

## ORIGINAL ARTICLE

## Knowledge, attitude, practice, and pattern of substance use among adolescents and young adults from Aligarh, India

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### Citation

Faizi N, Alvi Y, Saraaswat A, Yasir M. Knowledge, attitude, practice and pattern of substance use among adolescents and young adults from Aligarh, India. Indian J Comm Health. 2021;33(4):615-620.  
<https://doi.org/10.47203/IJCH.2021.v33i04.013>

Source of Funding: Nil Conflict of Interest: None declared

### Article Cycle

Received: 29/04/2021; Revision: 02/10/2021; Accepted: 28/11/2021; Published: 31/12/2021

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### Abstract

**Background:** Substance use disorders are significant public health problem among adolescents and young adults. **Aim & Objective:** We did this study to observe knowledge, attitude, and practice of substance use among school and college going adolescents and young adults. **Material & Methods:** A cross-sectional study was conducted at 10 schools and colleges from Aligarh. A total of 1431 students were approached with study tools comprising of pre-structured proforma on knowledge, attitude, and practice. **Results:** We observed that most of the students (89%) had some knowledge about substance use. The risk-taking attitude was common even against drugs like cocaine and charas (30.6% and 29.1% respectively). A high prevalence of ever user and current user was observed (33.3% and 12.9% respectively). The mean age of starting the drug in students and their friends was 15.5 ±2.7 and 16.2 ±2.8 years respectively. Among the ever users, tobacco smoking (56.6) and alcohol (47.6%) were most common. Stress (57.9%) was most common reason to use drugs. Males and college students (40.6% and 41.2% respectively) were using it more. **Conclusion:** This study found half-baked knowledge, propensity towards a risk-taking attitude, and a substantial prevalence of substance use practices. Proper action and further researches are required to explore variables associated for reducing the prevalence.

### Keywords

Substance-Related Disorders; Addiction; Youth; Narcotics; School Health

### Introduction

Substance abuse and dependence are qualitatively ranked on a continuum of substance use disorders in the recently released Diagnostic and Statistical Manual of Mental Disorders-5 (DSM-5), based on a number of symptoms.(1) Substance use disorders are a psycho-medico-social problem requiring both medical and socio-psychological management.(2) It is prevalent across all ages, but adolescence provides the greatest window of vulnerability for such high risk behavior.(3) The stress of pubertal transition and identity formation, desire to take risks and exhibit autonomy and independence, defiance and disagreement with parental and societal authorities, as

well as peer and academic pressures accentuate drug experimentation behaviour in adolescence have been reported reasons for initiation.(4) Given the wide challenges of adolescence, contextual differences in substance use are noted among adolescents.(5) Notwithstanding the risks of adolescents for substance abuse, this phase of life also offers opportunities for the reduction of substance abuse.(3)

The substance use drugs affect the brain's "reward" circuit, which is part of the limbic system that responds to feelings of pleasure by releasing the neurotransmitter dopamine.(6) Significant psychological problems and difficulties including emotional, conduct, peer and poor

prosocial behaviour has been noted among adolescents in similar settings in the past.(7)

Although the determinants of substance abuse include social norms and ease of access at community levels, and peer and family influences at relationship levels, two factors profoundly affect predilection towards substance abuse at the individual level includes- 1. Awareness and beliefs regarding substance abuse, and 2. Perceived benefits of substance abuse.(8) Creating awareness and educating people about the ill-effects of drugs abuse on the individual, family, workplace and society is among the main objectives of the National Action Plan for Drug Demand Reduction (2018-2023) by the National Institute of Social Defence (NISD), Ministry of Social Justice and Empowerment, who funded this study.(9)

### Aims & Objectives

We planned this study with the objectives of observing knowledge, attitude, and practice of substance use among the school and college going adolescents and youths of Aligarh.

### Material & Methods

**Study type, population and duration:** This was a cross-sectional study among the school and college going adolescents and youth from Aligarh district, Uttar Pradesh. The study duration was from January to April 2019. A total of 7 schools, 2 colleges and one polytechnic institute was selected to get representative data of substance use among adolescent and youth of Aligarh. The school students enrolled in class 9<sup>th</sup> to 12<sup>th</sup> were selected for adolescents, while students enrolled in medical college and at the National Service Scheme (NSS) were selected for young adult population. The polytechnic institute was selected as it comprises adolescents who opt for technical studies instead of the secondary school system and could have differential responses.

**Sample size and Sampling:** The sample size of the study was calculated by using the formula,  $n = z^2p(1-p)/d^2$ . Taking the prevalence of substance use from a previous study from Aligarh (10) and error (d) as 2%, resulting in the required sample size of 1142. Accounting for a non-response rate of 25%, the final sample size was calculated as 1428. For the selection of the study participants, we first approached the school authorities of all the schools under the Aligarh Muslim University board for proper permission. The sampling frame comprising of all the eligible school students (Class 9<sup>th</sup> to 12<sup>th</sup>) and college students (medical, polytechnic, and NSS) was prepared and applying Probability Proportionate to Size, we estimated the number of students to be selected from one particular school/college. The selection of study participants from the particular school/college was done by randomly selecting one or more section/semester on the day of data collection in that school/college, and all the students present in that section/semester were approached for the study. To emphasize the importance

of the research, the investigators explained the purpose of the study and confidentiality of the survey. The students were asked to complete the questionnaire under the supervision of the investigator.

**Study instruments:** We used a self-administered questionnaire with four sections that included demographic, knowledge, attitude and practice of substance use information. The questionnaire was developed based on the protocol of Global Assessment Programme on Drug Abuse (GAP) of the United Nation.(11) The questionnaire was piloted among 50 school students and after which it was revised and validated. It was provided to the participants in small groups to improve response rates, accuracy, and reliability of the responses. Personal information was coded for privacy and unbiased response.

**Working Definitions:** While drug abuse is defined as, '*Persistent or sporadic excessive drug use inconsistent with or unrelated to acceptable medical practice*' as per the WHO Expert Committee on Drug Dependence, there are reservations about the word 'abuse' as it is ambiguous and disapproving for clinical use.(2) Therefore, the ICD-10 classification uses the word 'harmful' or 'hazardous' use.(12) DSM-5 uses the term substance use disorders, which includes substance use - consumption of alcohol or drugs; substance abuse -a maladaptive pattern of use leading to problems at work, family, or their health; and substance dependence -where continued use leads to a cluster of behavioral, cognitive and psychological phenomena.(1) In this research, we used a non-judgemental definition of substance use as the use of any psychoactive substance for a purpose inconsistent with legal/medical guidelines. Further, 'ever user' was defined as a user who had taken one or more substances ever in life, whereas, 'current user' was defined as a user who had taken or continues to take one or more substances during the past one month.

**Ethical Approval:** The study was approved by the multidisciplinary Institutional Board of Studies. Prior consent was taken from the school authorities, parents of the students (in case of a minor), and the students themselves (assent in minors). All the students were assured that the information collected would be treated confidentially and their results would not be shared with the school authorities. Counseling, health education, and relevant advice were offered to all participants. Those who needed specialized care were referred to the Psychiatric OPD, JN Medical College, Aligarh. The number of such patients cannot be disclosed due to ethical concerns. The results of the study are strictly anonymous in terms of individual identities of the adolescents and the data has been dealt in codes and aggregates. The research was followed by an extensive one-day drug abuse prevention program which included awareness and education on different facets of substance use which was funded by the National Institute of Social Defence under

the National Action Plan for Drug Demand Reduction (2018-2023).

**Statistical analysis:** We used IBM SPSS Statistics version 20.0 (IBM Corp., Armonk, NY, USA) for the data management and statistical analysis. Descriptive analysis was used to describe the data. Frequencies and percentages for categorical variables and mean values with standard deviations for continuous variables were used wherever possible.

## Results

In our study, a total of 1431 adolescents and youth participated. The mean age of the study population was 17.0 ±2.1 years [range 11 – 25 years] with almost similar male to female (792:639) distributions. About 3/4<sup>th</sup> were school students while the rest were university students, with most (64.1%) living with their parents. Most of the students belonged to upper and upper-middle socio economic status with both mother and father well educated.

**Knowledge:** Most of the students (89%) agreed that they have received prior information on substance use disorders, with TV/Cinema or internet being the most common source. Despite the awareness, the knowledge of the different substances that have an addiction potential or their routes of intake was poor [Figure 1] [Figure 2]. The most common psychoactive drug was reported as alcohol (70%) while the most common disease associated with drug abuse was mental illness (75%). Only 78% of them had prior knowledge of treatment of drug addiction while 15% were not aware. A small proportion of them (7%) considered it to be untreatable [Figure 1].

**Attitude:** Risk-taking attitude was reflected among the study participants as they considered taking cocaine and charas as no or slight risk in 30.6% and 29.1% respectively. Similarly, occasional use of alcohol, smoking and bhang was also not considered to be much risky (38.5%, 70.7% and 60.6% respectively). The most suitable place for taking drugs considered by them was toilets (46.8%) and streets (44.7%), while the least suitable was home (11%). In response to the question of why do people start taking drugs, the majority cited stress (78.5%) as the main cause. The students think drug abuse is dangerous because it could lead to addiction (65.9%), behavioral problems (60.9%), violence and criminal activities (57.2%), depression (55.1%) and even suicidal tendencies (49.4%). [Figure 2]

**Practices:** As observed in [Figure 3] and [Table 1], the prevalence of lifetime drug abuse in our study population was 33.3% while 12.9% were current users. About 37.7% of friends of participants were also into substance use. The mean age of starting the drug in students was 15.5 ±2.7 years, while their friends started at a mean age of 16.2 ±2.8 years.

Among the ever users, tobacco smoking (56.6) and alcohol (47.6%) were most common, followed by codeine syrup

(27.5%), cannabis and its derivatives including charas (13.6%), bhang (12.8%) and ganja (8.8%), sleeping pill (11.5%), opium (8.6%), cocaine (7.3%), LSD (5.0%), morphine (5.0%), shisha (4.8%), inhalant (3.4%), amphetamine (3.14%) and ecstasy (1.5%). The current use of smoking and alcohol was reported in 6.7% and 5.7% respectively [Figure 3]. Among those who used drugs, the most common reason for using it was to relieve stress (57.9%). Less than half of the students perceived curiosity (46.6%) and stress (41.4%) to be reasons behind friends' use of substances [Figure 4]. The history of ever as well as current use of drugs were given more by male (39.1% and 15.9%), and college (39.8% and 15.9%) students. A similar pattern was reported in their friends too. About one-fourth (26.1%) female students reported ever substance used, while 9.2% were still using it. The mean age of initiation was similar in males and females [Table 2].

## Discussion

In our study on knowledge, attitude, and practices of substance use among adolescents and youth from North India, we observed limited knowledge, a propensity towards a risk-taking attitude, and a substantial prevalence of substance use practices.

The majority of the students were aware about the abusive nature of drugs due to media campaigns, information from family members, and school curriculum, similar to other studies.(13) While the abusive nature was known, there was limited knowledge about the kind of substances that are abused as well as their routes of intake. Surprisingly, the most commonly abused substances such as tobacco and alcohol were not even considered abusive. Many students had not heard about morphine, hashish and other psychoactive substance. Thus, the school educational system needs to improve the comprehensive knowledge about such substances as this is the key age of initiation.(14)

An indifferent, as well as risk-taking attitude, was present among our participants towards drugs. Many substances which could be fatal even on the first encounter such as cocaine, were considered risky by only two-thirds of our study population. About half of the students did not consider drug abuse to be dangerous and were not averse to trying it, reflecting the risk-taking and thrill-seeking attitude similar to some other studies.(15). These societal attitudes and reference group norms are important risks for substance use as mentioned in the Modified Social Stress Model proposed by Benegal et al 1998.(16) The most suitable area for taking drugs was public toilets and streets while the least suitable was home in our study, similar to research from Noida. (13) One research done in urban slums reported recreational avenues for males and homes for females to be preferred places for consumption of substance abuse. (17)

A third of the study participants (33.3%) accepted they had ever used substance of abuse, while 12.9% were

currently using them. This high prevalence of substance use was complemented by a history of substance use among their friends (37.7%). These figures are quite higher compared to a study in similar settings a decade ago,(10) while recent studies from elsewhere observe similar rates.(18–22) The rates were much higher than nationwide community based survey including NFHS-4 (2015-16), as well as a meta-analysis which found 18% of school-going students uses substance.(14,23) While the prevalence of ever use of substance in our study population was quite high, fortunately, two-third of them are not current users, reflecting the thrill-seeking and 'trying out' nature of such users. However, we need to prevent these try outs as the National Action Plan for Drug Demand Reduction rolls out.(14) A warning based or "doing what's right" approach to drug abuse education needs to be complemented with explanations of detrimental and damaging effects of drugs and destigmatizing the need to seek help.(24)

Among the ever users, half of them had smoked cigarettes and drank alcohol, while less than a third had used codeine syrup in abusive nature. Tobacco, alcohol, and cannabis are considered gateway drugs - leading to the subsequent use of and dependence of harder drugs, and are expected to be more prevalent in the adolescent and young populations.(24) The use of Inhalants was similar to the recent National Survey on Extent and Pattern of Substance Use rates.(16,25) The pattern of substance use observed in our study was lower than National Commission for Protection of Child Rights (NCPCR) report but higher than the National Survey on Extent and Pattern of Substance Use, which collected current use and among 10-75 years participants.(24,25)

The average age of initiation of substance use,15.5+2.7 years was similar to a few previous research, (17,20) but older than some recent reports.(13,19,26) While most users cited stress as the cause, rest cited lack of willpower, easy accessibility, belief in performance enhancement, helps in being creative, for social boost, and influence by addicted parent/ sibling as the major reason of drug intake. These findings are similar to earlier studies from Chandigarh and elsewhere. (16,22,27)

## Conclusion

In conclusion, our findings indicate a low level of knowledge, a casual and indifferent attitude as well as a high prevalence of substance use. Among various substances, cigarettes, alcohol, codeine, and cannabis were used more among adolescents and young adults students in Aligarh. We observed early initiation, and more than one-third were current substance users. Substance use is perpetuating among adolescents and youth, and needs to be dealt with a sense of urgency and diligence. Comprehensive knowledge about the range of substances that are considered to be abusive, addictive, or with gateway potential needs to be incorporated in the

study curriculum. There is also a need to further understand and limit the thrill-seeking adolescent behavior and drug try outs.

## Limitation of the study

The limitation of this study is the non-inclusion of adolescents and young people, who could not be enrolled. While the findings are not generalizable for all adolescents, the lessons are pertinent to improve the delivery of school-based awareness programmes, in the lines of the first objective of the National Action Plan.

## Authors Contribution

NF and YA were responsible for concepts, design, literature search, data collection & analysis, and manuscript preparation, editing & review. AS and MY contributed to data collection, analysis and manuscript editing & review.

## Acknowledgement

We acknowledge the funding of the project on Drug Abuse Prevention Programme-Aligarh Muslim University by the National Institute of Social Defence (NISD).

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**Tables**

**TABLE 1 PREVALENCE OF DRUG USE IN THE STUDY POPULATION**

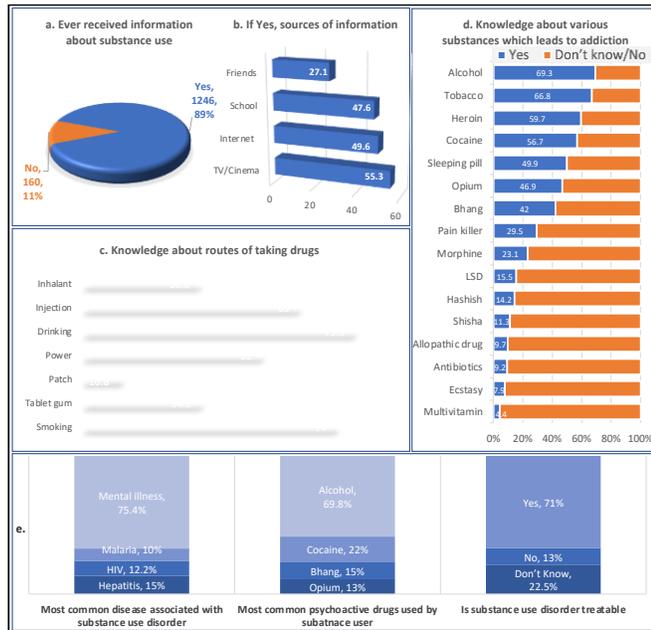
Substance use	Self			Friends	
	Ever	Currently	Age of 1 <sup>st</sup> use (years ± SD)	Ever	Age of 1 <sup>st</sup> use (years ± SD)
Yes	477 (33.3%)	226 (15.8%)	15.5+ 2.7	539 (37.7%)	16.2 + 2.8
No	887 (62.7%)	1134 (79.2%)		670 (46.8%)	
Missing /Don't know	57 (4.0%)	71 (5.0%)		222 (15.5%)	

**TABLE 2 EVER AND CURRENT USE OF DRUG ACCORDING TO GENDER AND LEVEL OF SCHOOLING**

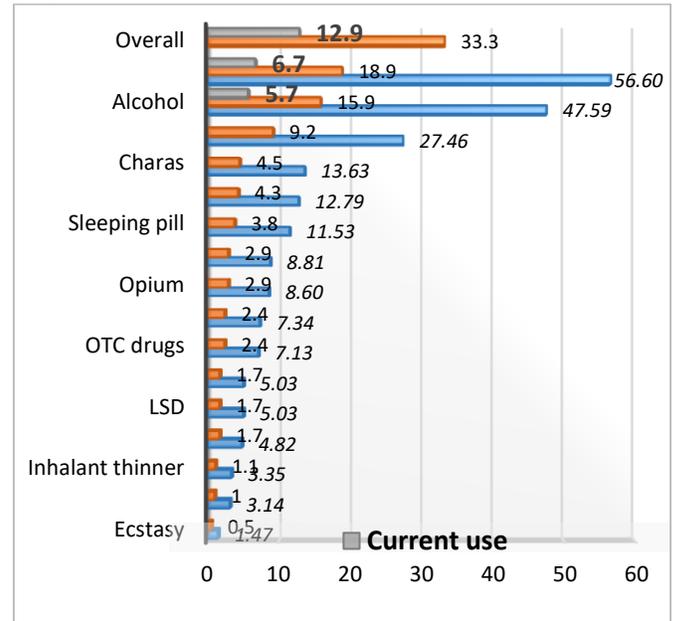
Variable	Self			Friends	
	Ever	Currently	Age of 1 <sup>st</sup> use (years ± SD)	Ever	Age of 1 <sup>st</sup> use (years ± SD)
Male	310 (40.6%)	157 (20.8%)	15.5+2.7	385 (50.4%)	16.3+2.8
Female	167 (27.4%)	69 (11.4%)	15.5+2.8	154 (25.1%)	16.1+2.7
School	339 (32.6%)	154 (14.9%)	14.9 + 2.2	368 (35.1%)	15.8 + 2.7
College	138 (41.2%)	72 (21.9%)	16.7 + 3.2	171 (52.0%)	17.0 + 2.9

**Figures**

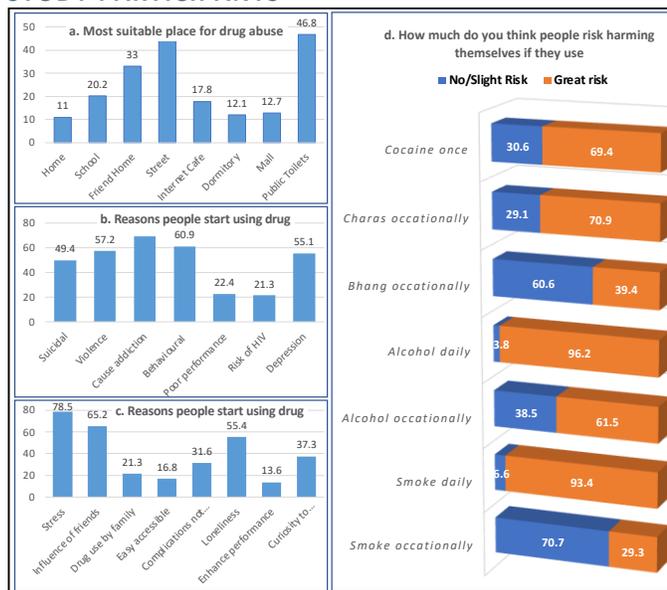
**FIGURE 1 RESPONSE TO KNOWLEDGE ITEMS AMONG STUDY PARTICIPANTS**



**FIGURE 3 PRACTICE OF SUBSTANCE USE AMONG STUDY PARTICIPANTS**



**FIGURE 2 RESPONSE TO ATTITUDE ITEMS AMONG STUDY PARTICIPANTS**



**FIGURE 4 REASON FOR SUBSTANCE USE BY THEMSELVES AND FRIENDS**

