# **Original Research Article**

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# Pattern of substance abuse: a community based study in West Bengal

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## **ABSTRACT**

**Background:** Drug addiction produces serious pervasive and expensive social problems. Regardless of whether substance abuse is a sin, a crime, a bad habit or an illness society has a right to expect that an effective approach to drug abuse problem will reduce drug related crime unemployment, family dysfunction and disproportionate use of medical care. Science has made great progress over the past several years, but it is still not possible to account fully the physiological and psychological process that transform controlled voluntary use of drugs into uncontrolled is voluntary dependence on those substances, and these is still no cine. The objective of the study was to find out pattern of different types of substance abuse in a community in West Bengal.

**Methods:** An observational cross-sectional community based study during April 2017-September 2017 in a community of West Bengal among 142 addicted persons.

**Results:** In the studied 142 cases, Brown sugar (an adulterated form of Heroin) was primary drug of abuse in urban area contrary to alcohol in rural area. Commonest age of initiation was between 15-20 years (57.75%). Polydrug abusers (59.1%) were common.

**Conclusions:** Our study revealed that in spite of having strict legislation for prohibition of substance abuse, people are still addicted with alcohol, cannabis, drugs etc. Substance use is prevalent in the studied area, with a higher prevalence in males. Substance users rarely seek treatment for substance use. This needs continuous awareness and community-level services for the treatment of substance use disorders.

**Keywords:** Drug abuse, Alcohol, Brown sugar, RDS (Respondent-Driven Sampling)

# INTRODUCTION

The recent spurt in substance abuse has emerged as an extraordinary threat to the Quality of life of human being. Not only alcohol, the abuse of psychotropic substances as well as narcotic drugs has proliferated all parts of the world, leaving ugly scar in its wake. It is astonishing to note that more than 50 million people all over the globe are reported to be dependent on different types of drugs. In general population the abuse of legally prescribed drugs is also increasing at an alarming speed. The problem is no more confined to a particular segment or

group of the society; it spread throughout today all facets of personal as well as in the public domains. In many countries in the world, distribution, trafficking and illicit production of different drugs are seen to have corrupted and detribalised Governments. The drug revenues in the world are estimated to have risen to US \$500 billion that is next only to arms trade. Till no country seems to remain immune from the overwhelming effects of substance abuse, the trend is most threatening for developing countries like India which are still smuggling to overcome their basic problems of poverty, hunger and diseases. <sup>1</sup>

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Recently, India was considered as a country for the transit of the drugs from 'Golden Triangle' and 'Golden Crescent'. Within few decades, India became a user of all sorts of addictive drugs. Many recent researches conducted in various regions of the India and also in population groups confirm that drug abuse has infiltrated all socio-cultural & economic strata. Among the lethal drugs like Brown Sugar, Heroin, is playing widespread destruction in north eastern states as well as metropolitan cities. The alarmingly growing incidence of HIV/AIDS among intravenous drug users especially the young has grave implications.<sup>2</sup>

These days most drug abusers are young adults and adolescent and this addiction is spreading all religious, communities and castes.3 This causes vast loss of productivity in the country. A research showed that nearly every psychiatric diagnosis were more common among those who met the criteria for drug dependence.<sup>4</sup> Rapid assessment survey on substance abuse shows that the drugs which are primary abused are heroin (36%), other opiates (29%) and cannabis (22%). 75% of drug addicts start drug abuse before the age of 20 years; heroin abuse is more in urban areas while cannabis abuse is more in other sites.<sup>5</sup> Drug addiction is to be viewed as a persistent disorder in which relapse is the natural part of recovery process.<sup>6</sup> However, the study related to this was conducted more than three decades ago and many changes have taken place in substance use pattern since then with appearance of many new substances.

According to the World health organization (WHO) substance abuse is persistent or sporadic drug use inconsistent with or unrelated to acceptable medical practice.<sup>8</sup> As per the world health report 2002, alcohol and tobacco use were appeared as one of the 10 leading risk factors for the global burden of disease measured in DALYs. Globally, use of alcohol and tobacco as a risk factors cause 4.0% and 4.1% of the total burden of disability respectively. 4.2% of the World population which are aged 15 years and over are using illicit drugs that causing 0.8% of the total disability burden. In India mortality due to tobacco is estimated to increase from 1% of total mortality in 1990 to 13% by 2020. 10 Cannabis products which are known as Charas, Bhang or Ganja are abused throughout the India because it has attained some amount of religious sanctity due to its association with some Hindu deities.<sup>11</sup> Many surveys have been conducted at various levels and in various populations in India to assess the prevalence and level of psychoactive substance abuse. The prevalence estimates ranged from 0.94 per 1000 population in the earlier studies to 350 per 1000 population in more recent ones. 12-14

# **Objectives**

To find out pattern of different types of substance abuse in a community in West Bengal.

### **METHODS**

Selection of 4 'hot spots' in Kolkata and 4 hot spots in Howrah were selected purposively. We took the sites from the local NGOs who are working in the field of drug de-addiction program. The NGOs are registered in ministry of Social Justice and Empowerment, Govt. of India. In each spot 15 persons were interviewed and in last two spots 17 each person were interviewed. It was a cross-sectional community based study during April 2017-September 2017 in a community of West Bengal among 142 addicted persons. Data were collected by respondent-driven sampling (RDS) and interviewing clients with schedule questionnaire.

## Sampling

RDS was used for recruitment of individuals. RDS is a type of chain referral method. However, it differs from traditional snow-ball sampling. The technique is called RDS as the respondents themselves are responsible for recruiting further participants. In this method, an expanding system of chain referrals is created, in which respondents recruit more respondents, who recruit still more respondents and so on from wave to wave.

#### Inclusion criteria

Inclusion criteria were those who agreed to participate in the study.

## Exclusion criteria

Exclusion criteria were those who not willing to participate in the study and severely ill or not in acute intoxication stage.

# Statistical analysis

The data were tabulated in Microsoft Excel 2007 and analyzed by using Statistical Package for the Social Sciences (SPSS) version 20.0 software for proportions and chi-square tests as test of significance and binomial logistic regression analysis.

# **RESULTS**

A total of 142 persons were interviewed and examined during the study period which revealed that majority (88.03%) belonged to 20-49 year age group with mean age 31.2 years and Standard deviation 7.1 years. Majority were Hindus (64.8%) and males (97.18%). Employed (61.27%), currently married (45.77%) and illiterates (9.86%). 34.51% were below poverty line according to Modified Prasad socio-economic scale10 (based upon per capita monthly family income in Indian currency regularly updated as per consumer price index of India); 57.75% belonged to nuclear families and maximum proportion were urban residents (60.56%) (Table 1).

Table 1: Distribution of study sample according to socio-demographic factors.

Attributes		Frequency (n=142)	Percentage (%)
	10-19	13	09.15
Age (in completed years)	20-49	125	88.03
	50 & above	4	2.82
Sex	Male	138	97.18
	Female	4	2.82
	Currently married	65	45.77
Marital status	Unmarried	58	40.85
	Ever married	19	13.38
	Illiterate	14	09.86
Literacy status	Up to primary	37	26.06
Literacy status	Secondary	65	45.77
	Higher secondary and above	26	18.31
	Employed	87	61.27
Present occupation	Never employed	40	28.17
	Currently unemployed	15	10.56
	VI (Below poverty line)	49	34.51
	V (Poor)	54	38.03
Social class (modified Prasad scale)	IV (Lower middle)	14	09.86
	III (Upper middle)	10	07.04
	II (Upper)	06	04.23
	I (Upper high)	09	06.34
Type of family	Nuclear	82	57.75
	Joint	60	42.25
Place of residence	Urban	86	60.56
	Rural	56	39.44

Table 2: Distribution of study population acc. to age of initiation of drug abuse and type of drug abuse (n=142).

Age of initiation (in yrs)	Alcohol (%)	Brown sugar (%)	Cannabis (%)	Morphine (%)	Sedatives (%)	Total (%)
≤15	01 (0.70)	02 (1.41)	07 (4.93)	-	-	10 (7.04)
15-20	27 (19.01)	03 (2.11)	46 (32.39)	01 (0.70)	05 (3.52)	82 (57.75)
20-25	17 (11.97)	03 (2.11)	02 (1.41)	04 (2.82)	04 (2.82)	30 (21.13)
≥25	06 (4.23)	02 (1.41)	06 (4.23)	02 (1.41)	04 (2.82)	20 (14.08)
Total	51 (35.91)	10 (7.04)	61 (42.96)	07 (4.93)	13 (9.16)	142 (100)

Maximum proportion of drug abuse initiation was between 15-20 years of age group i.e. 57.75%. 21.13% has initiation between 20-25 years age group least proportion (7.04%) were 15 of below 15 years of age group. Most common (32.39%) initial drug abuse was cannabis among 15-20 years of age group (Table 2).

Shifting from cannabis abuse 42.96% during initial abuse to 7.75% during 1st detoxification and 1.41% during the last detoxification. Shifting of Alcohol was very few as 35.92 as initial drug abuse to 38.03% at the time of 1st detoxification then 38.03% in last detoxification. Proportion of morphine abuse was 3.52% to 4.23% and 7.75. Proportion of sedative abuse was 11.27% to 1.41% (Table 3).

Table 3: Distribution of study population according to the shifting of drugs (n=142).

Dwgg	Initial drug		
Drugs	No	%	
Alcohol	51	35.92	
Brown sugar	09	06.34	
Cannabis	61	42.96	
Sedatives	16	11.27	
Morphine	05	03.52	
Total	142	100	

Maximum proportion of tobacco use were smoking & chewing was 50.70% followed by smoking 21.83%, chewing 7.75%% and Smoking, chewing and others were 4.23%. No tobacco uses were 15.49% cases (Table 4).

Table 4: Distribution of population according to tobacco use among them (n=142).

Tobacco use	Frequency	
	No.	%
Smoking	31	21.83
Chewing	11	07.75
Smoking + Chewing	72	50.70
Smoking + Chewing + Others*	06	04.23
No smoking	22	15.49
Total	142	100

Table 5: Distribution of route of taking drugs in the study population (n=142).

Route of drug intake	Freque	Frequency		
	No.	%		
Oral	75	52.82		
Inhalation	76	53.52		
Smoking	81	57.04		
Intravenous/intramuscular	11	07.75		

Proportion of route taking drugs are smoking 57.04% inhalation 53.52% and oral 52.82%. Intravenous route was 7.75% (Table 5).

Table 6: Distribution of study population according to duration of abuse (n=142).

Duration of drug abuse (in yrs)	Frequency (%)		
	No.	%	
<5	6	4.23	
5-10	49	34.51	
10-15	41	28.87	
15-20	29	20.42	
20 years and above	17	11.97	
Total	142	100	

Maximum proportion i.e. 34.51% of study population were taking drugs for 5-10 years duration of taking drug between 10-15 years was 28.87%, 20.42% of the population was taking drug between 15-20 years least proportion 4.23% were taking drug 5 years duration (Table 6).

# **DISCUSSION**

Family members have got a definite role in providing support and care to the drug users. In our study the findings of lower cases among members of joint families and married persons rather than nuclear families and divorced or separated persons give support to this view. Financial security in the form of employment is critical for recovery and social rehabilitation. It is observed that regular follow up allows better commitment to therapy. Larger cohort studies with standard psychiatric assessment tools could enrich our knowledge.

The study population were mostly males and between 20-29 years of age (88.03%). In a study by Ministry of Social Justice and Empowerment in 33 cities in India revealed that commonly affected age group was 16-35 years whereas studies conducted in Bangladesh, USA, Vietnam found that mean ages of drug abusers were 25-35, 20-25, 25-35 and 27 years respectively. 15-19 Nessa et al reported that 91% of drug addicts were young and adolescents.<sup>20</sup> National survey found that 29% of the drug abusers were illiterates and significant number of them came from lower strata. Marital status did not contribute to drug abuse.<sup>5</sup> We found that 09.86% were illiterates; 40.85% were unmarried; 10.56% were unemployed; 34.51% cases are from below poverty line as per capita income (PCI) of family per month as per modified Prasad scale. Study at Tihar jail in India (2001) among 6800 male drug abusers found that commonest age group was 21-25 years; 50% were illiterates; 44% were unmarried; 8% were unemployed.<sup>21</sup>

Present study revealed that Cannabis and alcohol were the most commonly abused drugs i.e. 42.96% and 35.92% respectively. Heroin was the most common abused drug in studies conducted in Bangladesh, Tihar jail (82%), in Delhi by Raj et al (58%), Vietnam, Pakistan national survey (2000) (46%) and Arunachal Pradesh. <sup>19-24</sup>

In present study, most of the abusers initiated drug use between 15-20 years of age group i.e. 57.75% and most common initial drug of abuse was cannabis similar to the findings of Household Survey (1996) in USA. Mean age of initiation of tobacco and alcohol intake were 20.1 and 21.6 years respectively in a study conducted by Hazarika et al in border area of Assam and Arunachal Pradesh (2000). <sup>25,26</sup>

Maximum proportion (34.51%) of clients were taking drugs for 5-10 yrs. Anthony and Helzer reported average duration of addiction to be 6.1 years.<sup>27</sup>

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