

### PAKISTAN JOURNAL OF NEUROLOGICAL SURGERY (QUARTERLY) -**OFFICIAL JOURNAL OF PAKISTAN SOCIETY OF NEUROSURGEONS**



Original Research

## **Demographic Profiling of Patients on Drug Dependence Admitted** in Punjab Institute of Mental Health, Addiction Treatment Centre, Lahore

Farakh Abdullah, Aqila Unbrin, Muhammad Ahmad Faisal, Tahira Arshad

Punjab Institute of Mental Health (PIMH), Lahore-Pakistan

#### **ABSTRACT**

**Objective:** Drug dependence is a global public health concern, affecting millions and contributing to widespread negative consequences. This research delves into the demographic characteristics of drug abuse patients at the Punjab Institute of Mental Health (PIMH) Addiction Treatment Center in Lahore, Pakistan.

Materials and Methods: Utilizing a cross-sectional research-based descriptive design, the study employs purposive sampling and a comprehensive questionnaire to collect data from 100 drug abusers. The analysis considered age, gender, socioeconomic status, residential area, occupation, education, marital status, and family system, shedding light on the diverse factors contributing to the drug dependence of the patients.

Results: The results revealed a diverse age range (18-80 years) among participants (M=33,4, SD=10.3), most of them belonging to lower (34%) and middle class (39%); 67 respondents residing in the urban region and 32 from the rural areas. Heroin (32.3%) was reported to be the most consumed substance while cannabis (25.8%) and crystal methamphetamine (16.4%) were the second and third respectively taken mostly through sniffing. Among the reasons for using drugs, peer pressure came out to be the most reported cause.

Conclusion: The findings underscored the complexity of drug dependence, necessitating targeted interventions that consider demographic variations that are crucial for effective treatment and prevention strategies. The study contributed valuable knowledge to the existing scientific understanding of drug dependence, paving the way for more informed public health initiatives.

**Keywords:** Drug dependence, demographics, addiction, global drug statistics, public health, South-West Asia.

Corresponding Author: Agila Unbrin

Principal Clinical Psychologist

Punjab Institute of Mental Health, Lahore

Email: unbrin2@hotmail.com

Date of Submission: 09-01-2024 Date of Revision: 12-03-2024 Date of Acceptance: 25-03-2024 Date of Online Publishing: 27-3-2024

Date of Print: 31-3-2024

**DOI:** 10.36552/pjns.v28i1.965

#### INTRODUCTION

Drug dependence is a widespread and intricate public health issue 02that has a severe negative impact on people's lives, families, and societies all over the world. More than 296 million people were reported to be using illegal drugs by the year 2021. In the meantime, it is estimated that around 39.5 million individuals globally suffer from drug use disorders however; just one in five individuals receive treatment.1 Furthermore, it was estimated that illegal drug use was accountable for around 5,83,000 deaths worldwide in 2019, approximately 450,000 deaths linked to opioids and roughly 14,000 to cannabis.<sup>2</sup> The primary drug used by the individuals entering treatment varies significantly depending on their region as opioids have been reported to be the main drug used in Europe and most Asian sub-regions, while cocaine in Latin America, cannabis in Africa, methamphetamine in East and South-East Asia.<sup>1</sup> To accurately assess the scope and gravity of the burden associated with drug dependence, it is essential to establish the prevalence of use and the related incidence of illnesses and fatalities in the region.3

The continent of Asia has a notable portion of the world's opiate users, with South-West Asia having the highest rate of opioid usage in 2021 and ranking among the top globally at 3.2%. Methamphetamine is the primary drug concern in East and South-East Asia, while opium and heroin are the most commonly used drugs in South-West Asia, South Asia, and the Near and Middle East. Recent reports indicate an increase in methamphetamine consumption in South-West Asia and Afghanistan. Ketamine has a wellestablished history of non-medical use in East and South-East Asia. The majority of cannabis users in Asia are men, accounting for 91 out of every 100 cannabis users in the previous year. Asia also has the highest number of drug injectors worldwide, totaling 5.2 million in 2021, and the highest number of hepatitis C patients (2.8 million) among this population. The highest rate of HIV infection among drug injectors occurs in South-West Asia at 29.5%.<sup>1</sup>

The availability of drugs and their utilization is still high in the European Union (EU). Around 83.4 million adults in the EU are approximated to have ever consumed illicit drugs. This makes up 29% of the population between the age ranges of 15 and 64 years. Moreover, the most used substance is Cannabis. In 2021, more than 22 million European adults reported using the drug. Stimulants such as cocaine (3.5 million adults), MDMA (2.6 million), and amphetamines (2 million) were the second most consumed classification of drugs in 2021. Approximately, one million European adults abused heroin or some other opioid substance in the last year. Drug dependence was found to be associated with multiple issues such as mental health problems. self-harm. and juvenile delinguency.4

In the South Asian context, pooled prevalence (95% CI) of alcohol abuse was found to be 12.9%, tobacco smoking was 18.6%, opiates 0.8%, tobacco chewing 21.0%, and cannabis use was 3.4%. IV drug abuse was 2.5% and stimulant abuse was 0.9%.<sup>5, 6</sup>

Approximately 60 million individuals consumed opioids in 2021 which represents 1.2% of the global adult population. Moreover, 30 million people were from South-West Asia (Afghanistan, Iran, and Pakistan). Methamphetamine consumption and manufacturing have continued to proliferate beyond the mainstream drug markets, most notably in South-West Asia, Europe, and Africa. The rise in the consumption and manufacturing of meth in Afghanistan is concerning for South-West Asia, where drug-trafficking is increasing. The prevalence of opioid use in 2021 in South-West Asia was the highest (3.2%) globally. The highest prevalence of HIV among People Who Inject Drugs (PWID) was in South-West Asia (29.3%) in 2021.<sup>1</sup>

Drug dependence is a long-term and progressive disease. It is the result of excessive and persistent use of drugs that negatively affects the user completely. Addiction can lead to impairment in the physical, mental, emotional, and social aspects of the user. In 20 cities of Isfahan province in Iran, investigators conducted a cross-sectional study to collect data from 7,137 high school

students. Respondents were selected through multistage random cluster sampling. The main objective of the study was to develop a questionnaire that could gather valuable insights regarding students' drug use and their beliefs. Researchers found that the reliability (Cronbach's alpha coefficient) of the survey was 77% with a cutoff point of 0.07.8

A survey conducted on the profile of drug abusers in Karachi, a mega city of Pakistan, revealed that the most commonly abused drugs were cocaine (19%),crack-cocaine (15%), amphetamines (11%),alcohol. caffeine. barbiturates and benzodiazepines (10% each). Important psychosocial factors that led to drug dependency were relationship issues (parental, marital, or break up) (45%), stressful circumstances (28%), and feelings of frustration (18.2%). Moreover, 47% of the participants said that bad company led them to drug use whereas 23.4% of the respondents reported that employment or monetary issues resulted in the use of drugs.<sup>9</sup>

In Lahore, a team of researchers used purposive sampling to collect data from n=119 participants. Investigators used a structured survey and in-depth interviews to gather information from participants. Researchers found that the age of onset of drug use in 45% of participants was less than 18 years. Key factors that led to drug dependency were entertainment (n=37%), inquisitiveness (n=34.5%), and life-altering events (n=14.3%). The study implied that there should be effective drug awareness programs for young people because the major reasons behind drug abuse were recreation and curiosity.<sup>10</sup>

Drug addiction is impacted by the interplay of genetic factors and environmental factors. Epigenetic inheritance also plays a crucial role in developing drug dependence. Epigenetic inheritance i.e., drug exposure points to alterations in gene expression because of environmental influence e g., exposure to drugs. This gets passed on to the offspring. The results of the study highlighted that parental exposure to addictive

substances such as alcohol. Cocaine, nicotine, cannabinoids, and opiates before conception can result in an enduring impression on their children across multiple generations. The impact introduces behavioral and physiological changes in the offspring. Researchers found that there was a high prevalence of Adverse Childhood Experiences (ACES) among patients with drug dependence. The risk factors of drug misuse included emotional abuse, a person at home with mental health issues, physical abuse, and neglect in childhood. Childhood maltreatment also included sexual abuse.

A research study revealed that parental (father and mother) maltreatment and personality traits (neuroticism, conscientiousness, and extraversion) significantly predicted substance use in emerging adults (18 to 24 years).<sup>14</sup> Another research found that impulsivity and expressed negative life events predicted all types of addictions. Moreover, low agreeableness and less intellectual-cultural family orientation predicted drug and alcohol use. 15 A positive family communication style marked by expressiveness and structural traditionalism was linked with decreased substance use adolescents. On the other hand, the use of a negative communication style characterized by conflict avoidance was associated with increased substance use in the sample.<sup>16</sup>

A systematic review showed that patients (adolescents and adults) reduced substance consumption when family members were involved in the treatment process. This approach also improved family functioning.<sup>17</sup>

This research article aims to comprehensively examine the demographic characteristics, drug use patterns, and associated factors among individuals seeking treatment for drug dependence at the addiction treatment center of Punjab Institute of Mental Health (PIMH), Lahore. With the help of meticulous data collection and analysis, the researcher aims to contribute to the existing body of scientific knowledge.

#### **MATERIALS AND METHODS**

## **Study Design & Setting**

This research employed a cross-sectional research design to conduct a descriptive study focused on individuals admitted to the addiction treatment center of the Punjab Institute of Mental Health (PIMH) in Lahore, Pakistan, with a specific emphasis on drug abusers. Lahore, the second-largest city in Pakistan and the twenty-sixth largest city globally, with an estimated population exceeding 13 million according to United Nations World Urbanization Prospects 2018, was chosen as the study location due to its demographic significance and diverse population.

## Sampling

A non-probability purposive sampling technique was utilized to select a representative sample of 100 male individuals admitted to PIMH for drug dependence-related issues. The sample aimed to encompass diverse demographic characteristics, ensuring a comprehensive understanding of the population under study.

### **Inclusion Criteria**

Only those participants who were suffering from drug dependence and its related disorders were included in the study. Only male participants aged 18 and above were part of the research.

#### **Exclusion Criteria**

Those respondents who had co-morbid disorders along with drug dependence were excluded from the study. Respondents less than the age of 18 years were eliminated from the current study. Females were excluded from the study.

#### **Data Collection and Procedure**

Prospective participants were provided with a comprehensive overview of the survey, and voluntary participation was emphasized.

Confidentiality of data was assured to encourage honest responses. The study received ethical approval from the Institutional Review Board (IRB), ensuring adherence to ethical standards in research.

The researchers meticulously designed and structured a questionnaire comprising questions. This included 18 closed-ended, 5 openended, and 4 mixed-format questions. The questionnaire covered demographic information such as age, gender, religion, socioeconomic status (SES), residential area, occupation, educational level, marital status, monthly income, and family system. Additionally, a dedicated section on drug history collected data on the age of onset of drug use, types and quantity of drugs used, total duration of drug use, current drug use details, route of drug administration, frequency of drug use, quantity of drug use, and perceived causes of drug dependency.

## **Data Analysis**

Data were assessed by using SPSS version 26 to calculate the mean, frequency, and number of significant cases for concerned demographic variables.

#### **RESULTS**

## Age Distribution and Socioeconomic Status

The minimum age member in the respondents was 18 years old whereas the participant's maximum age was 80 years old. The mean age in the sample was M=33.4, SD=10.3. Regarding socioeconomic status, 34% of the participants were from the lower class, 22% were from lower- middle, 39% were from the middle and 5% were from the upper class. Out of the total 100 participants, 67 participants were from urban residential areas whereas 32 participants were from rural areas. Regarding occupation, 57% of research volunteers were employed, 20% were unemployed, 3% were

students and 20% were self-employed.

#### **Education and Marital Status**

In the case of education, 9.1% of participants had passed primary level, 24.2% obtained middle, 28.3% had done matriculation, 25.3% were uneducated, and 8.1%, 2%, 2%, 1% had acquired an intermediate, graduate degree, post-graduate degree, and diploma respectively. Concerning marital status, 39.8% of volunteers were single, 57.1% were married and 3.1% were divorced.

## **Family Systems and Monthly Income**

Out of 100 respondents, 4 lived independently, and 58% and 38% of the research volunteers lived in a nuclear and joint family system respectively. As regards monthly income, 20.2% of respondents earned less than 25,000 rupees, and 46.5% earned

a monthly salary between the ranges of 25,000 to 50,000. Out of 100 participants, 7.1% made money between 50,000 to 75,000, 12.1% earned 75,000 rupees and a salary above it. Moreover, 14.1% reported no source of income.

## **Onset of Drug Use and Frequency**

The mean age of onset of drug use was M=22.3 with a standard deviation of SD=9.1. In this context, the minimum starting age of onset of drug use was 9 years whereas the maximum age was 60 years. Out of 100 research volunteers, 42.4% reported using drugs more than once a day, 28.3% consumed substances when needed and 17.2% used drugs twice a day. Moreover, 7.1%, 4% & and 1% shared that they consumed drugs once a day, several times a month, and once a week respectively.

<b>Table 1:</b> Types of Drugs Used, Route of Administration of Drugs, and	
Frequency of Drug Use.	

Trequency of Drug osc.			
Variables		Responses	%
Types of drugs used			
Stimulants	Ice	38	16.4
Stimulants	Cocaine	12	5.2
Opioids	Heroin	75	32.3
Opiolas	Opium (afeem)	17	7.3
Empathogens	MDMA(ecstasy)	1	0.4
Depressants	Alcohol	19	8.2
Depressants	Benzodiazepines	1	0.4
	Hash/Marijuana	27	11.6
Cannabinoids	Charas	24	10.3
	Bhang/booti	9	3.9
Route of administration		Responses	%
	Sniffing	64	42.1
	Smoking	39	25.7
	Swallowing	22	14.5
	Injection	27	17.8
Frequency of drug use		Frequency	%
	Once a day	7	7.1
	Twice a day	17	17.2
	Once a week	1	1
	Several times a month	4	4
	When needed	28	28.3
			42.2

## **Duration of Drug Use**

Participants reported the minimum time of drug use to be 1 year and the maximum to be 33 years. In this context, the mean of total time of drug use was M=11.1 with a standard deviation SD=7.7.

Table 1 shows Fifty-two responses (37.4%) which was the majority indicated the reason behind drug use to be peer pressure. Moreover, on the second number, 16 responses (11.5%) highlighted that the motivation behind drug use was to cope with family disputes. On third number, twelve responses from people (8.6%) revealed that they used substances for recreational purposes.

Other reasons that were reported included dealing with

trauma (2.2%), depression (5%), anxiety (4.3%), thrill-seeking (7.2%), reducing boredom (1.4%), and coping with rejection (5%). experimental use (4.3%), therapeutic consumption (0.7%), to enhance mental and physical capacities (3.6%), due to the presence of an addict at home (1.4%), for sex (6.5%), and for dealing with anger (0.7%).

Out of 100, 32.3% of responses revealed that the majority of participants had consumed heroin, on the second number 25.8% used Cannabis, and on the third number 16.4% had abused crystal methamphetamine (ice).

Other types of drugs that were abused by people with drug dependence were alcohol (8.2%), opioid (afeem) (7.3%), cocaine (5.2%), prescriptive drugs (3.9%), benzodiazepines (0.4%), and ecstasy (0,4%).

Concerning route of administration of drugs, the participants mostly used drugs through sniffing (42.1%) and smoking (25.7%). Other methods of drug administration reported were the use of injection (17.8%) and through swallowing (14.5%).

Table 2 shows that within socioeconomic status, 50% of people from the lower class experience peer pressure for the use of drugs. Within reasons for drug use, 32.7% of participants experiencing peer pressure are from the lower class. In total, 17% of participants are from the lower class and experience peer pressure.

Within socioeconomic status, 77.3% of people from the lower-middle class face peer pressure. In this context in reasons for drug use, 32.7% of participants experiencing peer pressure are from

Table 2: Significant no. of cases in socioeconomic status, residential area, occupation, marital status, education level, and family system concerning peer pressure.

Socioeconomic status	Peer Pro		Reason for Drug Use Peer Pressure	
	No. of Cases	% within Socioeconomic status	% within Reasons for drug use	% of total
Lower class	17	50	32.7	17
Lower-middle class	17	77.3	32.7	17
Middle class	17	43.6	32.7	17
Residential area				
	No. of Cases	% within Residential area	% within Reasons for drug use	% of total
Urban	34	50.7	66.7	34.3
Occupation				
	No. of Cases	% within Occupation	% within Reasons for drug use	% of total
Employed	34	59.6	66.7	34.3
Marital status				
	No. of Cases	% within marital status	% within Reasons for drug use	% of total
Married	27	48.2	51.9	27.6
Education level				
	No. of Cases	% within Education level	% within Reasons for drug use	% of total
Uneducated	16	64	30.8	16.2
Family system				
	No. of Cases	% within the Family System	% within Reasons for drug use	% of total
Nuclear	27	46.6	51.9	27

the lower-middle class. In total, 17% of participants are from the lower-middle class and experience peer pressure.

Within socioeconomic status, 43.6% of people from the middle class experience peer pressure. Within reasons of drug use, 32.7% of participants experiencing peer pressure are from the middle class. In total, 17% of participants are from the middle class and experience peer pressure.

In the context of residential areas, 34.3% of participants are from urban areas and experience peer pressure. Moreover, 34% of participants are employed and experience peer pressure. Concerning marital status, 27.6% of participants are married and experience peer pressure. Regarding education level, 16.2% of participants are uneducated and experience peer pressure. With regards to the family system, 27% of participants are from nuclear families and experience peer pressure.

#### **DISCUSSION**

The demographic and socio-economic characteristics of individuals seeking treatment for drug dependence are vital in understanding the complexities of addiction within a specific population. The major demographic factors on which the research participants were explored included age, socioeconomic status, residential area, occupation, education, marital status, frequency and duration of drug use, types of drugs used, and reasons for drug use.

The age distribution of the sample underscores the wide-ranging impact of drug dependence across different age groups ranging from 18 to 80 years, with a mean age of 33.4 (SD=10.3) implying that most of the respondents were young adults. It is widely recognized that adolescents and young adults exhibit a greater susceptibility to addiction and other forms of risky behavior when compared to individuals in other age brackets.<sup>18</sup>

The majority of participants were from the lower and middle classes, constituting 34% and

39%, respectively highlighting the role of socioeconomic status inequality as one of the major factors of drug abuse and dependence <sup>19</sup>. A notable 67.7% of participants hailed from urban areas, reflecting the pervasive nature of drug dependence in urban settings. This urban predominance aligns with global trends highlighted by the Substance Abuse and Mental Health Services Administration (SAMHSA) in the United States, emphasizing the universal nature of issues substance use across diverse environments.20

Occupational diversity among the participants is evident, with 57% employed, 20% unemployed, 3% students, and 20% self-employed. This diverse occupational distribution underscores the need for interventions that address the unique challenges faced by individuals across different employment statuses. Education level and marital status are additional demographic factors of interest. The distribution of participants across various education levels indicates that drug dependence affects individuals with varying educational backgrounds. Similarly, the prevalence of drug dependence among both single (39.8%) and married (57.1%) individuals suggests that marital status may not serve as a protective factor against dependence. Unemployment, 05norms, poverty, and betrayal of spouse also contribute to drug abuse. However, in most instances, it is a combination of several factors instead of just one.<sup>21</sup>

The age of onset of drug use is a crucial parameter, with a mean age of 22.3 years. Understanding the age at which individuals initiate drug use is vital for designing preventive measures and interventions, aligning with the findings of research, which emphasized the importance of risk and protective factors during emerging adulthood.<sup>22</sup>

The most common drug consumed was reported to be heroin (32.3%) while cannabis (25.8%) and crystal methamphetamine (16.4%) were the second and third respectively taken

mostly through sniffing (42.1%) frequently more than once a day (42.2%). These findings resonate with the results of research that indicated that heroin usage was most common among the neighboring Punjab region of India.<sup>23</sup>

The findings also highlight the significant influence of peer pressure among individuals of different socioeconomic status, residential areas, occupations, marital statuses, education levels, and family systems on their likelihood of experiencing drug use. Notably, 37.4% of participants cited peer pressure as the primary reason for drug use, emphasizing the significant role of social influences Furthermore the results yielded that family disputes (11.5%) and recreation (8.6%) were the second most reported reason for drug abuse. Additionally, the data shows that individuals from lower socioeconomic classes are more likely to face peer pressure for drug use compared to those from higher socioeconomic classes. These findings reinforce the idea that peer pressure is a strong contributing factor to drug use.<sup>24</sup>

#### CONCLUSION

These statistics highlight the pressing need for effective interventions to address this persistent problem. with demographic Along the characteristics this study highlights the reasons and causes of drug users. Psychological and Socioeconomic factors that contribute to people's habit of using drugs should be focused on at the Government level to make this society class dependent on drugs. To this end, policymakers and public health professionals must prioritize the development and implementation of evidencebased strategies to prevent and treat drug use disorders. By doing so, we can mitigate the significant burden of these conditions on individuals and communities worldwide.

# LIMITATIONS AND FUTURE RECOMMENDATIONS

The current study only gathered data from the Addiction Treatment Centre at PIMH, Lahore. For future studies, it is recommended that researchers gather data from other teaching hospitals and rehabilitation centers, and compare the data for a comprehensive understanding of demographic factors at play across various settings.

#### **ACKNOWLEDGMENTS**

We thank all the volunteer patients who participated in our study as well as the administration of the Punjab Institute of Mental Health, Lahore (PIMH) who helped and supported for enrollment of the study participants. No funding source was involved in the design or conduct of the research or preparation of the manuscript, and the analyses and opinions expressed are those of the authors alone.

#### **REFERENCES**

- United Nations Office on Drugs and Crime. World Drug Report 2023 [Internet]. United Nations Office on Drugs and Crime; 2023. Available from: https://www.unodc.org/unodc/en/data-and-analysis/world-drug-report-2023.html
- World Health Organization. Public health dimension of the world drug problem [Internet]. World Health Organization; 2022. Available from: https://apps.who.int/gb/ebwha/pdf\_files/WHA75/ A75\_43-en.pdf
- 3. Peacock A, Leung J, Larney S, Colledge S, Hickman M, Rehm J, Giovino GA, West R, Hall W, Griffiths P, Ali R. Global statistics on alcohol, tobacco and illicit drug use: 2017 status report. Addiction. 2018;113(10):1905-26.
- European Monitoring Centre for Drugs and Drug Addiction. European drug report 2022: trends and developments. Luxembourg: Office for Official Publications of the European Communities; 2022.
- 5. Sattar N, Waqas A, Chaudhary AMD, Kumar S, Abbas N, Amin R, et al. Prevalence of Common

- Mental Disorders in South Asia: A Systematic Review and Meta-Regression Analysis. Frontiers in Psychiatry [Internet]. 2020 Sep 2;11. Available from: https://doi.org/10.3389/fpsyt.2020.573150
- Sattar N, Waqas A, Chaudhary AMD, Kumar S, Abbas N, Amin R, et al. Corrigendum: Prevalence of Common Mental Disorders in South Asia: A Systematic Review and Meta-Regression analysis. Frontiers in Psychiatry [Internet]. 2020 Nov 20;11. Available from:
  - https://doi.org/10.3389/fpsyt.2020.602062
- 7. Miyasato K. The definition of drug dependence. Nihon Rinsho. Japanese Journal of Clinical Medicine. 2010;68(8):1431-6.
- 8. Geramian N, Gharaat L, Taheri SA, Mohebpour F, Nahvizadeh M, Farajzadegan Z, Heidari K. Development of a questionnaire to assess drug abuse among high school students of Isfahan province, Iran: An action research. International journal of preventive medicine. 2014;5(Suppl2):S146.
- 9. Ali H, Bushra R, Aslam N. Profile of drug users in Karachi city, Pakistan. EMHJ-Eastern Mediterranean Health Journal. 2011;17(1):41-45.
- Batool S, Manzoor I, Hassnain S, Bajwa A, Abbas M, Mahmood M, Sohail H. Pattern of addiction and its relapse among habitual drug abusers in Lahore, Pakistan. EMHJ. 1995;23(3).
- 11. Baratta AM, Rathod RS, Plasil SL, Seth A, Homanics GE. Exposure to drugs of abuse induce effects that persist across generations. In: International review of neurobiology. Academic Press; 2021;156:217-277.
- 12. Kiburi SK, Molebatsi K, Obondo A, Kuria MW. Adverse childhood experiences among patients with substance use disorders at a referral psychiatric hospital in Kenya. BMC psychiatry. 2018;18(1):1-2.
- 13. Kisely S, Strathearn L, Najman J. The influence of child maltreatment on substance or alcohol use in 30-year-old adults: a birth cohort study. Drug and alcohol review. 2021;40(4):673-80.
- 14. Rogers MM, McKinney C, Asberg K. Substance use predicted by parental maltreatment, gender, and five-factor personality. Personality and Individual Differences. 2018;128:39-43.
- 15. Zilberman N, Yadid G, Efrati Y, Rassovsky Y. Who

- becomes addicted and to what? Psychosocial predictors of substance and behavioral addictive disorders. Psychiatry Research. 2020;291:113221.
- Shin Y, Miller-Day M, Hecht ML. Differential effects of parental "drug talk" styles and family communication environments on adolescent substance use. Health communication. 2018;24(8):872-880.
- 17. Esteban J, Suárez-Relinque C, Jiménez TI. Effects of family therapy for substance abuse: A systematic review of recent research. Family process. 2023;62(1):49-73.
- 18. Heitz D. Why Are the Brains of Teens and Young Adults So Prone to Addiction and Its Deadly Consequences? [Internet]. Rolling Hills Hospital; 2017. Available from: https://rollinghillshospital.org/brains-teens-young-adults-prone-addiction-deadly-consequences/
- 19. Siddike PM, Soron TR, Ahmed HU, Chowdhury CA. Social and family determinants of substance abuse among the patients of two hospitals in Bangladesh. Journal of Addiction Research & Therapy. 2017;8(4):1-4.
- 20. Substance Abuse and Mental Health Services Administration. 2019 National Survey on Drug Use and Health: Methodological summary and definitions [Internet]. Substance Abuse and Mental Health Services Administration; 2020. Available from: https://www.samhsa.gov/
- 21. Foo YC, Tam CL, Lee TH. Family factors and peer influence in drug abuse: a study in rehabilitation centre. International Journal of Collaborative Research on Internal Medicine & Public Health. 2012;4(3):189.
- 22. Stone AL, Becker LG, Huber AM, Catalano RF. Review of risk and protective factors of substance use and problem use in emerging adulthood. Addictive behaviors. 2012;37(7):747-75.
- 23. Basu A, Sankhla MS, Kumar R. Drug Abuse and Misuse: Just a Sniff for Death Trap in Punjab Region. Journal of Seybold Report ISSN NO.;1533:9211.
- 24. Zaman M, Razzaq S, Hassan R, Qureshi J, Ijaz H, Hanif M, Chughtai FR. Drug abuse among the students. Pakistan Journal of Pharmaceutical Research. 2015;1(1):41-7.

#### **Additional Information**

**Disclosures:** No conflict of interest.

**Institutional Ethical Review Board Approval:** The study complies with the ethical review board requirements.

**Human Subject:** Consent was obtained by all patients/participants in this study.

**Conflict of Interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Financial Relationships:** All authors have declared that they have no financial relationship at present or within the previous three years with any organizations that might have an interest in the submitted work.

Other Relationships: All authors have declared that no other relationships or activities could appear to have

influenced the submitted work.

**Data Sharing Statement:** For data sharing, interested researchers can contact the corresponding authors.

#### **AUTHOR'S CONTRIBUTION**

Sr. #.	Author's Full Name	Intellectual Contribution to Paper in Terms of:
1.	Farakh Abdullah	Study Design and Methodology.
2.	Aqila Unbrin	Literature Review, Referencing and Final Approval.
3.	Muhammad Ahmad Faisal	Data Collection and Data Analysis.
4.	Tahira Arshad	Interpretation of Result and Discussion.