

## PREVALENCE AND PATTERN OF ALCOHOL ABUSE IN A RURAL AREA OF PUNJAB

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**ABSTRACT: INTRODUCTION:** "Drug abuse" is defined as self-administration of a drug for non-medical reasons, in quantities and frequencies which may impair an individual's ability to function effectively and which may result in social, physical, or emotional harm. About 190 million people all over the world consume one drug or the other. Drug abuse causes immense human distress and the illegal production and distribution of drugs have spawned crime and violence worldwide. According to World Drug Report (2009) there were 25,71,52,582 alcohol users, alcohol dependents were 8,22,88,826. Cannabis users were 82,28,883 and Opiate users were 2,057,221 in India. Alcohol is one of the leading causes of death and disability globally. Overall, 3.5% of the global burden of disease is attributable to alcohol, which accounts for as much death and disability as tobacco and hypertension. As lot of changes have occurred in the last two decades and variations in consumption patterns is present in different regions, thus the findings of studies conducted earlier and at distant places may not be of much interest in the present scenario. Hence the present study was carried out to assess the prevalence and pattern of alcohol abuse in a rural area of Ludhiana, Punjab. **OBJECTIVES:** a) To find out the prevalence of alcohol abuse in a rural area of Punjab; b) To assess pattern of alcohol abuse in a rural area of Punjab. **MATERIALS AND METHODS:** Community based cross-sectional study done in the field practice area of Department of Community Medicine, Dayanand Medical College and Hospital, Ludhiana (i.e. Rural Health Training Center (RHTC) located at village Pohir, Block Dehlon, District Ludhiana, Punjab). One thousand seven hundred thirty two study subjects of fifteen years and above were part of study. Primary tools in this study were predesigned and pretested interview schedule and Alcohol, Smoking and Substance Involvement Screening Test V3 (ASSIST V3) questioner, to collect individual information personally in local language. Study subjects were selected from sample frame of 15 villages by probability proportion to sampling size technique. The statistical analysis was performed by using Microsoft excel and Epi Info. **RESULTS:** In present study 93.18% individuals of the total cases surveyed had used alcohol during the past 12 months. **CONCLUSION:** Age at first alcohol use was 15-44 (99.78%) years, whereas 3.77% used alcohol before age of 15 years. This study reflects the need to intensify efforts at the community level to protect productive age group from the evil of alcohol abuse.

**KEYWORDS:** Alcohol Abuse, Cross-sectional study.

**INTRODUCTION:** "Drug abuse" is defined as self-administration of a drug for non-medical reasons, in quantities and frequencies which may impair an individual's ability to function effectively and which may result in social, physical, or emotional harm.<sup>(1)</sup> About 190 million people all over the world consume one drug or the other. Drug abuse causes immense human distress and the illegal production and distribution of drugs have spawned crime and violence worldwide. Today, there is no

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part of the world that is free from the curse of drug trafficking and drug abuse.<sup>(2)</sup> Drug abuse and drug dependence is showing an increasing trend. As a developing country, India is very much in the phase of these processes and the trends of drug abuse and dependence need to be watched.<sup>(3)</sup> According to World Drug Report (2009) there were 25,71,52582 alcohol users, alcohol dependents were 8,22,88826. Cannabis users were 82,28,883 and Opiate users were 2,057,221 in India.<sup>(4)</sup>

Alcohol is one of the leading causes of death and disability globally. Overall, 3.5% of the global burden of disease is attributable to alcohol, which accounts for as much death and disability as tobacco and hypertension.<sup>(5,6)</sup> About two billion people worldwide consume alcoholic beverages and one-third (nearly 76.3 million) is likely to have one or more diagnosable alcohol use disorders.<sup>(7)</sup> Alcohol is attributed to nearly 3.2% of all deaths and results in a loss of 4% of total DALYs (58 million).<sup>(8)</sup> It is acknowledged that countries which had low alcohol consumption levels are now witnessing an increasing consumption pattern.<sup>(7)</sup> WHO estimates for the South East Asian countries indicate that one-fourth to one-third of male population drink alcohol<sup>(9)</sup> with increasing trends among women.<sup>(10)</sup>

Although the recorded alcohol consumption per capita has fallen since 1980 in most developed countries, it has risen steadily in developing countries, alarmingly so in India. The per capita consumption of alcohol by adults<sup>(5)</sup> 15 years in India increased by 106.7% between 1970–72 and 1994–96!<sup>(11)</sup> The pattern of drinking in India has changed from occasional and ritualistic use to social use. Today, the common purpose of consuming alcohol is to get drunk.<sup>(12)</sup> These developments have raised concerns about the health and the social consequences of excessive drinking.<sup>(13)</sup> The problem in recent times has assumed dangerous proportions. Among young people, the alcohol abuse has become more or less a part of their subculture. Millions of drug addicts, all over the world, are leading miserable lives, between life and death.<sup>(14)</sup>

In India, the estimated numbers of alcohol users in 2005 were 62.5 million, with 17.4% of them (10.6 million) being dependant users<sup>(15)</sup> and 20-30% of hospital admissions are due to alcohol-related problems. <sup>(16)</sup> Few studies have documented the pattern and profile of alcohol use and its impact in hospital- and population-based settings.<sup>(17),(18)</sup>

As lot of changes have occurred in the last two decades and variations in consumption patterns is present in different regions, thus the findings of studies conducted earlier and at distant places may not be of much interest in the present scenario. Hence the present study was carried out to assess the prevalence and pattern of alcohol abuse in a rural area of Ludhiana, Punjab.

### **MATERIALS AND METHODS:**

**AIMS & OBJECTIVES:** To assess the prevalence of alcohol abuse in a rural area of Punjab and to study the pattern of alcohol abuse in a rural area of Punjab.

**STUDY DESIGN:** Community based cross- sectional study.

**SETTING:** Rural field practice area (Pohir) of Department of Community Medicine, Dayanand Medical College and Hospital, Ludhiana, Punjab.<sup>(19)</sup>

**PARTICIPANTS:** Individuals aged 15 years and above residing in selected house-holds.

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**SAMPLE SIZE ESTIMATION:** Sample size estimation was done on the basis of prevalence of substance abuse. As per literature search and a pilot study conducted in the field practice area of Department of Community Medicine, Dayanand Medical College and Hospital, Ludhiana, prevalence of substance abuse ranged from 5 -54%. Thus taking a middle course of 32% prevalence and 10% of permissible level of error sample size was calculated as 850. Overall 1732 study subjects were included in this study.

For selection of study subjects field practice area was stratified into 5 strata on the basis of socio economic status as per Udai Pareek Classification.<sup>(20)</sup> The required study subjects were selected adopting probability proportion to sampling size technique.

In order to get required study subjects (1732) simple random sampling was done.

**TOOLS AND TECHNIQUE:** Subjects were interviewed personally in local language through oral questionnaire method and desired information was collected on pre-designed, pre-tested interview schedule and ASSIST V3.0.<sup>(21)</sup>

The data collected were tabulated and analyzed. The statistical analysis was performed by using Microsoft excel and Epi Info.

### OBSERVATIONS:

Socio-Economic status group	Number of subjects	Percentage (%)
High	90	5.20
High middle	608	35.10
Middle	574	33.14
Lower Middle	426	24.60
Lower	34	1.96
Total	1732	100

**Table 1: Distribution of study subjects according to their socio economic status**

Substances ever used	Number	(N=1732)
		Percentage
No	1198	69.17
Yes	534	30.83

**Table 2: Prevalence of substance ever used**

Substance used	Number	(N=1732)
		Percentage
No	1248	72.05
Yes	484	27.95

**Table 3: Prevalence of substance abuse\* in past 12 months**

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Sl. No	Age (years)	NUMBER	Prevalence of substance abuse (%)	Alcohol abuse in past 12 months (%)
1	15-24	453 (100)	55 (100) (12.14)	48 (87.27)
2	25-34	359 (100)	100 (100) (27.86)	96 (96.00)
3	35-44	298 (100)	99 (100) (33.22)	90 (90.91)
4	45-54	251 (100)	96(100) (38.25)	89 (92.71)
5	55-64	193 (100)	65(100) (33.68)	61 (93.84)
6	≥ 65	178 (100)	69(100) (38.76)	67 (97.10)
<b>Total</b>	<b>1732 (100)</b>	<b>484(100) (27.95)</b>	<b>451 (93.18)</b>	

**Table 4: AGE WISE DISTRIBUTION OF SUBSTANCE ABUSE**

Figures in the parentheses indicate percentage.

Sl. No	Age (years)	Gender	NUMBER (%)	Prevalence of substance abuse	Alcohol abuse in past 12 months		
				<b>Total</b>	<b>Number</b>	<b>Percentage</b>	
1	15-24	MALE	259 (100)	<b>55</b>	49	18.92	46(93.88)
		FEMALE	194 (100)		6	3.09	2(33.34)
2	25-34	MALE	196 (100)	<b>100</b>	99	50.51	96(96.97)
		FEMALE	163 (100)		1	0.61	0
3	35-44	MALE	141 (100)	<b>99</b>	97	68.79	90(92.78)
		FEMALE	157 (100)		2	1.27	0
4	45-54	MALE	135 (100)	<b>96</b>	94	69.63	89(94.68)
		FEMALE	116 (100)		2	1.72	0
5	55-64	MALE	93 (100)	<b>65</b>	64	68.82	61(95.31)
		FEMALE	100 (100)		1	1.00	0
6	≥ 65	MALE	99 (100)	<b>69</b>	69	69.70	67(97.10)
		FEMALE	79 (100)		0	0	0
<b>Total</b>		<b>923 (100)</b>	<b>484</b>	<b>472 12</b>	<b>51.14 1.48</b>	<b>451(93.18) (16.67)</b>	
		<b>809 (100)</b>					

**Table 5: Age and Gender Wise Distribution of Substance Abuse**

Figures in the parentheses indicate percentage.

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Religion	Prevalence		Pattern of Substances used in past 12 months
	Number	Percentage	Alcohol
Hindu (n=146)	43	29.45	39(90.69)
Sikh (n=1534)	429	27.97	405(94.41)
Muslim (n=30)	4	13.33	0 (0.00)
Others (n=22)	8	36.36	7 (87.50)

**Table 6: Religion wise prevalence and pattern of substance abuse in past 12 months**

Figures in the parentheses indicate percentage

Caste	Prevalence		Pattern of Substances used in past 12 months
	Number	Percentage	Alcohol
Schedule caste (n=682)	210	30.79	194(92.38)
Non schedule caste (n=1050)	274	26.10	257(93.79)

**Table 7: Caste wise prevalence and pattern of drug abuse in past 12 months**

Figures in the parentheses indicate percentage.

Nativity	Prevalence		Pattern of Substances used in past 12 months
	Number	Percentage	Alcohol
Punjabi (n=1703)	475	27.89	445(93.68)
Non Punjabi (n=29)	9	31.03	6 (66.67)

**Table 8: Nativity wise prevalence and pattern of drug abuse in past 12 months**

Figures in the parentheses indicate percentage.

**RESULTS:** Increasing trend in prevalence of alcohol abuse was seen from 15 to 65 years of age. Males were predominately abusing alcohol. Religion wise cases of Sikhs community were 94.41%. Approximately same figures of prevalence was found (92.38%) in schedule caste and (93.79%) in non-schedule caste.

The maximum number of cases (93.68%) were Punjabi by nativity. It was observed that 93.73% cases were married. Out of 451 cases, 63.83% cases were having primary education, followed by cases having no education (20.39%). Majority (43.68%) of cases were laborers. Considerable number (64.08%) belonged to family income of Rs1001-10000. Age of initiation of alcohol abuse was

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maximum (82.26%) in age group of 15-24 i.e productive age group. Friends as company of initiation of alcohol abuse were 79.16%. For initiation of alcohol abuse 26.39% cases who wanted to start with alcohol, followed by peer pressure accounted for 21.96% cases and 12.41% cases tried out of curiosity. Majority (62.31%) had no awareness regarding harmful effects of alcohol abuse.

**DISCUSSION:** The prevalence of ever user (Table 2) in present study was found to be 30.83%. The prevalence of substance abuse in other studies conducted at different places in India has been reported in the range of 5 to 54%. In a study conducted in Agra by Dube and Handa (1971) on drug use in Indian population, higher prevalence rate of drug use (50.08%) was found<sup>(22)</sup>. Another study done by Meena et al in 2002 in Rohtak city studied Prevalence and pattern of alcohol and substance abuse in urban areas and reported a prevalence rate of 19.78%<sup>(23)</sup>. Naskar et al in 2004 studied some socio economic factors on drug abuse among the undergraduate medical students in Calcutta, and found prevalence of total drug abusers was 48.9%<sup>(24)</sup>. Another study conducted by Juyal et al (2006) on substance use among intercollege students in Dehradun reported the prevalence of substance abuse forever users as 58.7%.<sup>(25)</sup> Similar higher percentage (43.4%) of substance abuse was reported in 2008 by Sarangi et al in their study on substance abuse among adolescents in urban slums of Sambalpur.<sup>(26)</sup>

In the present study 27.95% had used one or the other substance during the past 12 months (Table 3). Similar findings (27.9%) has been reported by Naskar et al (2004),<sup>(24)</sup> whereas the rate of regular use of substances was found to be 31.3 % by Juyal et al (2006).<sup>(25)</sup> Comparatively lower prevalence (18.3%) was reported in a study conducted by Dube et al (1978), amongst college students.<sup>(27)</sup> Sethi and Manchanda (1978) studied Pattern of drug abuse among male students in Lucknow and categorized 11.5% students as 'drug abusers'.<sup>(28)</sup> Study conducted in Punjab by Singh (1978) on drug abuse prevention with special reference to alcohol use reported drug abuse for current users as 20.4%.<sup>(29)</sup> 21.4% drug abusers were reported by Sethi and Trivedi in 1979 in a study on drug abuse in rural population of Bantra (Lucknow).<sup>(30)</sup> In the study conducted by Meena et al (2002) in urban areas of Rohtak city, prevalence rate of 19.78% was reported.<sup>(23)</sup>

There were 484 cases who were consuming one or the other substance, out of which 93.18% cases were consuming alcohol (Table 4). Bhalla et al in 2006 studied profile of substance abusers using the emergency services in a tertiary care hospital in Sikkim and found alcohol abusers were 77.8%, cannabis 5.6%, heroin 1.97% and other opioid abusers 14.8%.<sup>(31)</sup>

In present study (Table 5) it was observed that out of 1732 subjects, economically productive age group i.e. 25-54 years comprised of 908 subjects and among them prevalence of substance abuse was found to be 32.49%, whereas a higher prevalence (38.76%) was observed in the older age group of 65 years and above. It was observed that with increase in age of study group there is gradual increase in prevalence of substance abuse. The pattern of consumption of substance abuse indicates that alcohol was being most commonly consumed in all the age groups followed by tobacco, opioids and cannabis. A study done by Meena et al (2002) in urban areas of Rohtak city observed that 42.41% of users were in the age group of 25-34 years<sup>(24)</sup>. Singh et al (2004) in a comparative study of prevalence in urban and rural area of Amritsar reported that percentage of the regular users in age bracket of 40-49 years and 50-59 years were 26.3% and 71.4% respectively. In Urban area 87.5% of users and in rural area 82.9% of users were consuming alcohol daily.<sup>(32)</sup> Mohan et al (2004) in study conducted at de-addiction Clinic in a Psychiatric Hospital Jammu, found 59% of the users belonged to

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20-30 yrs of age group and 25% belonged to 30-40 yrs age group.<sup>(33)</sup> Shastri and Kolhatkar (1989) studied socio-demographic features of cannabis and heroin abuse in Bombay and revealed that Seventy-two percent of addicts belonged to the age group of 20-24 years.<sup>(34)</sup> In 2008 Sarangi et al conducted a study among adolescents in urban slums of Sambalpur and found prevalence to be 55.2% in the 16–19 years of age group. <sup>(26)</sup>

**CONCLUSION:** Age at first alcohol use was 15-44 (99.78%) years, whereas 3.77% used alcohol before age of 15years. This study reflects the need to intensify efforts at the community level to protect productive age group from the evil of alcohol abuse.

**LIMITATIONS:** The study is based on interview of the respondent, so misreporting due to recall bias, local customs and taboos could not be ruled out.

**RECOMMENDATIONS:** Awareness levels were observed to be less among cases. Information, education and communication programs with aid of folk media i.e. story-telling, puppetry, drama should be planned.

With the help of NGO's, community leaders, religious leaders, community and medical personnel's efforts should be made for reducing the availability and consumption of alcohol and launching an effective education and information programme for high lighting the harmful effects of alcohol and measures for its control.

The younger generation (productive age group) should be specially targeted, who may be the future alcohol abusers.

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