

Prevalence of Various Substance Use Disorders Among Juvenile Delinquents Coming in Contact with Law Enforcement Agencies- A Cross-Sectional Study

Aravindhan T¹, Venkatesh Kumar², Veenaa Venkatesh³

¹Post Graduate, Department of Psychiatry, Kumaramangalam Medical College, Salem, Tamil Nadu, India. ²Associate Professor, Department of Psychiatry, Karpagam faculty of Medical Science and Research, Coimbatore, Tamil Nadu, India. ³Professor, Department of Pathology, KMCH Institute of Health Science and Research, Coimbatore, Tamil Nadu, India

Abstract

Background: Drug use is prevalent among young people involved in juvenile justice. The onset of substance use often stems in adolescents which leads to delinquent acts. It is often influenced by the socio-demographic profile. Assuring a decrease in adolescent delinquency can be achieved most effectively by drug use prevention and control strategies. This study is planned to assess the prevalence of substance use disorder and the factors associated with it among juvenile delinquents coming in contact with law enforcement agencies. **Material and Methods:** This cross-sectional online study was conducted among 50 juvenile delinquents selected by convenient sampling during the psychological assessment from January to March 2024 in Salem. An interviewer-administered semi-structured questionnaire containing Socio- demographic profile, CAGE-AID, SADQ-C, CUDUT-R and FTND questionnaire. was used. The data collected was analysed by using SPSS version 21. **Results:** The mean age of the participants was 15.36±1.46 years. Around 44%(n=22) completed 10th standard, 58%(n=29) were a nuclear family, 60%(n=30) were from urban location and 52%(n=26) were of SES class IV. 42%(n=21) involved in severe crime and 28%(n=14) were involved in robbery. Substance use was prevalent among 76%(n=38) of participants with tobacco use (60%) the most prevalent. Family history of delinquency was common with 34%(n=17) participants and psychiatric comorbidity with 56%(n=28). Peer influence (60%) was the major influence for substance use and social phobia (66%) was a protective factor for unexposed delinquents. CAGE was positive for 76%(n=38), SADQ-C was mild with 20%(n=10), CUDUT-R was hazardous with 12%(n=6) and FTND was low moderate with 26%(n=13) participants. **Conclusion:** Early identification and early intervention is required in adolescent substance use disorder. Programs for prevention and control of drug use should be created. It is evident from the study that socio-demographic profile influences substance use which increases the prevalence of juvenile delinquency.

Keywords: Juvenile delinquency, Substance use, CAGE-AID, SADQ-C, CUDUT-R, FTND

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INTRODUCTION

The prevalence of substance-use disorders among adolescents in residential care settings, particularly those involved with child welfare and juvenile justice systems is alarmingly high.^[1,2] This population is at a heightened risk for developing these disorders due to various factors in their lives.^[3] The prevalence of substance use disorders (SUD) among juvenile delinquents is a significant public health concern, with various studies highlighting alarming rates and associated factors.^[4] Understanding these patterns is crucial for developing effective interventions.^[5]

Approximately 38% of adolescents involved in juvenile justice exhibit substance use disorders, compared to 20% in child welfare settings(Seker et al., 2021).^[6] A study analyzing hospital discharges found that 94,732 adolescents with SUD were treated in U.S. hospitals, indicating a substantial burden on healthcare resources (Alemu et al., 2023).^[7]

Common substances among juvenile offenders include cannabis (65%), alcohol (20%), and opioids (11%), with

many exhibiting polysubstance use(Wenren et al., 2022).^[8] Profiles of substance use reveal distinct patterns, with early substance initiation linked to higher rates of use disorders(McCuish, 2022).^[9]

The need for trauma-informed care and addressing impulsive behaviors is emphasized to mitigate SUD prevalence(Seker et al., 2021).^[6] Despite high rates of SUD, timely treatment initiation remains low, with only 24% of adolescents receiving appropriate care (Wenren et al., 2022).^[8]

While the global data underscores the critical need for targeted

Address for correspondence: Dr. Veenaa Venkatesh, Professor, Department of Pathology, KMCH Institute of Health Science and Research, Coimbatore, Tamil Nadu, India
E-mail: ?

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interventions, it is also essential to consider the broader societal factors contributing to these disorders, including family dynamics and community resources.^[10,11] But not much has been explored on this in the Indian sub-continent. With this understanding, this study was planned to estimate the prevalence of substance use disorder among juvenile delinquents and to assess the factors associated with substance use among juvenile delinquents coming in contact with law enforcement agencies.

MATERIALS AND METHODS

This cross-sectional observational study was done at the Department of Psychiatric Medicine, Government Mohan Kumaramangalam Medical College, Salem for 3 months (2024) from January 2024 - March 2024 among 50 participants selected by Non-random convenience sampling. The selection of participants strictly adhered to the inclusion and exclusion criteria.

Inclusion criteria included all juvenile delinquent adolescents attending psychiatric assessment in Psychiatric OPD for whom Consent from Guardian or Assent from participant juveniles were able to be obtained.

Exclusion criteria included Juvenile delinquents above 18 years of age (at the time of reporting), Juvenile delinquents with co-morbid psychiatric illness and any juvenile delinquent adolescent not giving assent or parents not consenting to participate in the study.

The selected participants were administered with an interviewer-administered semi-structured questionnaire. The questionnaire was administered in both English and Tamil depending on the participants' preference. The English questionnaire was translated to Tamil and back translation to English was done to understand the originality of questionnaire in Tamil. Before administration it was pilot-tested among peers for validation. The questionnaire contained 5 segments – Socio-demographic profile, CAGE-AID questionnaire, SADQ-C questionnaire, CUDIT-R questionnaire and FIND questionnaire.

The data was collected using Microsoft Google Forms until the desired sample size from the selected participants was achieved. The data was retrieved as Microsoft EXCEL and crosschecked for errors. Final analysis was done using SPSS version 21 and results were presented as tables and charts.

Institutional Ethics Committee approval was obtained before initiation of the study and every selected participant were assured that their identity would be kept secret and privacy would be maintained. There were also informed that they were free to walk away from the study whenever needed. Participation was completely voluntary and informed consent or assent was obtained from the participants and their guardian.

Review of Literature:

Juvenile delinquency is an upcoming public health concern

of the modern era. Several articles highlighted substance use among adolescents as an augmenting factor for juvenile delinquency among adolescents which is the need of hour to prevent it. In this concern several articles were reviewed to understand the juvenile issues from the studies globally.^[12]

Adolescence is a period of fast brain growth when young people are more prone to the hazards of drug use, according to a research by J. Ball et al. (2021, Wellington). Teenage use of alcohol, tobacco, and cannabis peaked in the late 1990s and early 2000s, swiftly fell, and is now considerably less common than it was 20 years ago. Nonetheless, there are still significant differences in the use of nicotine and cannabis depending on socioeconomic class and ethnicity, and teenage binge drinking rates remain high by global standards. With long-term trends pausing or reversing over the last two to five years and vaping emerging as a new issue, the evidence points to the possibility that we are once again at a tipping moment.^[13]

86.44% of the juvenile offenders in the study conducted in India by Sharma S et al. (2016) had a history of drug use. When compared to other substances, tobacco and cannabis use was greater. Even though it was comparatively low, psychotropic medication use was linked to more serious offences. Serious crimes like rape, murder and attempted murder, and burglary by minors are on the rise. There is a linkage between drug use and crime: marijuana use is linked to murder, inhalants to rape, and opioid use is linked to crimes involving snatching. The conclusion was that there is unquestionably a connection between drug usage and criminal activity.^[14]

Similar findings were found in the multi-city study conducted by Rocca G et al. (2019). It was noticed that estimates of the prevalence of alcohol and cannabis use among teenagers vary between studies, but it is undeniable that a sizable number of youth use alcohol and/or cannabis. Thus, a deeper understanding of the relationship between drug use and juvenile delinquency appears important not only to comprehend the underlying mechanisms but also to lay the groundwork for the development of targeted prevention and treatment programs that can target the relevant factors with precision, reducing the likelihood that deviant lifestyles will become entrenched.^[15]

RESULTS

The mean age of the juvenile delinquents selected as study participants was 15.36 years with a standard deviation of 1.46 years. Among them, 36% (n=18) of them were 14 years of age and all the study participants were males. Educational status of the participants were low. Majority, 44% (n=22) of them were either pursuing or dropped during their 10th standard education while 10% (n=5) have completed Diploma in Technical studies. More than half of the participants (58%, n=29) were living a nuclear family, 60% (n=30) of them were living in an Urban location and 52% (n=26) of them were in Upper Lower socioeconomic status. Among the participants 42% (n=21) committed a heinous crime while 58% (n=29) committed a non-heinous crime. Most common heinous crime was attempt murder in 24% (n=12) and non-heinous crime was stealing in 28% (n=14).

Table 1: Sociodemographic profile of the juvenile delinquents. (n=50)

Factors		Frequency	Percent
Age in years	13	1	2.0
	14	18	36.0
	15	12	24.0
	16	7	14.0
	17	5	10.0
	18	7	14.0
Educational status	7 th	6	12.0
	8 th	9	18.0
	9 th	4	8.0
	10 th	22	44.0
	ITI	4	8.0
	Diploma	5	10.0
Type of Family	Joint Family	17	34
	Nuclear Family	29	58
	Broken Family	4	8
Type of residence	Rural	20	40.0
	Urban	30	60.0
SES	1	0	0
	2	0	0
	3	4	8.0
	4	26	52.0
	5	20	40.0

Table 2: Delinquent act and substance use among the Juvenile delinquents. (n=50)

Factors		Frequency	Percent
Nature of Crime	Mild	29	58.0
	Severe	21	42.0
Type of Crime	Attempt Murder	12	24.0
	Drugs peddling	2	4.0
	Murder	4	8.0
	Picking pockets	7	14.0
	POSCO	3	6.0
	Robbery	14	28.0
	Simple cut	8	16.0
Type of substance used	Alcohol	3	6.0
	Alcohol, Tobacco	15	30.0
	Tobacco	8	16.0
	Cannabis	9	18.0
	Others	3	6.0
	None	12	24.0
Duration of use	1	4	8
	2	18	36
	3	13	26
	4	3	6
	N/A	12	24
	Family H/o substance use	No	33
	Yes	17	34.0

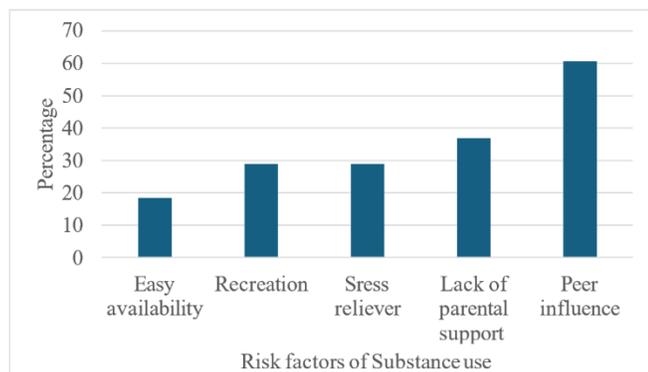


Figure 1: Risk factors against substance use among Juvenile delinquents (n=38)

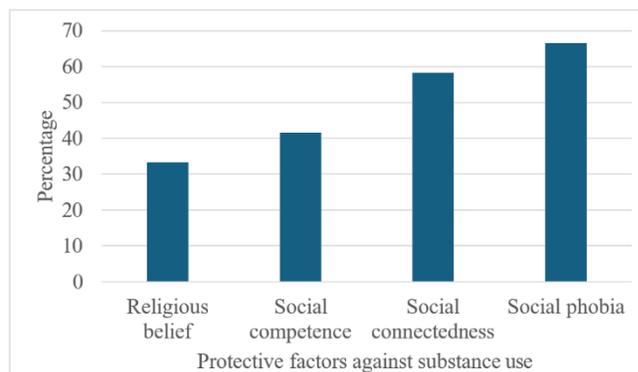


Figure 2: Protective factors against substance use among Juvenile delinquents. (n=12)

Table 3: Factors associated with substance use among Juvenile delinquents. (n=50).

Factors	Substance use		Chi. Sq test	p- value	
	Yes	No			
Type of Family	Broken Family	4 (100%)	0 (0%)	4.739	0.094
	Joint Family	10 (51.8%)	7 (41.2%)		
	Nuclear Family	24 (82.8%)	5 (17.2%)		
Residence type	Rural	13 (65%)	7 (35%)	2.11	0.137
	Urban	25 (83.3%)	5 (16.7%)		
Socio economic status	3	1 (25%)	3 (75%)	6.773	0.034*
	4	22 (84.6%)	4 (15.4%)		
	5	15 (75%)	5 (25%)		
Crime Nature	Mild	18 (62.1%)	11 (37.9%)	7.347	0.007*
	Severe	20 (95.2%)	1 (4.8%)		
Family history of substance use	No	24 (72.7%)	9 (27.3%)	0.57	0.45
	Yes	14 (82.45)	3 (17.6%)		
Psychiatry Comorbid	No	17 (77.3%)	5 (22.7%)	0.035	0.852
	Yes	21 (75%)	7 (25%)		
Maximum education	< 10 th	29 (70.7%)	12 (29.3%)	3.466	0.063
	> 10 th	9 (100%)	0 (0%)		
Age class	>15	19 (100%)	0 (0%)	9.677	0.002*
	≤15	19 (61.3%)	12 (38.7%)		

Among the study participants, 76% (n=38) had history of substance use. When enquired on the risk factors for influencing the substance use, 60.5% (n=23) felt peer pressure and 36.8% felt lack of support as an influencing factor. Among those with no substance use (n=12, 24%), fear

of criticism (66.7%, n=8) and school connectedness (58.3%, n=7) were the protective factor. Majority of the participants, 44.7% (n=17) tried some form of substance as experimentation followed by 26.3% (n=10) as a method to boost the image/ attitude among the peers.

Table 4: Level of Substance use among the participants. (n=50)

Substance use Questionnaire	Frequency	Percent	
CAGE-AID for substance use	N/A	12	24.0
	Use	38	76.0
SADQ-C for alcohol use	Mild	10	20.0
	Moderate	5	10.0
	Severe	3	6.0
	N/A	32	64.0
CUDIT-R for Cannabis use	Hazardous	6	12.0
	Severe	3	6.0
	N/A	41	82.0
FTND for Nicotine dependence	Low	5	10.0
	Low Moderate	13	26.0
	Moderate	2	4.0
	High	3	6.0
	N/A	27	54.0

On assessing for substance use by CAGE questionnaire 76% (n=38) had history of substance use. 36% (n=18) of the participants were positive for alcohol use and among them 55.5% (n=10) had mild alcohol use and 16.6% (n=3) had severe alcohol use by SADQ-C questionnaire. 15.7% (n=9) of the participants had history of Cannabis use and 66.6% (n=6) among them had hazardous use of Cannabis. 60.5% (n=23) had nicotine dependence and 56.5% (n=13) among them had low moderate nicotine dependence and 13% (n=3) had high nicotine dependence.

DISCUSSION

The present study was conducted to estimate the prevalence of substance use among the juvenile delinquents and the factors associated with substance. The mean age of the participants was 15.36 ± 1.46 years with most prevalence among those in 14 and 15 years of age. This was identical to the observations in the studies by Kim Ji et al. (s. Korea,

2017), Gupta MK et al. (India, 2022) and Abishek R et al. (India, 2024). These findings indicate that adolescents in the ages 14 and 15 are highly vulnerable to delinquent acts.^[1,16,17]

Most of the participants in our study were school dropouts and haven't completed high school or 10th standard and all the delinquents were males and no females were reported during the study period. Similar education status was identified in the systemic review by Papp J et. (USA, 2016) and Baysan Arabaci L et al. (Turkey, 2022). But the study involved males and females during the study period with higher prevalence among males and education status was identical in both males and females. Irrespective of the gender, education status is a prime factor influencing delinquent activity among the adolescents.^[18,19]

Most of the juvenile delinquents in our study were from urban habitats in a nuclear family and in low socio-economic status. In our study, the family condition and the habitat influence the socioeconomic status of the delinquents and their family. These observations were of equivocal findings in the global studies including systematic review by Gupta MK et al. (India, 2022),

Kim Ji et al. (S. Korea, 2017) and Baysan Arabaci L et al. (Turkey, 2022). It is evident that delinquency among the juveniles and adolescents are influenced by the family status and the locality of residence.^[1,16,18]

The substance use among the study participants was high and they were mostly influenced by their peers and lack of family support due to problem family and broken family. Among those who had no history of substance use, fear of criticism and social connectedness were the protective factors. Similar to our study finding, Gupta MK et al. (India 2022) and Abishek R et al. (India, 2024) observed that peer pressure was mostly influencing the substance use among the adolescents.^[16,17] In contrast, Baysan Arabaci L et al. (Turkey, 2022) and Kim Ji et al. (S.Korea, 2017) identified that lack of family support and family history of substance use influenced. These finding could possibly indicate that cultural pattern of substance use influence the adolescents.^[1,18]

The findings from our study highlighted the fact that heinous crime was committed by those juveniles with substance use compared to those without. Similarly, school dropouts were also more among those with substance. Those juveniles with substance use tried any of the substance as an experiment as the most common cause followed by the assumption that it will boost their image. These findings were also identical with Papp J et al. (USA, 2019) and G McClelland et al. (USA, 2024) among the juvenile delinquents but it also identified race as an important issue which is not an issue of concern in India.^[19,20]

CONCLUSION

Adolescents in low socioeconomic following nuclear family in urban habitat are highly involved in juvenile delinquency. These individuals are under the influence of some form of substance with tobacco and alcohol as the most common substance used. These substance use influences the juveniles to be involved in heinous crimes. Peer influence was the major risk factor for substance use followed by lack of family support. Early identification and early intervention is required in adolescent substance use disorder to prevent juvenile delinquency and programs for prevention and control of drug use should be created at the school level which should focus on emphasizing parental education and limiting peer pressure. Restrictions to easy access of drugs should be strictly implemented by both authorities and the community.

Limitation: Our study involved only 50 juvenile delinquents who reported to the hospital for psychological assessment while kept in the rehabilitation centres. Hence we are unable to comment on the prevalence of substance use among the general population and cannot be generalised. Being a cross-sectional study the causal relation between substance use and juvenile delinquency could not be identified.

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Conflicts of interest

There are no conflicts of interest.

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