

Exploring Substance Use Among Late Adolescents in Mangaluru, India

Loveena Lobo, Amlin Roche



Abstract: Adolescence is a significant transitioning phase of life where the young are prone to experiment and engage in risk-taking behaviours such as Substances use. The study objectives were to ascertain the reasons for first-time use of substances, occasions of use, and the sources of availing of banned substances among late adolescents. A quantitative and qualitative study approach was adopted with an exploratory and descriptive research design. Around 532 late adolescent students participated in the study, from colleges in urban & rural areas. The study outcomes highlight the primary reasons for adolescent substances-use was party/fun (45%) followed by curiosity & experimentation (35%) and suggestion from friends & family (11%). The top three occasions for substance use are parties (53%), weekends (18%) and when studying (10%). The top three sources of availing of banned substances are friends/ college mates (18%), agents (12%), and petty shops (8%). Qualitative findings showed that the first-time use of addictive substances among adolescents is primarily due to curiosity, experimentation and the influence of friends. Interviews revealed that faulty parenting techniques such as poor communication, providing ample finances and lack of supervision of hostellers are the common markers of adolescent substance use. Hostels and parties are often popular places among students to initiate substance use. The channels for obtaining Banned substances are through students (for financial gains) who have dealt with middlemen/traffickers in the past. Often vehicles such as cars/trains and modern technology are adopted by drug traffickers. Instances of Weed (marijuana) being grown at home in the backyards is seen. Various recommendations at Educational Institutes, law enforcement and Government Policy levels are made. Further research, to probe deeper into understanding the effects of substance use and health concerns due to substance use is suggested.

Keywords: Exploring, Substance Use, Late Adolescents, Reasons for first-time use, Available Sources.

I. INTRODUCTION:

Adolescence is a significant developmental phase that involves important physical, psychological and behavioural changes. These changes in the developmental processes may predispose adolescents to experimentation where the young indulge in risk-taking behaviours including experimenting with addictive substances.

Generally, the first onset of substance use occurs in Adolescence and hence it is a critical period [1]. There is an increased vulnerability of student adolescents to use substances during their pursuit of education which drives high academic pressure [2], influenced by peer groups [3] or the lure of acceptance into friend circles [4], together with easy access of many such substances like alcohol, cigarettes and other psychoactive drugs. Any product or substance that if consumed in excess amounts or if habitually used could be harmful to oneself (resulting in psychological and behavioural changes). These substances could be any legally marketed products such as alcohol, cigarette, pan etc. The indicator, lifetime prevalence has been used in this study. It was originally adopted by the World Health Organization as an indicator of the extent of exposure to substances. Substance Lifetime use tells if an adolescent has used a substance in their life. It could be only one time for curiosity or experimentation or as prescribed medicine or during social interactions. It could be more than once but without exhibiting substance dependence e.g. low percentage alcohol products like beer etc. OR, it could be more than once and highly dependent on the substance in everyday life. Whereas we measure harmful use by identifying everyday users from the frequency of substance use. Substances come with different characteristics which affect the physical, and psychological responses of the users (UNODC, DRUGS Short- and Long-Term Effects and Withdrawal Symptoms) which often are perceived by adolescents as coping mechanisms to manage stress, anxiety or depression. An adolescent is a person who is transitioning from a child to an adult in three stages of maturity namely 'early adolescence', 'middle adolescence' and 'late adolescence'. Attaining adulthood is subjective to the individual's biological maturity, which often is the result of circumstances that lead the child/adolescent to accept adult roles and responsibilities. The WHO classifies it between Ages 10 to 19 years, whereas the AMCHP, classifies it between ages 10 to 24 years and the AAP classifies it to be between 11 to 21 years, and the UNICEF classifies it between ages 11 to 19 years. In this report, we focus on the late Adolescents pursuing their degree education between the ages of 17 to 21. Adolescents in India have high lifestyle aspirations and are shaped by a consumer-driven society where most information, products and services are accessible via the click of a button. However, the access, availability and purchasing power between urban, semi-urban and rural consumers differs. India also restricts the ease of access to substances by laws and regulations. State governments also impose laws on access to substances, hence certain laws and regulations vary across the country.

Manuscript received on 31 May 2023 | Revised Manuscript received on 12 June 2023 | Manuscript Accepted on 15 August 2023 | Manuscript published on 30 August 2023.

*Correspondence Author(s)

Dr. Loveena Lobo*, Associate Professor, Department of Post Graduate Studies and Research in Social Work, St. Aloysius College (Autonomous) Mangaluru (Karnataka), India. E-mail: loveena_lobo@staloyisius.edu.in, ORCID ID: [0000-0001-6007-996X](https://orcid.org/0000-0001-6007-996X)

Ms. Amlin Roche, Research Consultant, Sapience Research and Consultancy Pvt Ltd, Hyderabad (Telangana), India. E-mail: amlinroche@hotmail.com, ORCID ID: [0009-0007-5941-4493](https://orcid.org/0009-0007-5941-4493)

© The Authors. Published by Lattice Science Publication (LSP). This is an open access article under the CC-BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

Exploring Substance Use Among Late Adolescents in Mangaluru, India

Nicotine products (smoking and chewing tobacco) and inhalants are easily available at the local Kirana stores. Whereas for drugs and alcohol, the Indian government, in its policy has adopted a conservative approach towards the online purchase of prescription drugs and alcohol. India also upholds a strong stance on trafficking and the use of narcotic drugs by criminalizing it and also stringently enforcing laws [5] under the NDPS Act. The sources of the banned drug are a grey area and are generally monitored by the special division of law enforcement, the NCB, and at Mangaluru it is called the 'Economic and Narcotics Crime Police'. A nationwide study [6] estimates the extent of substance use among the population of 10-17-year-olds (approx. 22 Crores as of 2021) as Alcohol (1.3% or 29.71 lakh youth), Cannabis (0.9% or 20.57 lakh youth), Opioids (1.8%, 41.14 lakh youth), Inhalants (1.17% or 26.74 lakhs). The study also pointed out that these India figures vary highly across states [7], eg. the Share of Inhalant use among the population of 10-17-year-olds shows maximum use for Arunachal Pradesh (8.65%) compared to the rest of the states of India. While in Karnataka inhalant use is 0.77%, which is less than the national average. There is an upward trend of using substances [8] that are harmful despite growing stringent measures by regulatory bodies on measures such as increasing the prices of cigarettes and the size of warning messages on its packaging, relegating advertisements of alcohol to surrogate options [9] and criminalizing narcotics trafficking and its use [10]. In her global health report on substance use by young [1], the author highlights one of the reasons for the rising use of substances is the unreported production of traditional alcohol and tobacco in India (unrecorded hence untaxed and unregulated). This could also include illicit production and cross-border smuggling. Hence policymakers are also unaware of the minimum age of consumption and other policy levers such as taxation and regulation of outlets. While using substances, adolescents generally do not understand that it will lead to emotional and behavioural issues. Exposure and continued usage of substances can lead to addiction, increased risk of developing mental health disorders, and risk of developing health problems and behaviour problems [11]. Understanding the effect/experiences of substances can explain the reasons for substance use. In recent years there has been evidence of changes in substance use patterns. The high prevalence of substance use among Indian adolescent students [12], the changing demographics of users [13] show similar usage among gender [14], and preferences of substances for females differ from males [15] preferences of the addictive agent from low to high potent [6], the falling age of initiation [16], attitudes towards substance use [17], source of finances are causes of growing concern to name a few. Another cause of concern for the above trend is the global disease burden, contributed by substance use which increases substantially in adolescents and young adults [1]. Many factors drive adolescents to use substances. Curiosity, peer influence, social inclusivity aspirations, and advertisements; to name a few. Therefore it is pertinent to know why young people indulge in substance use and what occasions prompt them to substance use. Similarly, for banned substances, it is vital to unearth the sources of availability of these substances despite the laws and curbing mechanisms in place. It is seen that when substance use is sustained over a period of time, it may result in

substance-use disorders which is a hindrance to the future lives of adolescents as they enter adulthood. Hence this study focuses on investigating the reasons and occasions of substance use and the sources of access to banned substances. The findings can help in making recommendations to all stakeholders in terms of initiating measures to prevent substance use among adolescents.

II. REVIEW OF LITERATURE

[18] Conducted a study aimed to measure the prevalence of cigarette and alcohol use and identify psychosocial risk factors for substance use and misuse among 5879 student adolescents from 11 senior high schools in Taiwan. The study tool was the Alcohol Use Disorder Identification Test-Consumption (AUDIT-C). The results of the study show that the prevalence of substance use is 3.84% for cigarettes and 7.38% for alcohol. Risk factors for substance use were common for both substances namely; male gender of adolescents, unemployed fathers, use of both substances, peer influence, low perception of support from parents/relatives/teachers/ and depression. [15] Studied the prevalence and pattern of substance use. The respondents for the study are female students of ages 18-25 years in universities in North India. The study explores reasons for use, usage of substances and related health concerns. The study adopted was a multistage cluster random sampling on a cross-section of 250 females from a university in Chandigarh. A survey tool developed by WHO was used through a self-fill format. The study outcomes showed that the lifetime prevalence of substance use was 13.6% [95% CI 9.3-17.8, n=34]. Alcohol use was the highest at 31% followed by cigarettes at 9%. The primary reason for substance use was Curiosity/fun. [19] Conducted a cross-sectional study at a medical college in the Tumkur district of Karnataka among 379 medical students through a semi-structured questionnaire. The results showed substance use of 25.9%. Substance use was highest among seniors (3rd year) which was 25.3%. Alcohol (36.40%) was the preferred substance of students. Curiosity (42.4%) and the Influence of friends (45.5%) are the reasons for substance use. 76.6% of hostellers used harmful substances and they are also more likely to be exposed to substances. The study concluded that the prevalence of substance abuse among medical college students was high. Students preferred alcohol products and tobacco the most. [20] Investigated 110 male adolescents in the suburban area of Delhi using a cross-sectional survey through convenient sampling to measure the prevalence and pattern of substance use. The results observed revealed a higher percentage of male adolescents reported using one or more substances in their lifetime. Almost half of the respondents consumed substances before the age of 13 and the most common reason for the consumption was to be liked by their friends. The most common substance reported to have been consumed was tobacco, followed by inhalants and alcohol. Friends were majorly the source for gaining access to the substances.



The association analysis showed higher usage of substances by adolescents who studied less than 10th standard and adolescents hailing from nuclear families with less than two siblings. Recommendations in the study made included educational intervention at the school level to prevent the initiation of substance use among adolescents and maintain substance use through legislation which prohibits the selling of substances to minors, under the age of 18, and their consumption in public places. [21] Conducted a cross-sectional study on Substance abuse and practices and their consequences among adolescents and young adults among 487 students between ages 15 and 25 years in schools and colleges in Mangaluru. The study showed that 8.60% have tried some substances. The substances used were marijuana (5.51%), LSD (1.10%), and cocaine (1.32%). The first-time use of marijuana was in college under the influence of peers. The frequency of use was Regular (1.54%), Occasional (1.76%) and One-time use (2.20%). The effect of substances was on daily activities and academics (33.03%) and exhibited negative/anti-social behaviours (21.05%). [16] Conducted a study on the prevalence and pattern of substance abuse among street children and adolescents of the age group 7 to 18 years in the state of Andhra Pradesh. The respondents selected criteria were restricted among education levels (no schooling, dropout and pursuing) and family background (no family, with father, with mother and with both parents). The study found that 71% of respondents showed the prevalence of substance use of which the most predominant was smoking tobacco at 48.9% followed by alcohol (40.6%), chewing tobacco (28.8%), inhalants (31%), and cannabis (14.9%). Awareness of the ill effects of substance use stood at 52.8%. Influence from friends/peers and getting pain relief were the primary reasons for use. The initial motivation to use was to gain confidence. The study shows that poverty and illiteracy of parents are the root cause of substance use problems among street children and suggested three approaches of resolution through child support services, building awareness among shop keepers and maintaining vigil on commonly available substances. [22] Conducted a study on substance use among adolescents. The study aimed to identify the knowledge, attitude, and opinion on substance use. A sample of 416 students from a cross-section of two high schools (students studying 8th, 9th, and 10th) in West Bengal formed the respondent base. The outcomes of the study showed a lifetime prevalence of substance use is 12.5%. Urban students showed higher use at 15.1% compared to their rural counterparts at 10.7%. The primary reasons for the continuation of use were easy availability and relief from tension. Urban students showed higher awareness of the ill effects of substance use at 84.6% compared to 61.5% among rural respondents. Peer influence as a motivator to use substances was high among rural students at 26.9% compared to urban students at 15.4%. [23] Conducted a study to identify the attitudes towards the legalization of substances, lifetime use, frequency of use and risk factors of substances among urban adolescent students in elementary and high school (in Croatia) of the age range 13 to 23 years. The study showed the lifetime use as 90% for alcohol, 80% for tobacco and 39% for marijuana. The everyday use was significantly more for men compared to women. The attitude towards a substance is influenced by everyday usage of the substance. The attitude towards the

legalization of marijuana was 43% for, 37% against and 21% undecided. High-risk behaviours, troubled adjustments to school, hedonistic values and poor family relations were identified as the predictive factors or risk factors for substance use. Previous studies in India have given evidence for lifetime use as well as how these factors vary by gender and some demographic parameters such as student type, and location. Very few studies have investigated the reasons and occasions for substance use. There is also a dearth of studies that have explored the sources of availing banned substances, particularly in the universe of this study.

III. OBJECTIVES OF THE STUDY:

1. To investigate the reasons for substance use among adolescents.
2. To examine the occasions for substance use.
3. To find out the sources or availability of banned substances.

IV. METHODOLOGY:

Universe: The universe of the study comprises late adolescent students studying in undergraduate colleges of Mangaluru, India

Inclusion criteria:

- 1) Students studying in aided and unaided undergraduate colleges were included in this study.
- 2) Students who were present in the class at the time of the study and willing to participate were included in the sample.

Research Design: An exploratory and descriptive research design was used for this study. The exploratory investigation helped to explore the reasons for first-time use, occasions of use and available sources of banned substances use. The study adopted both quantitative and qualitative research methods.

Research Instrument: For obtaining quantitative data a Self-prepared questionnaire was used to gather data on substances used, reasons and occasions of substance use and, sources available for obtaining banned substances. The instrument was designed to be self-filled and was administered to the entire class at the same time by field investigators. For qualitative data, a focus group discussion guide (outline questions) and an in-depth interview guide were formulated.

Sampling Plan: Multi-stage sampling was envisaged for determining the sample for **quantitative data collection**. In the first step, a List of undergraduate Colleges in, Dakshina Kannada District was prepared, ensuring the inclusion of aided and unaided colleges. The List was first narrowed down to colleges in Mangaluru, India. Two lists were generated one for urban undergraduate colleges and one for rural undergraduate colleges. From each list, 16 institutes (8 urban and 8 rural colleges) were shortlisted using purposive sampling based on information regarding past history of substance use cases in the local media and unofficial grapevine on sources of availability of substances in the proximity of college campuses.

After gaining approval from the institute heads, eight institutions (four from urban and four from rural) were selected/finalized for the study. Two batches of students from 8 institutes (four from urban and four from rural) were included in the sample and the entire class was considered for the survey. Thus a total of 532 students (368 urban students and 164 rural students) formed the respondents of the study. Regarding **qualitative data collection**, One FGD in each of these colleges was conducted. Eight students of those who participated in the questionnaire study were chosen by the teacher based on their ability to participate and contribute to the discussions in the focus group. Gender representation was ensured in the ratio of 1:1. The researcher also conducted in-depth interviews with one senior teacher of each of these colleges (which made a total of eight teachers), three counsellors, two psychiatrists, two Police officers and data gathered related to the objectives of the study.

Method of Data Collection: The students were briefed on the objectives and purpose of the study. Written consent from the students was obtained to participate in the study. They were instructed on how to use the guidelines and fill out the questionnaire. As the questionnaires were self-filled, the guidance of the field personnel was facilitated whenever sought by respondents.

V. RESULTS AND DISCUSSION

5.1 Background

Demographics

A total of 532 students took part in the study of which 69% (368 students) were from urban colleges and 31% (164 students) were from rural colleges. The male represents 60% (320 students) of the sample and the Females represent 40% (212 students) of the sample. Hostellers represent 24% of the sample whereas Day Scholars are a majority at 76%.

Lifetime Use

Lifetime use of substance is defined as the use of substances by the respondent, at least once in his/her life. The results of the study revealed that 58% (f = 306) lifetime use for legal substances and 19% (f = 103) for banned substances, while 59% (f = 312) lifetime use was seen for both legal /or banned substances. The data implies that by late adolescence approximately three in every five students have used some legal substances and approximately one in five students have used some banned substances. Among legal substances Alcohol (that works as a depressant) had the highest lifetime use of 34.8% among adolescents and Cigarette (a stimulant) had the second-highest lifetime use (28.6%) among legal substances and the highest among stimulants. While Whitener (a petroleum derivative) was found to have the highest lifetime use (8.3%) among Volatile Solvents. A list of banned substances with a minimum of 5% lifetime-use was identified from the data. While other categories of banned substances are in use such as Hallucinogens and Narcotic Analgesics, however, the lifetime use is less than 5%, therefore not commonly used, and hence only Weed, Ganja, Cannabis, Hash and Pot were listed which had 5% and above lifetime Use. Among them, Weed is the most popular Lifetime use substance (10%) of Cannabis properties followed by Ganja (9%). The lifetime use of **legal substances** by location is higher for urban adolescents (62%) compared to rural

adolescents (48%). By gender, it is higher for males (65%) compared to females (46%). By student type, it is higher for hostellers (76%) compared to day scholars (52%). The lifetime use of **banned substances** by location is higher for urban adolescents (22%) compared to rural adolescents (13%). By gender, it is higher for males (26%) compared to females (9%). By student type, it is higher for day scholars (28%) compared to hostellers (17%).

Addictive Agents

Among the 16 addictive agents assessed, Nicotine (36.8%) and Alcohol (35.5%) are the primary addictive agents with the highest lifetime use. The addictive agents in the range of 8 to 12% lifetime use are Petroleum Derivatives (12.2%), Marijuana (11.3%) and Ganja (8.3%). The addictive agents in the range of 6 to 5% lifetime use are Cannabis (5.8%), Cocaine (5.1%) and Amphetamine (5.1%). The addictive agents with less than 5% use are LSD (3.2%), Hashish (2.8%), Mushrooms (2.3%), Charas (2.1%), Brown Sugar (1.7%), Opium (0.4%), Mescaline (0.2%) and Phenethylamine (0.2%).

Frequency of Use

The respondents also provided information on the frequency of use, which is classified into two types of users **i) Every day and ii) Occasional**. Overall, 16% of substance users are everyday users and 57% are occasional users. Everyday use is almost similar for legal users (15%) and banned users (13%). The no-response rate for banned users is higher at 42% compared to legal users at 28%. Data implies the need to strengthen preventive programmes for adolescents related to substance use and organize activities that help them stimulate their reward paths. Nicotine(51%) and alcohol(61%) are the two most common addictive agents that are occasionally consumed among adolescents. Adolescents who are everyday users of substances such as Petroleum Derivatives with the highest comparative share for everyday users (17%). Whitener, Glue, Petrol, and Paint Thinner are commonly inhaled petroleum derivatives among adolescents. The second most popular addictive agent for everyday use is Nicotine (16%), followed by LSD (12%), Brown Sugar 11%, Marijuana (11%), Cannabis (10%), Charas (9%), Mushrooms (8%), Amphetamine (7%), Ganja (7%), Hashish (6%) and Alcohol (6%).

5.2 Reasons for Substance Use

This parameter has been studied by two approaches qualitative (In-depth interviews and focus group discussions) and quantitative (questionnaire).

5.2.1 Quantitative Assessment for The Reasons for Substance Use Among Adolescents

The respondents were further examined on the reasons for substance use on reasons for initiating use (First-Time-Use) using structured questions and with options to provide open-ended answers.

Reasons for First-time-use of substance among adolescents

'First-time Use' can be described as motivation for an adolescent to initiate the use of substances. This parameter was measured quantitatively and is summarized below.



Table 1: Reason for First-Time Substance Use

| Type | Reasons for Use | Responses (R**) | N* | % |
|-------------------|---------------------------|-----------------|-----|-----|
| Legal Substance | Party / Fun | 132 | 229 | 58% |
| | Curiosity & experimenting | 97 | 229 | 42% |
| | Friend/Family Suggestion | 35 | 229 | 15% |
| | Cope with Stress | 19 | 229 | 8% |
| Banned Substances | Party / Fun | 33 | 102 | 32% |
| | Curiosity & experimenting | 29 | 102 | 28% |
| | Friend/Family Suggestion | 7 | 102 | 7% |
| | Cope with Stress | 4 | 102 | 4% |

*N= Total respondents, R** = No of Responses

Note: Since this was a multiple-response question, the values won't add upto 100%

The top 3 reasons for the use of Legal substances are Party/Fun (58%), Curiosity and Experimentation (42%) and Family / Friend Suggestion (15%). Similarly, the top 3 reasons for the use of Banned substances are Party/Fun(32%), Curiosity and Experimentation (28%) and Family Friend Suggestion (7%).

First-time-use of substance and its relationship with the location of adolescents

Table 2: Reason for First-Time Substance Use - by Location

| Type | Reason for Use | Respondent Location | Responses (R**) | N* | Reason for Use (%) |
|-------------------|-----------------------------|---------------------|-----------------|-----|--------------------|
| Legal Substances | Party/ Fun | Urban | 85 | 221 | 38% |
| | | Rural | 47 | 78 | 60% |
| | Curiosity and Experimenting | Urban | 68 | 221 | 31% |
| | | Rural | 29 | 78 | 37% |
| | Friend Suggestion | Urban | 22 | 221 | 10% |
| | | Rural | 13 | 78 | 17% |
| Banned Substances | Party/ Fun | Urban | 27 | 81 | 33% |
| | | Rural | 6 | 21 | 29% |
| | Curiosity and Experimenting | Urban | 22 | 81 | 27% |
| | | Rural | 7 | 21 | 33% |
| | Friend Suggestion | Urban | 6 | 81 | 7% |
| | | Rural | 1 | 21 | 5% |
| | Cope with Stress | Urban | 1 | 81 | 1% |
| | | Rural | 3 | 21 | 14% |

*N= Total respondents, R** = No of Responses

Note: Since this was a multiple-response question, the values won't add upto 100%

Party/ Fun is the primary reason for first-time use of Legal Channel/Source in the case of urban and rural adolescents. For Banned substances, the rural adolescents' primary reason for use is curiosity and experimentation while Party/Fun is the primary reason for first-time use for urban adolescents.

Discussion

Primary reason for use: Reviews reveal the primary reason for use is peer influence [14], [4] , [16], [19] and [22], curiosity and fun [15]. Also, peer influence is higher in rural students than in urban students [22]. While reviews reveal peer influence as the top reason for adolescent substance use, however, this study revealed the top reason for using substances as party/ fun.

5.2.2 Qualitative Assessment for The Reasons for Substance Use

A qualitative assessment was conducted using Focus Group Discussions and In-depth Interviews which are summarised below. One senior teacher of all 8 educational institutes, three counsellors, two psychiatrists and two police officers were interviewed.

Exploring Substance Use Among Late Adolescents in Mangaluru, India

Table 3: Reasons for Substance Use

| | | FGD | | IN-DEPTH INTERVIEWS | | | | |
|--------------------------------------|---|----------------|----------------|---------------------|----------------|-------------|---------------|-----------------|
| | | Urban Students | Rural Students | Urban Teachers | Rural Teachers | Counsellors | Psychiatrists | Police Officer* |
| “Internal Factors” | | | | | | | | |
| Curiosity | | ✓ | ✓ | | | | | |
| Experimentation | | ✓ | | | | | | |
| Genetic prevalence | | | | | | ✓ | ✓ | |
| “External Factors” | | | | | | | | |
| Pressure/Influence from Peer/Friends | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Advertisements | | ✓ | | | | | | |
| Emulating seniors (Role models) | | | | | ✓ | | | |
| Easy Availability | | | | | ✓ | | | |
| “Feel Good” | | | | | | | | |
| Helps to relax | | ✓ | | | | | | |
| Fun/ Party | | ✓ | ✓ | | | | | |
| Experience Happiness | | | ✓ | | | | | |
| “Helps to Cope” | | | | | | | | |
| Relationship Issues | Love Failure / Romantic Conflicts | | ✓ | | ✓ | ✓ | | ✓ |
| | Loneliness | | ✓ | ✓ | ✓ | ✓ | | ✓ |
| | Depression/Anxiety | | | | ✓ | ✓ | ✓ | ✓ |
| | Parent Issues -Conflicts between parents -Separation/ Divorce | | | | ✓ | ✓ | ✓ | ✓ |
| Poor Stress Coping | Relief from stress | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ |
| | Confidence in difficult situations | | ✓ | ✓ | ✓ | ✓ | | |
| | To be Alert e.g. during exams | | | ✓ | ✓ | | | ✓ |
| | Build immunity of Athletes | | | ✓ | | | | |
| | Pseudo masculine Behaviour | | | ✓ | | | | |
| Faulty Parenting | Lack of open communication -feel misunderstood | | ✓ | | | ✓ | | ✓ |
| | Study Pressure | | | | | ✓ | ✓ | |
| | Give pocket money | | | | | ✓ | | ✓ |
| | Overprotective | | ✓ | | | | | |
| | No supervision for Hostellers | | | | | ✓ | | ✓ |

* Police officers approached were from the narcotics department and hence legal substances were not relevant to them.

The first-time use of addictive substances among adolescents is primarily due to curiosity, experimentation and the influence of friends. Most often these incidences of use happen during parties which give a “feel good” factor for the substance users. Messaging by surrogate advertisements by alcohol and cigarette brands influences the purchase of these substances. Adolescents often find the effects of substance use (using stimulating or depressing agents), as an easy coping mechanism especially to deal with anxiety/depression about relationships, relieve academic pressure and boost self-confidence. The police officers and counsellors agree that faulty parenting techniques such as poor communication, providing ample finances and lack of supervision of hostellers are the common markers of adolescent substance users. Adolescence is also a time when students explore romantic relationships. It’s often noticed that love failure (romantic conflicts) is a cause of depression. Lack of coping skills and availability of counselling leads to the use of substances to manage emotional pain.

5.3 Occasions for Substance Use

The top three occasions for using any substances in the past are 1) at parties (53.4%), 2) at weekends (18.4%) and 3) when studying (10%)

Table 4: Occasions of Substance Use

| Type | Occasions of Use | Responses (R**) | N* | % |
|-------------------|-----------------------|-----------------|-----|-----|
| Legal Substance | Parties | 166 | 229 | 73% |
| | Weekends | 57 | 229 | 25% |
| | When studying | 32 | 229 | 14% |
| | At night before sleep | 17 | 229 | 7% |
| Banned Substances | Parties | 35 | 102 | 34% |
| | Weekends | 12 | 102 | 12% |
| | When studying | 6 | 102 | 6% |
| | At night before sleep | 7 | 102 | 7% |

*N= Total respondents, R**= No of Responses

Note: Since this was a multiple-response question, the values won't add upto 100%

The top 3 occasions for use of Legal substances are 73% Party/Fun, 25% Weekends and 14% when studying. Similarly, the top 3 occasions for use of Banned substances are 34% Parties, 12% Weekends and 7% at night before sleep.

Occasions of substance-use and its relationship with the location of adolescents

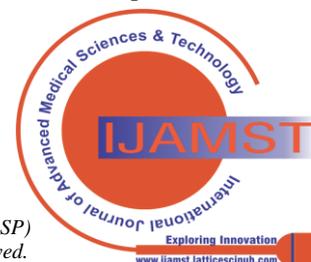


Table 5: Occasions of Substances- by Location

| Type | Occasions of Use | Respondent Location | Responses (R**) | N* | Occasions of Use (%) |
|-------------------|-----------------------|---------------------|-----------------|-----|----------------------|
| Legal Substances | Parties | Urban | 122 | 221 | 55% |
| | | Rural | 34 | 78 | 44% |
| | Weekends | Urban | 35 | 221 | 16% |
| | | Rural | 16 | 78 | 21% |
| | When studying | Urban | 20 | 221 | 9% |
| | | Rural | 9 | 78 | 11% |
| Banned Substances | Parties | Urban | 46 | 81 | 57% |
| | | Rural | 8 | 21 | 39% |
| | Weekends | Urban | 11 | 81 | 13% |
| | | Rural | 5 | 21 | 26% |
| | When studying | Urban | 9 | 81 | 11% |
| | | Rural | 1 | 21 | 4% |
| | At night before sleep | Urban | 6 | 81 | 7% |
| | | Rural | 4 | 21 | 17% |

*N= Total respondents, R** = No of Responses

Note: Since this was a multiple-response question, the values won't add upto 100%

The top three occasions for using Legal substances in the past are 1) Parties, 2) Weekends, 3) When studying.

The top three occasions for using banned substances among urban adolescents are similar to legal substances except for use at night before sleep by rural adolescents (17%), which lists among the top three reasons. The share of weekends is higher for rural adolescents (26%) compared to urban adolescents (13%).

5.4 Sources or Availability of Banned Substances

This parameter has been studied by two approaches qualitative (interviews and group discussions) and quantitative (questionnaire).

5.4.1 Quantitative Survey Results for Sources or Availability of Banned Substances

Table 6: Occasions of Substance Use

| Type | Occasions of Use | Responses (R**) | N* | % |
|-------------------|---------------------------|-----------------|-----|-----|
| Banned Substances | Friends/ College Mates | 18 | 102 | 18% |
| | Agents | 12 | 102 | 12% |
| | Petty Shops | 8 | 102 | 8% |
| | Other Institutes Students | 4 | 102 | 4% |

*N= Total respondents, R** = No of Responses

Note: Since this was a multiple-response question, the values won't add upto 100%

The top 3 sources for banned substances as revealed in this study are 1) Friends/College Mates, 2) Agents, 3) Petty Shops.

5.4.2 Qualitative Survey Results for Sources or Availability of Banned Substances

The Focus Group Discussions (held for students only) and In-depth Interviews (held for teachers, counsellors, Psychiatrists and police Officers) are summarised in the table below.

Table 7: Sources or Availability of Banned Substances

| | Urban | | Rural | | Counsellors | Psychiatrists | Police Officer* |
|---|----------|----------|----------|----------|-------------|---------------|-----------------|
| | Students | Teachers | Students | Teachers | | | |
| “Within Institute” | | | | | | | |
| Friends/Peers | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Student/ Ex-Student Peddlers/Middlemen | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Parents | ✓ | | | | | | |
| “Outside Institute” | | | | | | | |
| Student/ Ex-Student Peddlers/Middlemen | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Non-Student Agents/Peddlers/ Middlemen | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Alcohol Retail Outlets | ✓ | | | | | | |
| Bars & Pubs | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Petty Shops | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| Medical Stores | | | ✓ | | | | |
| Hostel Parties | | | ✓ | | | | |
| Weed grown at Home | | ✓ | | | | | |
| Darknet/ Modern tech used for trafficking** | | | | | | | ✓ |

* Police officers approached were from the narcotics department and hence legal substances were not relevant to them.

**This information is corroborated by [24]

FGDs and Interviews reveal, that majority of the stakeholders opine that Legal substances are easily available and hence they are easy to source. Petty shops and other retail outlets, bars & pubs are the common places to purchase them. Hostels and parties are often popular places among students to initiate substance use. Emulating peers to fit in drives adolescents to use substances at hostels and parties.

Possession, trafficking and use of banned substances are criminalized by law and hence they are difficult to obtain but not impossible, which is revealed from the data obtained through FGDs and Interviews of the stakeholders.

Outside the Institute, the channels for obtaining banned substances are through a series of non-student middlemen. The initial contact is most often through students who have dealt with middlemen/traffickers in the past. Often vehicles such as cars/trains are used to complete the transaction. The quality of the substance thus obtained is unverifiable hence adulterated substances are often trafficked which causes users to fall sick.

Trafficking substances within the institute is lucrative for students (middlemen) who do it for financial gains. Modern technology and the 'Dark Net' [24] are the new methods adopted by drug traffickers. There are also instances of substances like weed (marijuana) being grown at home in the backyards.

VI. CONCLUSION & RECOMMENDATIONS:

This study investigated the reasons for first-time use of substances, occasions of use and the sources for availing banned substances among late adolescents with a quantitative and qualitative study approach by using an exploratory and descriptive research design.

Following **Recommendations** are made based on the findings:

Action at Educational Institute Level

1. The basic drawback in the system is at the primary Institution level, namely the family. In contemporary families' parents have less time for their children, they provide them with finances and we find an increasing trend of dysfunctional families. Therefore parents must be provided with the right tools for **'Positive parenting'** on a regular basis.
2. Having **ongoing awareness for students and parents is a prerequisite**. Parents and their wards must be educated on substances, the effects on consumption, and the legal implications of possession & use (do's and don'ts).
3. The **policies of Educational Institutes** should reflect mechanisms that do not stigmatize students for being curious or experimenting with banned substances. Rather a new set of mechanisms needs to be put in place that can help as guidelines for the institute's management. This should ideally be done by looking at what is lacking and what needs to be done.
4. Every college must employ **trained student counsellors**.
5. **Existing student counsellors must follow an unbiased approach that** makes students comfortable to share their stress and, in this way, overcome substance use behaviours.

6. Educational institutions must take a more **proactive role in identifying drug-related activities around the campus**.
7. **Educational Institutions should be a facilitator to coordinate with counsellors, psychiatrists, law enforcement and policymakers**. This is not only important for the initial task of creating awareness of substance use but also to work together for connecting with 'Anonymous Peer Sharing Support Groups', 'De-addiction centres', 'Community Counselling Services' and 'Law Enforcement Officers'. Working together would encompass not only enabling information sharing with law enforcement but also getting counsellors to train faculty. Faculty training will enable them to provide early counselling/ monitoring/ rehabilitation as suggested by the teachers themselves as they find that they do have the necessary skills, guidelines and resources to help the students with their problems even though they would like to do more for the students who struggle emotionally.
8. **Substance users need understanding and support rather than fear and discrimination** which should be conveyed to the parents by the institute faculty/ student counsellors through ongoing workshops or need-basis parent counselling. This can help overcome the issue of substance users being labelled/stigmatized/outcasted by the current policies. Therefore, action **at Community Level is essential**.
9. **General public awareness campaigns** must look at different levels not only for legal substances but also banned substances. The idea is not to generate fear but to educate on the effects of substance use on the physical and mental health of users, the effects on relationships, how to identify people with high risk, how to get in touch with community counsellors/psychiatrists and information hotline numbers.
10. For the above to happen, there must be changes that need to emerge to **bridge the gap between support seekers and support givers**. Centres that provide the services at community levels need the proper infrastructure and funding. Deaddiction Centres, Counselling/Psychiatric services, Anonymous Self Help Support Groups etc fall under this infrastructure support needed to provide help at the community level.

Action at Law Enforcement Level

1. **Enforcing age restrictions must be implemented at bars and pubs**. Fining establishments that do not have a policy for restricting alcohol to underage customers and keeping tabs on establishments that flout this policy can be one way of regulation as pointed out by students themselves.
2. The **narcotics departments' active role in visiting institutes** and providing information on substance use is a good way for law enforcement to connect with institutes and students.



3. Shifting focus from nabbing peddlers and **educating substance users when they start the initiation of substance** is one approach to law enforcement.
4. **Bridging the gap between enforcement, awareness and information sharing should be chalked out.** This cannot happen if the law enforcers have to deploy more staff towards awareness while their actual work is in enforcement.
5. Middlemen and peddlers are often not caught because they use mobile and technology (darknet) to confuse law enforcers. Hence the easiest route to nab these perpetrators is through the end-users. Often, instead of pursuing an investigation on the middlemen/peddlers, the end-users get caught and criminal charges brought against them while the real perpetrators go scot-free. **Peddling often happens in bars and pubs and they need to be monitored.** Many times information on peddlers is passed out to police officers by institutes/counsellors/psychiatrists, and these need to be followed up. **Whistle-blowers need to be protected.**
3. One way to stop substance initiation at an early age is to **fix higher age limits on the sale and consumption of legal substances.**
4. **Set up government rehabilitation centres.** Private centres are often expensive and not affordable for prolonged rehabilitation services. Hence this is a good suggestion by the teachers for the welfare of the public.

It would be easier for **institutes to follow mandates set by the government when it comes to handling cases of student use/misuse of substances.** This is a grey area for education institutes. The general norm is to involve the parents and law enforcement. The way the whole process is handled stigmatizes the student. He/she is treated like a criminal and often suspended from the institute. Hence it would be apt for the government think tanks to ideate policies/guidelines/best practices that the education institutes can emulate/practise. Regarding further research work in this area, the researcher recommends probing deeper to understand the effects of Substances Use and health concerns seen in Adolescents and youth both at the graduate and professional programmes.

Action at Government Policy Level

1. **Substance Use awareness should be included as a part of the curriculum.**
2. **Make student counsellors mandatory,** one per school/college/education institute. These counsellors should possess the necessary training to handle students and their parents. Provide information to support other stakeholders. And must be unbiased by institute management when providing support to the students along with maintaining student confidentiality.

ABBREVIATIONS

- ¹ WHO - The World Health Organization
- ¹ AMCHP - Association of Maternal & Child Health Programs
- ¹ AAP - American Academy of Pediatrics
- ¹ UNICEF - United Nations Children's Fund
- ¹ NDPS- Narcotic Drugs and Psychotropic Substances
- ¹ NCB- Narcotics Control Bureau

DECLARATION

| | |
|--|---|
| Funding/ Grants/ Financial Support | No, I did not receive. |
| Conflicts of Interest/ Competing Interests | No conflicts of interest to the best of our knowledge. |
| Ethical Approval and Consent to Participate | No, the article does not require ethical approval and consent to participate with evidence. |
| Availability of Data and Material/ Data Access Statement | Not relevant. |
| Authors Contributions | <p>Dr. Loveena Lobo:</p> <ul style="list-style-type: none"> -Conceptualization: Concept Idea and Formulation of research objectives -Methodology: Development and design of methodology and sampling plan -Investigation: Investigating process for organizing field activities for quantitative (self-fill the questionnaire administered at the institutes) and qualitative (Focus Group Discussion and Personal Interviews), Conducting research (qualitative and quantitative) -Resource: Provision of Questionnaire (Qualitative), Interview Guide -Writing- Reviewing-Editing: Preparation, creation, and/or presentation of the published work specifically critical review, commentary, or revision including pre-and post-publication stages -Supervision: Oversight and leadership responsibility for the research activity planning and execution -Project Administration: Management and coordination responsibility for the research activity planning and execution -Funding Acquisition: Acquisition of the financial support for the project leading to this publication |



Exploring Substance Use Among Late Adolescents in Mangaluru, India

Amlin Deepthi Roche:

- Methodology: Creation of model and preparation of the sample as per the sampling plan (list of colleges)
- Investigation: Conducting research (qualitative and quantitative)
- Data Curation: Produce metadata, Scrub data, and Maintain research data.
- Formal Analysis: Application of mathematical computations and synthesize study data
- Resources: Provision of study materials on substances, Computing resources of Questionnaire (Quantitative), Field Guide
- Writing- Original draft preparation: Preparation, and creation of the published work specifically writing the initial draft
- Visualization: Preparation, creating the data as graphs and tables

REFERENCES

1. S. E. P. G. H. W. L. M. Degenhardt L, "Substance use in young people - The increasing global health priority of substance use in young people," *Australia Lancet Psychiatry*, vol. 3, pp. 251-64, March 2016. [CrossRef]
2. C. V. D. M. Hiremath SB, "Stress and substance use among undergraduate medical students in a Government medical college in Northern Karnataka," *Telangana J Psychiatry*, vol. 6, no. 2, pp. 119-124, July-December 2020. [CrossRef]
3. J. Y. P. N. J. D. S. J. P. S. Jasani PK, "Prevalence of substance abuse among adolescents of urban and rural community in Surendranagar district, Gujarat," *Int J Community Med Public Health*, vol. 6, no. 5, pp. 1970-4, May 2019. [CrossRef]
4. K. R. K. A. K. R. K. P. D. Muruganandam M, "A Qualitative Exploration of Perceived Causes and Solutions for Substance Abuse among Dental Students of Coastal Karnataka," *J Int Dent Med Res*, vol. 12, no. 3, pp. 1087-1093, 2020.
5. Tandon T, "Drug Policy in India," *IDPC International Drug Policy Consortium*, London, UK, 2015.
6. A. A. R. M. A. K. S. C. R. o. b. o. t. g. o. Ambekar A, "Magnitude of Substance Use in India," Ministry of Social Justice and Empowerment, Government of India., New Delhi, 2019.
7. Singh OP, "Substance use in India – Policy implications.," *Indian J Psychiatry*, pp. 62-111, 2020. [CrossRef]
8. R. R. S. M. Raphael L, "Prevalence and determinants of substance abuse among youth in Central Kerala, India.," *Int J Community Med Public Health*, vol. 4, no. 3, pp. 747-51, March 2017. [CrossRef]
9. "Financial Express," 16 October 2014. [Online]. Available: <https://www.financialexpress.com/archive/now-govt-tightens-rules-health-warning-to-cover-85-space-on-cigarette-packets/1298871>. [Accessed 23 7 2021].
10. B. R. A. V. K. P. Ahmad N, "Substance Abuse in India," *Pravara Med Rev*, vol. 1, no. 4, pp. 4-6, 2009.
11. NIDA, "Drugs, Brains and Behaviour: The Science of Addiction," NIH Pub No. 14-5605, Maryland, 2014.
12. Juyal, "Substance use among intercollege students in district Dehradun," *Indian J Community Med*, pp. 252-4, 2006.
13. M. N. Murthy P, "Substance use and addiction research in India," *Indian Journal of Psychiatry, Supplement (52)*, pp. 189-99, January 2010. [CrossRef]
14. K. M. Gopiram P, "Psychosocial Attributes of Substance Abuse Among Adolescents and Young Adults: A Comparative Study of Users and Non-users.," *Indian J Psychol Med*, vol. 36, no. 1, pp. 58-61, Jan - Mar 2014. [CrossRef]
15. S. T. B. D. K. R. Kaur R, "Prevalence and pattern of psychoactive substance use among female students aged 18-25 years in universities of North India," *Int J Community Med Public Health*, vol. 6, no. 2, pp. 602-9, February 2019. [CrossRef]
16. K. D. R. A. Reddy AP, "Study On Prevalence And Pattern Of Substance Abuse Among Street Children And Adolescents In The State Of Andhra Pradesh, India," *Indian Journal of Fundamental and Applied Life Sciences*, vol. 4, no. 3, pp. 1-14, July-September 2014.
17. M. A. K. K. M. K. P. Nebhinani N, "Drug related knowledge and attitude among adolescents: A school based survey," *Indian Journal of Social Psychiatry*, vol. 28, no. 2, pp. 67-70, 2012.
18. Lee Y-T et al., "Prevalence and psychosocial risk factors associated with current cigarette smoking and hazardous alcohol drinking among adolescents in Taiwan," *Journal of the Formosan Medical Association*, pp. 1-10, 2020. [CrossRef]
19. M. S. R. M. A. J. S. D. Mir AR, "Substance abuse pattern among medical college students in Tumkur, Karnataka, India: a cross sectional study," *Int J Community Med Public Health*, vol. 4, no. 1, pp. 238-242, January 2017. [CrossRef]
20. K. G. G. S. Daniel LT, "A study to assess the prevalence and pattern of substance use among male adolescents in suburban area of Delhi," *Indian J Soc Psychiatry*, pp. 33:208-12, 2017. [CrossRef]
21. B. V. S. W. N. M. A. R. K. R. B. S. Prakash A, "Substance abuse and practices and their consequences among adolescents and young adults in Mangalore," *Nitte University Journal of Health Science (NUJHS)*, vol. 5, no. 4, pp. 31-34, December 2015.
22. P. R. D. A. Tsering D, "Substance use among adolescent high school students in India: A survey of knowledge, attitude, and opinion," *J Pharm Bioall Sci*, vol. 2, no. 2, pp. 137-40, April-June 2010. [CrossRef]
23. Ljubotina et al., "Prevalence and Risk Factors of Substance Use," *Croat Med J*, vol. 45, no. 1, pp. 88-98, 2004.
24. GoI, "<https://pib.gov.in>," 16 August 2020. [Online]. Available: <https://pib.gov.in/PressReleasePage.aspx?PRID=1646245>. [Accessed 11 07 2021].

AUTHOR'S PROFILE



Dr. Loveena Lobo is an Associate Professor in the Post graduate department of Studies and Research in Social work, St Aloysius College (Autonomous), Mangalore. She has twenty-one years of teaching experience for students of Social work specializing in Medical and Psychiatric Social work. Author has conducted two minor research projects (UGC and Institution funded Projects). She has thirteen research publications in International and National Journals to her credit and is also a recognized research supervisor under Mangalore University.



Ms. Amlin Deepthi Roche is a research consultant with over fifteen years of experience in market research. She has extensive experience in conducting primary and secondary research with domain knowledge expertise in consumer behaviour and socio-economic projects. She has worked on research and consulting projects in various industries including government, education, agriculture, consumer and manufacturing industries etc. She has proficiency in data analysis, research design and delivery along with an education in MBA from IBS University Dehradun.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of the Lattice Science Publication (LSP)/ journal and/ or the editor(s). The Lattice Science Publication (LSP)/ journal and/ or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.

