance for adolescents. Alcohol use was reported by only 5.2% of the sample, which is lower compared to some urban studies, possibly due to sociocultural and religious norms in the study population. Health risks were generally recognized, with most students acknowledging physical illnesses as consequences, though mental health effects were less widely understood.

Peer influence emerged as a highly significant predictor of substance use (P=0.0002). About one-third of users admitted to being influenced by friends, and peer pressure was cited by 18.3% of respondents as a reason for use. Similar findings about peer influence were also reported by Bhagavati S et al,[10] Faizi N et al,[11] in their studies. This emphasizes the critical role of peer dynamics during adolescence, echoing findings from earlier research where peer networks are among the strongest determinants of initiation.

Another striking factor was the family history of substance use, reported by 77.27% of users, which was highly statistically significant. These results are supported by past studies. Thakur R et al,[12] Bhagavati S et al,[10] found family history of substance use significantly associated with adolescents' substance use. Singh J et al,[13] reported in their study that >60% of participants had a family history of substance abuse. This supports the intergenerational transmission theory, where adolescents exposed to substance-using role models within families are more likely to adopt similar behaviours. Additionally, prior substance use history and regular use patterns were strongly associated, reflecting the progression from experimentation to habitual use.

Overall, the study highlights that while awareness campaigns have reached most adolescents, knowledge translation into behaviour change remains inadequate. Peer pressure, maternal factors, and family history remain the strongest predictors of adolescent substance use.

CONCLUSION

Our study shows that adolescent substance use is a perfect storm caused by multiple factors.

Among the list of factors, social influence might be the biggest contributor. When family or close friends use substances, it makes the behaviour seem normal and accessible. Second, the lack of adult supervision is a major risk. As working mothers spend more time on the job, the increased unsupervised time with peers creates high-risk opportunities for experimentation.

Finally, this risk is made lethal because despite various educational campaigns, adolescents lack the real, factual knowledge about the serious, long-term damage these substances actually do to their growing bodies and developing minds.

This dangerous mix of social exposure and ignorance creates a huge threat to our youth's health and the nation's future. Protecting them requires strategies that tackle their social environment without burdening them and ensure they get meaningful knowledge about the harms of such practices.

Limitations

- The study highlights strong links but doesn't fully capture the impact of mental health, genetics, or chronic stress.
- Since we rely on self-reporting, participants may not have been fully honest about their substance use or knowledge.
- Results may not translate perfectly across different cultures and regions, requiring careful application.

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