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Social and Behavioral Determinants of Drug Abuse from Rehabilitation Centers in Lahore

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Abstract

Drug abuse is a major public health concern that has a substantial impact on people and communities all over the world. It is necessary to comprehend the behavioural and social factors that contribute to drug usage for developing targeted interventions, particularly in Lahore rehabilitation centres. The objective of this study is to investigate the social and behavioural factors influencing drug abuse among patients admitted in Lahore rehabilitation centers, focusing on the roles of sociodemographic, psychological, and environmental factors on the causes of drug usage. This cross-sectional study is based on data collection from 385 drug abusers through questionnaires from six rehabilitation centers in Lahore. The response variable 'reasons for drug use' included four categories: friend's offer, joy-seeking, economic worries, and other related factors. The data was analyzed using a multinomial logistic regression model. It is found that income level, gender, and which drug first used have a significant impact on drug initiation in all causes of drug abuse. Other notable predictors included detoxification methods, blood pressure, and started using drugs after thirty years of age. These results highlight the complex interplay of social, and physical factors in drug abuse initiation. It is concluded that behavioural characteristics, family issues, gender, and money all have a significant impact on drug initiation. In order to lower risks, successful interventions should focus on financial difficulties and offer family-centered therapy. To improve treatment results and avoid recurrence, rehabilitation programs must implement customized strategies.

Keywords: Drug abuse, Socioeconomic status, Personal relationship, Multinomial logistic regression.

1. Introduction

The term "substance abuse" refers to a dangerous pattern of substance use that causes clinically significant harm or discomfort, as well as potential withdrawal and tolerance symptoms (Kurt Yilmaz & Schiffer, 2021). Anxiety and depression can contribute to drug misuse. The pleasure of consuming drugs may provide brief relief from a variety of mental health concerns, including trauma, mental illness, low self-esteem, poverty, interpersonal issues, and stress (Yang et al., 2022).

The significance of drug rehabilitation facilities must be emphasized since they offer the calm and welcoming environment needed for successful treatment and

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improved chances of recovery. Allowing family members to visit the patients during the therapy can be risky, thus treatment programs may temporarily limit the access (Jayamaha et al., 2022).

According to statistics, there are five million frequent drug users, with 60% living in rural areas and 40% in urban areas. Additionally, 7,700,000 people aged 10 to 12 utilize charas. Globally, there are 80 million heroin users, and the drug trade costs twenty billion rupees every year (Henningfield et al., 2022). According to UN estimates, Pakistan has 7.6 million drug users, 78% of whom are male and the remaining 22% female. The number of addicts is increasing at a pace of 40,000 per year, making Pakistan one of the most affected countries in the world by drug usage (Zaman et al., 2024). Over 11% of the population in the bordering Afghan province of Khyber Pakhtunkhwa takes drugs, predominantly cannabis, making it a region with an extremely high number of drug users. In 2013, there were 280,000 drug users in Balochistan. In recent years, the number of people utilizing drug injections has increased significantly in Punjab (Smith et al., 2022).

Li et al. (2022) conducted a study to evaluate common sociodemographic factors among those struggling with addiction. The goal was to identify groups that are vulnerable and determine the risk variables that contribute to a tendency for substance abuse. The study examined 102 male patients with addiction concerns admitted to drug rehabilitation clinics in Islamabad/Rawalpindi, all of whom met the DSM-IV-TR criteria for disorders. A systematic questionnaire was used to survey the patients. The data demonstrated an alarming trend of rising overuse of highly addictive opiates, such as heroin, among the younger generation, as well as the professional and educated segments of society. This emphasizes the urgency for officials to implement immediate preventive measures.

Ahmed et al. (2022) and Gestsdottir et al. (2021) concluded that the gender-based impact of reasons on drug use revealed in the research was very remarkable. Men were more susceptible than women in many settings, most notably utilizing drugs to settle family disagreements or for pleasure. Peer pressure was revealed as a significant factor, especially among men. The odd ratios revealed significant differences in the likelihood of using certain substances, revealing insight on the impact of factors such as friends' offers, joy-seeking, and financial reasons.

The increasing rate of drug abuse presents a substantial threat to public health, as more and more people in Lahore are seeking rehabilitation. The purpose of this study is to investigate the social and behavioural determinants in drug abusers residing in the city Lahore, Pakistan. Understanding these factors is essential for developing effective intervention strategies and systems to address the root causes of addiction. The hypothesis under study is to test whether social and behavioural factors are the causes of drug abuse. Using a mixed-methods approach, the study will collect data on the socio-economic, and associated factors influencing drug abuse behaviours through both quantitative surveys and qualitative interviews. A comprehensive understanding of the intricate interactions among social networks, family dynamics, economic stressors, and mental health issues is sought after by the research. This research provides a chance to raise public awareness about drug abuse and its underlying causes. Increased understanding of the factors

that influence drug use may result in increased awareness and targeted preventive initiatives. The study's identification of drug determinants can aid policymakers and healthcare practitioners in contributing to efforts to reduce factors that lead to drug use.

2. Methodology

2.1. Data source

Data collection from drug abusers is carried out from the six rehabilitation centers situated in the city Lahore, Pakistan named as: Ehsas Clinic, Bridge Rehab, Fountain House, CMH Hospital, Mental Hospital, and Shalimar Hospital. These were the only centers willing to share data for research purposes. The sample size was calculated using the Cochran formula which is appropriate when the population size is unknown, ensuring a statistically appropriate sample for research.

$$n_o = \frac{z^2 pq}{e^2} \tag{1}$$

where, n_0= sample size , z = standard error, p = population proportion, q = 1–p, e = sample error.

$$n_o = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2} \tag{2}$$

A total of 385 people from six rehabilitation centers in Lahore city took part in this cross- sectional survey. A self-administered questionnaire was prepared based on a thorough literature review. The questionnaire asked about demographic information, drug-related characteristics, bodily symptoms, psychological symptoms, social symptoms, and the methods of detoxification used. The surveys' reliability was confirmed by Cronbach's alpha score of 0.840, showing a good level of internal consistency.

2.2. Statistical analysis

This study includes 385 people ranging in age from 10 to 60 years. The dependent variable, which is divided into four mutually exclusive and exhaustive categories, indicates the following reasons for drug use: friend's offer, joy seeking, economic worries, and Others (presence of addicted person, family disputes, stress, depression, social life issues, etc), with coding values ranging from 0 to 3 respectively. The rationale to initiate coding from zero stems from the fundamental principles of programming languages, where indexing typically begins at zero, as it makes working and managing indexing easier, avoiding problems when organizing or ranking data.

To determine the social and behavioral factors effecting the drug abuse, a multinomial logistic regression model was employed, as the dependent variable is measured

on nominal with more than two categories. Multinomial logistic regression model was applied to predict all the categories of response variable, to investigate the relationships between predictors and multiple outcome categories of response variables. This analytical approach empowered the estimation of probabilities for each outcome category. To answer the research question 'finding the effect of social and behavioural factors on drug abuse' regression model is an appropriate technique to find the significant factors. As the limitation of the model, it assumes the odds of one category over another are independent of the presence or absence of other categories. For large number of parameters, multinomial model could be over fitted, difficult to interpret, computationally inefficient for large data sets. Furthermore, it is sensitive to other handle multicollinearity among predictors. All the explanatory variables used in the model are described with codes, labels and frequency percentages in Table 1.

Table 1: List of study variables with frequency percentages in each category.

Variables	Categories	Percentages
Actual age	0=Youngster (10-40 years)	83.7%
	1=Non-Youngster (41-60 years)	16.3%
Gender	0=Male	86.0%
	1=Female	14.0%
Family	income 0=Low income (less than 25000 - 50000)	83.4%
	1= High income (above 50000)	16.6%
Received any information about drug	0=N0	47.3%
	1=Yes	52.7%
Start using drug	0=Friend's offer	40.9%
	1=For joy seeking	24.9%
	2=Economic worries	13.6%
	3=Others (stress, family dispute, presence of an addicted in an educational residential place, depression, social life issues etc) 20.6%	
First drug you tried	0=Marijuana/hashish(hash)	21.9%
	1=Ice	52.2%
	2=Shisha /Hookah	25.9%
Age of start using drugs	0=10-20	41.5%
	1=21-30	43.9%
	2=31-40	9.0%
	3=41-50	5.6%

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Variables	Categories	Percentages
Use drugs	0=Once a day	18.6%
	1=More than once a day	36.9%
	2=Once a week	18.9%
	3=Several times a week	10.3%
	4=Once a month	8.0%
	5=Several times a month	7.3%
Yellowish teeth	0=No	60.1%
	1=Yes	39.9%
Gastro-intestinal problem	0=No	49.5%
	1=Yes	50.5%
Problem related to heart	0=No	70.8%
	1=Yes	29.2%
Fell restlessness	0=No	41.5%
	1=Yes	58.5%
Blood pressure	0=No	55.5%
	1=Yes	44.5%
Eyes Have Sometime Bloodshot And Bloody	0=No	60.8%
	1=Yes	39.2%
Mood Swings Problems With Memory Decision Making	0=No	46.8%
	1=Yes	53.2%
Difficulty managing stress	0=No	44.5%
	1=Yes	55.5%
Trouble with relationship	0=No	35.5%
	1=Yes	64.5%
Leave house	0=No	42.5%
	1=Yes	58.5%
Family angers	0=No	30.6%
	1=Yes	69.4%
Panic Attacks	0=No	52.8%
	1=Yes	47.2%
Types of Detoxifications	0=Alcohol detoxification	21.9%
	1=Drug detoxification	48.5%
	2=Alternative medicine	29.6%
Smoking	0=No	24.6%
	1=Yes	75.4%

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Variables	Categories	Percentages
Take cigarettes in a day	0=1 to 2	13.6%
	1=2 to 4	14.0%
	2=4 to 6	21.6%
	3=6 or more	31.9%
	4=none	18.9%

The dependent variable must be categorical with more than two unordered categories in order to be used in multinomial regression. It assumes that every observation be independent of every other observation, which means that there cannot be matched pairs or repeated measures in the data. Furthermore, there should be no multicollinearity between the independent variables because highly correlated predictors can skew the model's estimates.

Table 2: Multicollinearity of independent variables.

Variables	Tolerance	VIF
Actual age	0.442	2.261
Gender	0.852	1.174
Family income	0.735	1.360
Received information about drug	0.887	1.128
First drug once tried	0.664	1.506
Age of Start using drug	0.488	2.048
Use drugs	0.690	1.450
Yellowish teeth	0.788	1.269
Gastro-intestinal problems	0.701	1.426
Problem related to heart	0.647	1.547
Feel restlessness	0.589	1.698
Blood pressure	0.546	1.833
Eyes and nose sometime bloodshot	0.614	1.629
Mood swings, problem with memory	0.549	1.820
Difficulty managing stress	0.585	1.709
Trouble with personal relationship	0.530	1.888
Leave house	0.714	1.401
Family angers on you	0.683	1.465
Panic attacks	0.635	1.576
Types of detoxification	0.778	1.285
Smoking	0.665	1.503
Take cigarettes in a day	0.600	1.667

Table 2 shows the results of the multicollinearity variance inflation factor (VIF) and tolerance, which are two statistics for diagnosing co-linearity. The table indicates that the VIF for all independent variables is less than 10 and tolerance is above 0.10; thus, it is concluded that multicollinearity is not high enough to affect the results of the study.

3. Results

The descriptive analysis of data is provided through graphs depicting the frequencies of each predictor variable. Figure 1 summarizes the distribution of respondents based on daily cigarette consumption which shows a significant disparity between smokers and nonsmokers. The majority of smokers (92 individuals) smoke 6 or more cigarettes, while nonsmokers (48 individuals) dominate the "None" category. The smallest groups are those who smoke 4 to 6 cigarettes per day, with only 5 nonsmokers.

The association between the frequency of drug use and the existence of yellowed teeth (designated as "YES" and "NO") is shown in Figure 2. Of the respondents who use drugs "more than once a day," 41 had yellowed teeth, compared to the majority (71) who do not. While 15 "Once a day" customers have yellowed teeth, 41 do not. Similar trends may be seen in the "Once a month" group, where just nine people experience yellowing and 15 are free of it. There is a smaller disparity in the "Once a week" group since 30 participants do not have yellowed teeth, compared to 27 who do. For less regular use, such as "Several times a month" and "Several times a week," the counts are closer; when teeth are yellowed, they score 15 and 16, whereas non- yellowed teeth score 9 and 13. A significant portion of frequent drug users do not report this issue, suggesting possible contributing variables even though frequent drug use is more commonly associated with yellowed teeth.

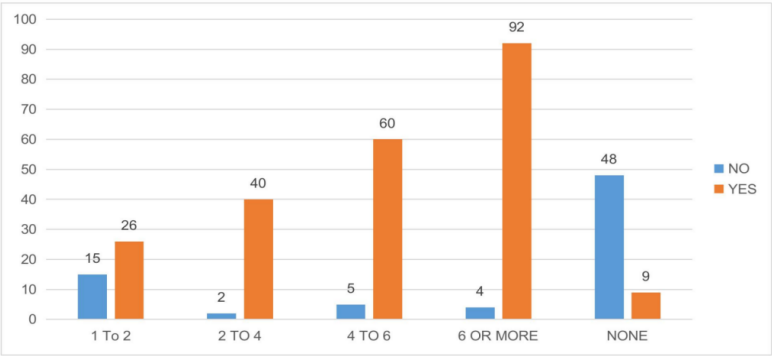

Figure 1: Number of cigarettes per day and smoking status.

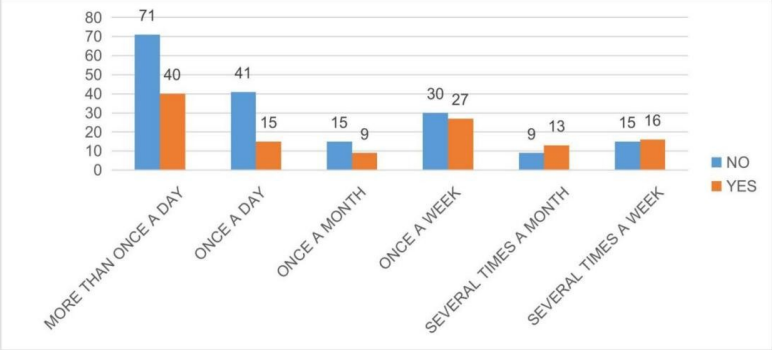

Figure 2: Drug consumption and the presence of yellowed teeth.

Restlessness and different detoxification methods are significantly correlated, as seen in Figure 3. Alternative medicine and drug detoxification patients reported the most restlessness. Less restlessness was reported by individuals undergoing alcohol detoxification, indicating that the likelihood of feeling restlessness may differ based on the detoxification method employed.

Figure 4 shows the ages at which drug use begins and the factors leading to it for each age group. Friends offer is the most significant factor in early drug use, especially in the 10-20 and 21-30 age groups. Economic concerns and joy-seeking become less important as people age. Drug initiation falls precipitously in the 31-40 age range, with "other reasons" accounting for 13 cases. By the 41-50 age group, drug initiation is rare.

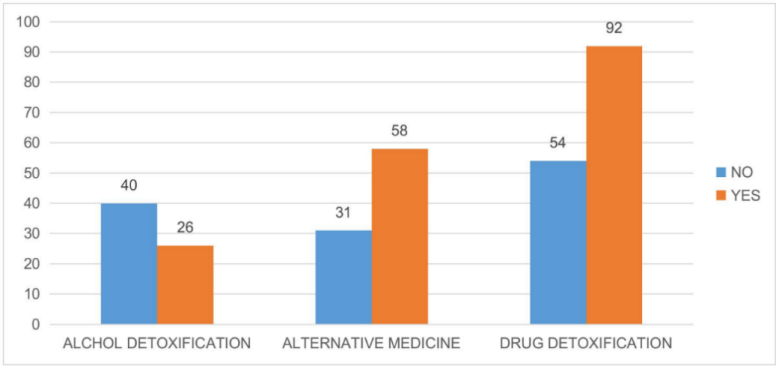

Figure 3: Types of detoxification methods and experiencing restlessness.

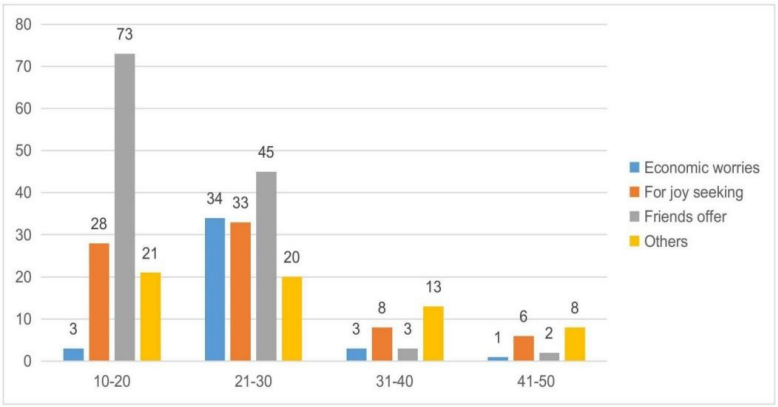

Figure 4: The age of initiation into drug use and the start of drug use.

Drug use beginning differs by gender, with females initiating drug use at a lower rate than males (Figure 5). Drug usage is influenced by several factors, including financial worries, joy-seeking, and offers from friends. Due to peer pressure and a desire for happiness, men are more prone than women to begin using narcotics. This suggests that drug usage start differs by gender.

From Table 3, the results of multinomial logistic regression showed that women are less likely than men to start using drugs, especially when friends offer them support (OR = 0.09) and when they are worried about their finances (OR = 0.02).

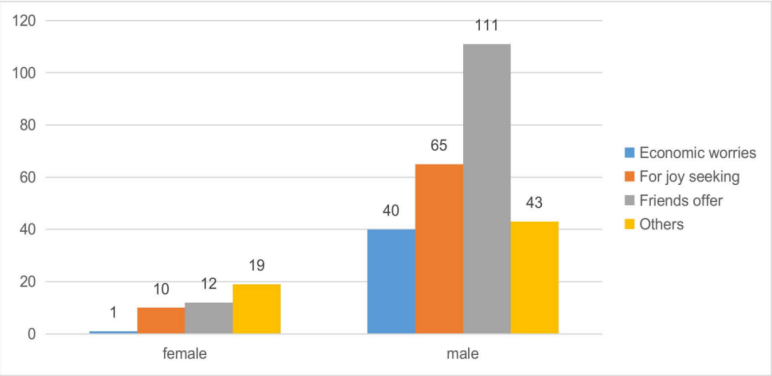

Figure 5: Gender and initiation into drug use.

Income is another important factor because, across all motivations, people with higher incomes are substantially less likely to begin using drugs than people with lower incomes (OR = 0.04).

Among all scenarios, shisha/hookah has the highest probability of being the first drug, followed by Ice and marijuana/hashish. Cannabis/hashish (OR = 0.04) and Ice (OR = 0.18) have significantly lower odds ($p-$value ¡ 0.05) for joy-seeking than do shisha/hookah. Similarly, shisha/hookah is much more likely to be associated with economic concerns than marijuana/hashish (OR = 0.02) and Ice (OR = 0.10), which have significantly lower odds ($p-$ value ¡ 0.05). While shisha/hookah is still the most likely option for friends' offers, Ice (OR = 1.11) has marginally higher odds than marijuana/hashish (OR = 0.69), but this difference is not statistically significant ($p-$ value ¿ 0.05). This indicates that the type of first drug tried also affects initiation. Those who use drugs less frequently (e.g., "once a week" or "several times a week") are less likely to initiate under friends' offers (OR = 0.17 and 0.06, respectively), which is influenced by the frequency of drug use.

4. Discussion

The findings of the multinomial logistic regression provide a thorough understanding of the variables affecting drug initiation for various reasons. Women are significantly less likely than men to start using drugs due to financial concerns (OR=0.02) or under the influence of friends (OR=0.09), indicating a considerable gender gap. This implies that men are more prone than women to be influenced by social and economic factors regarding the onset of drug use. These results underscore the importance of considering gender-specific therapies, with a special focus on male susceptibility to peer pressure and financial strain. According to Cotto et al. (2010), males had significantly higher overall rates of substance use than females ($p-$value ¡ 0.01 for all substances except sedatives and tranquilizers); however, patterns of use, abuse, or dependence varied by drug and age group. The trends for young people were intriguingly different from those of the general population.

Table 3: Parameter estimation, $p-$value and odds ratio of drug use from multinomial logistic model.

Start using drugs	Friends offer –Others			For joy seeking - Others			Economic worries – Others		
Predictor	β	$p-$value	OR	β	$p-$value	OR	β	$p-$value	OR
Intercept	2.14	0.34	–	2.01	0.30	–	4.46	0.12	–
Age									
Non-Youngster – Youngster	0.08	0.92	1.09 (0.22, 5.36)	1.19	0.12	3.30 (0.74, 14.72)	-0.16	0.88	0.86 (0.11, 6.42)
Gender									
Female–Male	-2.36	0.01**	0.09 (0.02, 0.59)	-0.33	0.66	0.72 (0.17, 3.09)	-4.11	0.02**	0.02 (0.00, 0.45)
Income									
High Income– Low Income	-3.12	0.00***	0.04 (0.01, 0.18)	-3.12	0.00***	0.04 (0.01, 0.19)	-1.63	0.19	0.20 (0.02, 2.19)
First drug once you tried									
Marijuana or Hashish–Shiha or Hookah	-0.36	0.68	0.69 (0.13, 3.83)	-3.18	0.00***	0.04 (0.01, 0.27)	-3.71	0.01**	0.02 (0.00, 0.46)
Ice–Shisha or Hookah	0.10	0.89	1.11 (0.27, 4.54)	-1.71	0.02**	0.18 (0.04, 0.76)	-2.29	0.02**	0.10 (0.02, 0.64)
Age of start using drug									

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Start using drugs	Friends offer –Others			For joy seeking - Others			Economic worries – Others		
Predictor	β	$p-$value	OR	β	$p-$value	OR	β	$p-$value	OR
10-20–41-50	-0.16	0.93	0.85 (0.02, 30.34)	-1.92	0.21	0.15 (0.01, 2.92)	-2.44	0.28	0.09 (0.00, 7.21)
21-30–41-50	-0.39	0.83	0.68 (0.01, 24.08)	-1.35	0.37	0.26 (0.01, 5.03)	1.15	0.58	3.17 (0.05, 185.15)
31-40–41-50	-3.93	0.05**	0.02 (0.00, 0.97)	-3.82	0.02**	0.02 (0.001, 0.48)	-0.88	0.69	0.41 (0.01, 34.34)
Use drugs									
More Than Once A Day–Once A Day	-0.03	0.97	0.97 (0.19, 5.05)	0.43	0.64	1.54 (0.25, 9.32)	0.09	0.94	1.09 (0.10, 11.89)
Once A Week–Once A Day	-1.78	0.04**	0.17 (0.03, 0.95)	-0.97	0.31	0.38 (0.06, 2.46)	-2.25	0.09*	0.11 (0.01, 1.44)
Several Times A Week–Once A Day	-2.86	0.01**	0.06 (0.007, 0.48)	0.01	0.99	1.01 (0.13,7.72)	0.35	0.82	1.41 (0.07, 27.98)
Once A Month–Once A Day	-2.24	0.09*	0.11 (0.01, 1.52)	0.23	0.86	1.26 (0.11,15.00)	-1.10	0.46	0.33 (0.02,6.29)
Several Times A Month–Once A Day	-3.22	0.02**	0.04 (0.002, 0.58)	-1.56	0.26	0.21 (0.01,3.19)	-0.70	0.66	0.49 (0.02, 11.58)

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Start using drugs	Friends offer –Others			For joy seeking - Others			Economic worries – Others		
Predictor	β	$p-$value	OR	β	$p-$value	OR	β	$p-$value	OR
Types of detoxification									
Alchol Detoxification– Alternative Medicine	0.29	0.74	1.34 (0.25, 7.13)	-0.79	0.36	0.45 (0.08,2.48)	1.04	0.32	2.82 (0.37, 21.39)
Drug Detoxification– Alternative Medicine	1.52	0.03**	4.59 (1.17, 17.98)	1.43	0.04**	4.17 (1.04,16.73)	0.59	0.52	1.82 (0.29, 11.05)
Take cigarettes in a day									
2 To 4–1 To 2	-2.26	0.08*	0.10 (0.01, 1.29)	-1.59	0.22	0.20 (0.02,2.54)	-0.96	0.54	0.38 (0.02, 8.21)
4 To 6–1 To 2	-2.11	0.08*	0.12 (0.02, 1.27)	-1.92	0.11	0.15 (0.01,1.50)	-2.20	0.14	0.11 (0.01, 2.11)
6 Or More–1 To 2	-1.76	0.13	0.17 (0.02, 1.70)	-0.29	0.79	0.74 (0.08,6.76)	-1.46	0.31	0.23 (0.01, 3.88)
None-1to 2	0.63	0.69	1.88 (0.08, 46.39)	0.78	0.61	2.17 (0.11, 42.28)	1.42	0.53	4.14 (0.05, 330.35)

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Start using drugs	Friends offer –Others			For joy seeking - Others			Economic worries – Others		
Predictor	β	$p-$value	OR	β	$p-$value	OR	β	$p-$value	OR
Yellowish teeth									
No–Yes	0.14	0.79	1.14 (0.40, 3.27)	-0.69	0.21	0.49 (0.17, 1.49)	0.22	0.79	1.24 (0.25, 6.12)
Gastro intestinal problem									
No–Yes	1.59	0.01**	4.89 (1.47, 16.34)	0.44	0.48	1.55 (0.46, 5.26)	0.13	0.87	1.14 (0.23, 5.69)
Problem related to heart									
No–Yes	1.06	0.11	2.89 (0.79,10.52)	1.52	0.03**	4.57 (1.19,17.44)	-0.81	0.39	0.44 (0.07, 2.86)
Fell restlessness									
No–Yes	0.22	0.75	1.25 (0.32,4.89)	1.49	0.03**	4.47 (1.15, 17.37)	1.25	0.17	3.48 (0.58, 21.00)
Blood pressure									
No–Yes	-1.68	0.01**	0.19 (0.05,0.64)	-1.43	0.03**	0.24 (0.07, 0.87)	-1.76	0.05**	0.17 (0.03, 1.02)

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Start using drugs	Friends offer –Others			For joy seeking - Others			Economic worries – Others		
Predictor	β	$p-$value	OR	β	$p-$value	OR	β	$p-$value	OR
Eyes have sometimes bloodshoot and bloody									
No–Yes	-0.61	0.31	0.54 (0.16,1.78)	1.28	0.05**	3.60 (0.98, 13.26)	0.35	0.68	1.42 (0.27, 7.48)
Mood swings problems with memory decision making									
No–Yes	0.91	0.16	2.49 (0.69, 8.84)	1.46	0.04**	4.30 (1.07, 17.32)	-0.02	0.98	0.98 (0.18, 5.49)
Difficulty managing stress									
No–Yes	0.43	0.48	1.54 (0.47, 5.05)	0.71	0.26	2.03 (0.59, 6.91)	0.41	0.64	1.51 (0.27, 8.45)
Trouble with personal relationship									
No–Yes	0.64	0.33	1.89 (0.52, 6.95)	-0.69	0.31	0.49 (0.13, 1.92)	-0.34	0.73	0.71 (0.10, 4.93)

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Start using drugs	Friends offer –Others			For joy seeking - Others			Economic worries – Others		
Predictor	β	$p-$value	OR	β	$p-$value	OR	β	$p-$value	OR
Leave your house									
No–Yes	0.58	0.29	1.79 (0.60, 5.31)	-0.41	0.47	0.66 (0.22, 2.03)	0.22	0.79	1.24 (0.24, 6.25)
Family anger on you									
No–Yes	0.22	0.76	1.24 (0.32, 4.81)	2.16	0.00***	8.65 (2.04, 36.59)	-0.73	0.49	0.48 (0.06, 3.75)
Panic attacks									
No–Yes	0.19	0.72	1.21 (0.42, 3.53)	-0.47	0.41	0.63 (0.20, 1.91)	1.09	0.21	2.96 (0.55, 15.89)
Smoking									
No–Yes	-0.52	0.67	0.59 (0.05, 6.55)	-0.76	0.49	0.47 (0.05, 4.03)	-1.77	0.34	0.17 (0.004, 6.65)
Received any information about drug use									
No–Yes	0.90	0.09*	2.47 (0.64, 5.419)	0.62	0.25	1.87 (0.64, 5.42)	-2.66	0.00***	0.07 (0.01, 0.43)

Another important factor is income since those in higher income categories are substantially less likely than those in lower income groups to start using drugs (OR = 0.04). This demonstrates the protective function of financial security and the susceptibility of those from low-income backgrounds to drug use, particularly when they are experiencing joy-seeking and financial anxiety. Preventive measures that focus on financial difficulties by providing financial assistance and social support may be quite important. Similar findings were observed when Long et al. (2014) examined the relationship between income levels and drug use patterns among injecting drug users (IDU) in Vancouver. It is found that low average monthly income were linked to high-risk income generation strategies and drug use patterns, indicating higher intensity addiction and HIV risk. It highlighted the need for interventions addressing economic empowerment and high-intensity addiction, particularly for female IDU, to improve health outcomes.

Another important factor in drug initiation pathways is the kind of drug that was tried first. Due to its accessibility and social acceptability, shishah/hookah is the most widely used as first drug. It is followed by Ice and marijuana/hashish. Ice (OR=0.18) and marijuana/hashish (OR=0.04) had much lower risks of starting drug use for joy-seeking behaviors than shisha/hookah. In a similar vein, marijuana/hashish (OR=0.02) and Ice (OR=0.10) exhibit much lower probabilities than shisha/hookah for economic concerns. Interestingly, Ice (OR=1.11) has marginally greater odds of initiation than marijuana/hashish (OR=0.69) in the setting of peer influence; however, this difference is not statistically significant ($p-$value¿0.05). According to these results, focusing on shisha/hookah use may be a crucial tactic to lower drug beginning rates for a variety of reasons.

Due to misunderstandings regarding possible health advantages, hookah smoking is becoming more and more common in the US, especially among young people. Hookah users, however, are more likely to be exposed to harmful substances causing lung disease, cancer, infections, and other illnesses. Depending on the type of tobacco used, hookah smoke has cardiovascular effects that are similar to those of regular cigarettes, with different nicotine levels (Qasim et al., 2019).

Drug use frequency also influences initiation. Friends' influence is less likely to be cited as the main reason for drug use by those who use drugs less regularly, such as "once a week" (OR=0.17) or "several times a week" (OR=0.06). This suggests that, over time, regular users might have switched to different intrinsic incentives or dependencies. Reducing peer pressure and addressing underlying reasons before they develop into reliance could be the main goals of interventions meant to stop early-stage drug use.

Das et al. (2016) provided an analysis of 46 systematic reviews assessing programs for preventing teen substance abuse, school-based prevention initiatives and family-based intensive interventions are successful in lowering smoking rates. Mass media campaigns are also successful when run at a moderate level of intensity over an extended period of time. School-based alcohol prevention programs decrease the frequency of drinking, whereas family-based programs have a slight but long-lasting impact on alcohol abuse. Social influence and social competence strategies combined in school-based interventions have been shown to have protective effects against

drug and cannabis use. In general, these interventions are successful in lowering teen substance abuse. According to past studies on heroin initiation, the majority of heroin users do so with friends or family. Research on why heroin users try to avoid initial use and why they initiate other drugs is, however, scarce. According to a study that involved 370 participants in an opioid withdrawal program, people who lack self-control are more likely to start other drugs, but self-control and preventing initiation are unrelated. Altruism and self-interest are two of the self-reported reasons for initiating other drugs. According to the study, more research is necessary to fully understand how peer pressure affects crime and delinquency (Costello et al., 2021).

5. Conclusion

The study emphasizes the relationship between drug initiation and social, economic position, gender, and behavioral characteristics. It is concluded that High income dramatically decreased the chance of drug use associated with economic difficulties, and females were found to be less likely to begin using drugs only as a result of peer pressure. Family disputes were found to be a major contributing factor to joy-seeking behaviors, highlighting the influence of social interactions on substance use. Furthermore, it has been demonstrated that drug initiation patterns are influenced by physical health indicators including blood pressure and detoxification techniques. According to these results, reducing the likelihood of drug dependence may be greatly aided by customized interventions that address financial difficulties, strengthen family support networks, and offer focused behavioural counselling. These variables must be included in rehabilitation programs in order to create individualized treatment plans, enhance recovery results, and lower relapse rates. To expand on these findings, further environmental and longitudinal factors should be investigated in future studies.

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