Drug abuse: Uncovering the burden in rural Punjab

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Abstract

Introduction: Drug abuse is a global phenomenon, affecting almost every country, but its extent and characteristics differ from region to region. India too is caught in this vicious circle of drug abuse, and the numbers of drug addicts are increasing day by day. The bane of drug abuse in Punjab has acquired the proportions of a pestilence that has shaken the entire society in the state. It is observed that in Punjab “drug abuse” is a raging epidemic, especially among the young. Methodology: The present cross-sectional study was conducted on 400 adolescents and young adults (11–35 years) from 15 villages of Jalandhar District. Systematic sampling (probability proportionate to size) was used for the selection of study subjects. A preformed, semi-structured questionnaire was used to collect information on type and frequency of drugs abused and other sociodemographic variables. The statistical evaluation of the data was performed using SPSS software, version 21.0. Results: The prevalence of substance abuse among study group was 65.5% and most common substance abused was alcohol (41.8%), followed by tobacco (21.3%). A high prevalence of heroin abusers was noted among study subjects (20.8%). The prevalence of nonalcohol and nontobacco substance abuse was 34.8%. A significant association of drug abuse was observed with male gender, illiteracy, and age above 30 years. Conclusions: The problem of drug abuse in youth of Punjab is a matter of serious concern as every third person is hooked to drugs other than alcohol and tobacco. The other striking observations were the high prevalence of heroin and intravenous drug abuse.

Keywords: Adolescents, drug abuse, heroin, Punjab, young adults

Introduction

Drug abuse is a global phenomenon, affecting almost every country, but its extent and characteristics differ from region to region. Illicit drug abuse not only affects the health and lives of individuals but also undermines the political, social, and cultural foundation of all countries. Problems of drug dependence produce dramatic costs to all societies in terms of lost productivity, transmission of infectious diseases, family and social disorder, crime, and excessive utilization of health care. The picture is grim if the world statistics on the drugs scenario is taken into account. With a turnover of around $500 billion, it is the third largest business in the world, next to petroleum and arms trade. About 190 million people all over the world consume one drug or the other. Drug addiction causes immense human distress, and the illegal production and distribution of drugs have spawned crime and violence worldwide. Today, there is no part of the world that is free from the curse of drug trafficking and drug addiction. Millions of drug addicts, all over the world, are leading miserable lives, between life and death.¹

India too is caught in this vicious circle of drug abuse, and the numbers of drug addicts are increasing day by day. The epidemic of substance abuse in young generation has assumed alarming dimensions in India. Changing cultural values, increasing economic stress, and dwindling supportive bonds are leading to initiation into substance use. According to a UN report, 1 million

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heroin addicts are registered in India, and unofficially, there are as many as 5 million.[5]

Cannabis, heroin, opium, and hashish are the most commonly used drugs in India after alcohol and tobacco. However, some evidence indicates that there is an increasing prevalence of methamphetamine as well.[1] Drug users are mainly young and predominately male. A National Survey (2004) on the extent, pattern, and trends of drug abuse in India found that opiates are primary drug abused and 49% of respondent's families had a history of drug abuse.[4] The study conducted by the Institute of Development and Communication revealed that a majority of drug abusers, i.e., 70% had rural background and were hooked to drugs and opium which they procured from village chemists.[11]

The National Household Survey of Drug Use in the country is the first systematic effort to document the nationwide prevalence of drug use. Alcohol (21.4%) was the primary substance used (apart from tobacco), followed by cannabis (3.0%) and opioids (0.7%). The Drug Abuse Monitoring System, which evaluated the primary substance of abuse in inpatient treatment centers, found that the major substances were alcohol (43.9%), opioids (26%), and cannabis (11.6%).[8]

A Rapid Situation and Response Assessment among 5800 male drug users[8] revealed that 76% of the opioid users currently injected buprenorphine, 76% injected heroin, 70% chasing, and 64% using propoxyphene. Most drug users concomitantly used alcohol (80%). According to the World Drug Report,[10] of 81,802 treatment seekers in India in 2004–2005, 61.3% reported use of opioids, 15.5% cannabis, 4.1% sedatives, 1.5% cocaine, 0.2% amphetamines, and 0.9% solvents.

The bane of drug abuse in Punjab has acquired the proportions of a pestilence that has shaken the entire society in the state. It is observed that in Punjab “drug abuse” is a raging epidemic, especially among the young. According to a survey, 66% of the school going students in the state consume “gutka” or tobacco; every third male and every tenth female student have taken to drugs on one pretext or another and seven out of ten college-going students are into drug abuse.[8]

The present study was thus conducted to assess the prevalence and pattern of substance abuse and its correlates among adolescents and young adults of rural Punjab.

Methodology

Study area
The present study was conducted in 15 villages of Jalandhar district by the Department of Community Medicine, Punjab Institute of Medical Sciences Medical College and Hospital, Jalandhar, Punjab, India.

Study design
This is a cross-sectional study.

Study participants
Adolescents and young adults (11–35 years) giving written informed consent were included in the study.

Sampling technique and sample size
Systematic sampling (probability proportionate to size [PPS]) was used for the selection of study subjects. The Prevalence of Drug Abuse in Punjab ranges from 40% to 70%.[10] By taking prevalence as 50% and on applying formula:

Sample size \( n = \frac{Z_{\alpha/2}^2 \times P \times (1-P)}{E^2} \)

where \( Z_{\alpha/2}^2 = 1.96 \) for 95% confidence interval (i.e., \( \alpha \)-error = 5%)
\( P = \) Prevalence
\( Q = 1 - P \)
\( E = \) Allowable error (taken as 10%)

Final sample size \( n = 400 \) subjects (approximately).

A total of 400 households were chosen from the 15 villages (PPS sample) as depicted in the Table 1. All households in these villages were enlisted first and then required number of households (from each village) was taken using systematic random sampling. If no eligible subject was identified in a household, the next household was approached, and if more than one eligible subject was present, the one who was contacted first was taken.

Operational definitions

Drug users
Drug user is defined as a person who had used substance in the last 1 year.

Nonusers
Drug nonuser refers to a person who had never used any drug in the past in their life.

Statistical analysis
A preformed, semi-structured questionnaire was used to collect information on type and frequency of drugs abused and other sociodemographic variables. The statistical evaluation of the data was performed using SPSS software, version 21.0 (IBM SPSS Statistics, IBM Corporation, Armonk, NY, USA).

Results
A total of 400 subjects were studied between the age group of 11 and 35 years, with the mean age of 23.32 ± 7.6 years. Out of total 400 subjects, 93.3% were males, 48% were adolescents, and 17.3% were illiterate or educated up to primary levels [Table 2]. The prevalence of substance abuse among study group was 65.5%, and the most common substance abused was alcohol (41.8%), followed by tobacco (21.3%). A high prevalence of heroin abusers
was also noted among study subjects (20.8%). Out of total heroin abusers (n = 83), two-third (n = 55) were taking the drug through intravenous (IV) route while rest of them were taking it as sniff or smoke. The median dose of heroin abuse was 1 mg (range: 0.25–5 mg). The prevalence of nonalcohol and nontobacco substance abuse was 34.8%. Other abused substances were bhukki (11%), bhang (6.3%), charas and ganja (1.5% each) [Table 3]. A significant association of drug abuse was observed with male gender, illiteracy, and age above 30 years [Table 4].

**Discussion**

There appears to be a number of reasons for why Punjab is currently in the midst of a drug epidemic such as rampaging unemployment, easy and cheap availability of heroin, and the location of Punjab means that most of the drugs will pass through this area on its way to India.\[^{9}\]

With most drug users being in the productive age group of 18–35 years, the loss in terms of human potential is incalculable. The damage to the physical, psychological, moral, and intellectual growth of the youth is very high. Adolescent drug abuse is one of the major areas of concern in adolescent and young people’s behavior. A study in the Andamans\[^{8}\] shows that onset of regular use of alcohol in late childhood and early adolescence is associated with the highest rates of consumption in adult life, compared to the later onset of drinking. It is estimated that, in India, by the time most boys reach the ninth grade, about 50% of them have tried at least one of the substance of abuse nature.\[^{10}\]

In the present study, 48% of the subjects were in adolescence age group and prevalence of substance abuse was 56.3%.

The present study found the prevalence of substance abuse as 65.5%. The most common substance abused was alcohol (41.8%), followed by tobacco (21.3%). Various Indian studies have shown that alcohol and tobacco are the most abused substance.\[^{11,18}\] In Uttar Pradesh, Dube et al.\[^{11}\] reported that 22.8/1000 were dependent on alcohol and drugs while Thacon\[^{13}\] from Lucknow gave a statistic of 18.55/1000. The important finding of these studies is that alcohol was the most common substance used (60%–98%). Epidemiological surveys\[^{13,14}\] also revealed that 20%–40% of subjects above 15 years are current users of alcohol and 10% of them are regular or excessive users.

In a rural population of Uttar Pradesh, alcohol was found to be the most common substance abused (82.5%), followed by cannabis (16.1%). Varma et al.\[^{13}\] found that rates of current use of alcohol in Punjab were 45.9% in Jalandhar and 27.7% in Chandigarh whereas it was 28.1% in rural areas of Punjab.\[^{14}\]

Shukla\[^{15}\] reported that 38.3% of the rural population in Uttar Pradesh was habitual substance users. In a study of rural Bihar, prevalence of alcohol/drug use was found to be 28.8% of the study population.\[^{16}\]

A high prevalence of heroin abusers was also noted in present study (20.8%) as compared to previous reports.\[^{19,21}\] Out of total heroin abusers (n = 83), two-third (n = 55) were taking the drug through IV route. The increasing consumption of nacrodrugs, especially heroin, in Punjab is basically an off-shoot of the inflow of Afghan heroin through Pakistan.\[^{22}\]

A study by Singh et al.\[^{23}\] in a De-addiction Center of Amritsar, Punjab, a total number of 10,568 patients were screened for urine toxicology. Out of 10,568 enrolled patients, 9815 (92.87%) patients were found patients for morphine, and out of 9815 morphine addict patients, 5785 (54.74%) patients were abusing

| Village      | Population | Total households | Households taken for study |
|--------------|------------|------------------|-----------------------------|
| Kadianwali   | 2192       | 438              | 13                          |
| Jandiala     | 9031       | 1806             | 51                          |
| Soi          | 4080       | 816              | 23                          |
| Dhina        | 5436       | 1087             | 30                          |
| Partapura    | 3315       | 663              | 19                          |
| Bilga        | 8713       | 1743             | 49                          |
| Khurial Kingra | 6170     | 1234             | 34                          |
| Mirhupur     | 3273       | 655              | 19                          |
| Shanker      | 3315       | 663              | 19                          |
| Hando Phrala | 1680       | 336              | 10                          |
| Sansarpur    | 4342       | 808              | 24                          |
| Samrai       | 5105       | 1021             | 29                          |
| Jamsher      | 8031       | 1606             | 45                          |
| Kulkar Pind  | 2720       | 544              | 16                          |
| Daduwal      | 3275       | 655              | 19                          |
| Total        | 70,678     | 14,136           | 400                         |

**Table 1: Villages covered for systemic random sampling**

| Variables | Gender (n=400) | n (%) |
|-----------|---------------|-------|
| Gender    |               |       |
| Males     | 373           | 93.3  |
| Females   | 27            | 6.7   |
| Age group (years) |     |       |
| 11-19     | 192           | 48.0  |
| 20-30     | 106           | 26.5  |
| >30       | 102           | 25.5  |
| Education |               |       |
| Illiterate/primary | 69     | 17.3  |
| Secondary | 177           | 44.3  |
| Higher secondary/graduate | 154  | 38.5  |

**Table 2: Sociodemographic profile of study subjects**

| Variables | Substance abuse (n=400) | n (%) |
|-----------|-------------------------|-------|
| Substance abuse | 262 | 65.5 |
| Alcohol    | 167                     | 41.8  |
| Tobacco    | 85                      | 21.3  |
| Bhukki     | 44                      | 11.0  |
| Heroine    | 83                      | 20.8  |
| Bhang      | 25                      | 6.3   |
| Charas     | 6                       | 1.5   |
| Ganja      | 6                       | 1.5   |
| Substance abuse (except alcohol/tobacco) | 139 | 34.8 |
heroin in one or the other form. Such high prevalence of heroin abuse can be attributed to its easy availability, steady supply across the border mainly from Afghanistan and Pakistan, and a thriving smuggler-police-politician nexus which is hampering enforcement action. The numbers of people starting to use heroin have been steadily rising since 2007.[23]

Prevalence of heroin addiction was reported as 0.2% in the National Household Survey[16] in India (2000–2001) and as 10.74% in a study done in De-addiction Centers in New Delhi.[39] While comparing these findings with our study, it is apparent that there is a significant change in the pattern of drug use. Heroin is a costly drug; its increasing use has also resulted in rise of economic crimes such as snatching, robbery, and theft.[28] Increase heroin use through IV route can also increase the incidences of HIV, hepatitis B and C, thus burdening the health-care system further.

In the present study, a significant association of drug abuse was observed with male gender, illiteracy, and age above 30 years. Male predominance in substance abuse is universal as proved by various studies.[4,8,19] Basu et al. studied the changing pattern of substance abuse in North India (from 1978 to 2008) observed that majority of the subjects were males and maximum prevalence of drug abuse was in the age group of 26–35 years, with no decade-wise difference.[23] The findings of the National Household Survey also observed the highest prevalence (37%) in the age group of 31–40 years.[4]

Education level has been found to have an impact on the risk of drug or alcohol abuse. One particular study from 2004 in Copenhagen included over 30,000 men and women aged 20–93 and measured schooling level, smoking, and alcohol use. This study found that those with the lowest level of schooling were most frequently heavy smokers and heavy drinkers.[21] A National Survey by the Ministry of Social Justice and Empowerment (2002) found that 29% of the drug abusers were illitertates and a significant number of them came from lower strata.[24] In a study by Kumar et al. in De-addiction Centers of New Delhi, 21% of the addicts were illiterate or educated till primary level as compared to 17.3% in the present study.[19]

We suspect that there could be some under-reporting by the abusers who can be considered as the limitation of the study. However, it gives definitive clues regarding pattern of drug use in rural Punjab. More multicenter studies are required to compare data and to generalize for the whole state.

## Conclusions

The problem of drug abuse in the youth of Punjab is a matter of serious concern as every third individual is hooked to drugs other than alcohol and tobacco. The other striking observations were the high prevalence of heroin and IV drug abuse.

## Recommendations

Government should plan to increase the number of de-addiction and rehabilitation centers with recreational facilities for these addicts. Various nongovernment organizations and nonprofit organizations can be involved to initiate vocational training and other employment programs for unemployed addicts. Appropriate linkages between health workers, community leaders, religious leaders, and teachers for planning prevention and rehabilitation activities for drug abuse should be established. Periodic outreach awareness camps for antidrug abuse activities in the community and government schools should be undertaken.

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## Conflicts of interest

There are no conflicts of interest.

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