

EXTENT AND PATTERN OF ALCOHOL USE AND ALCOHOL-RELATED PROBLEMS IN NORTH INDIA*

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SUMMARY

A structured questionnaire was verbally administered individually to a random sample of the general population, 18 years of age and older, of rural and urban Chandigarh and of two villages in Jullundur district, Punjab. Out of a total of 1031 respondents, 23.7 per cent were current users, 16.0 per cent admitted of alcohol use in the past but were not current users, and 60.3 per cent had never had alcoholic beverages. 19.0 per cent of Chandigarh urban sample, 31.4 per cent of Chandigarh rural sample and 45.9 per cent of Jullundur rural sample were current users. These findings have been discussed in terms of various socio-demographic variables

Alcohol and alcohol use have had a long history in India. There are copious references to alcoholic beverages in the ancient Indian scriptures and epics, including the Puranas, Manusmriti, and Mahabharata.

However, reliable information on the extent of alcohol use in India at different times is almost non-existent. Much of the information available is based on indirect data. The East India Company introduced in 1790, for the first time, excise duty on alcohol as a regular source of revenue. The excise system has been the single most important source of indirect data. After Independence, Prohibition Enquiry Committee (1955), and the Study team on Prohibition (1964) in their reports have drawn on indirect sources of information reflecting alcohol use in India, including per capita expenditure on alcoholic beverages. Direct data based on epidemiological study of alcohol use have been very few and

very recent. Dube and Handa (1969) reported that 0.77 per cent out of 29,468 in general population habitually used alcohol. Deb and Jindal (1974) in a study of pattern of alcohol use in villages in Ludhiana district of Punjab found that 74.1 per cent of adult males used alcohol. Lal and Singh (1978) in a study of a village in Sangrur district of Punjab reported that 49.6 per cent of males, 15 years of age and older, were alcohol users. Sethi and Trivedi (1979) in a survey in a rural area adjoining Lucknow found that 32.1 per cent of males above 10 years of age and none of the females indulged in alcohol with a frequency of at least once a month.

As can be seen, the reported literature is very meagre and details of the pattern of alcohol use, for example, the frequency and quantity of intake, the beverage used, the setting of alcohol use, etc. have hardly been reported. This prompted us to conduct the present study.

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AIMS

1. To ascertain the extent and pattern of alcohol use in urban and rural populations of the Union Territory Chandigarh and rural Punjab.

2. To study the socio-demographic correlates to alcohol use.

3. To study the alcohol-related medical, social and psychological problems.

MATERIAL AND METHOD

The present survey was conducted in 1977 and 1978, on the following samples :

- (1) A stratified random sample of the city of Chandigarh was selected using average plot size of sectors as the basis for stratification. Eight sectors were thus selected randomly equitably representing the various class intervals. From the selected sectors, every 16th house was selected, selecting the first house randomly. In the selected houses, all residents 18 years and older were included in the study. In this fashion 1815 respondents were selected from 8 sectors.
- (2) Three villages were randomly selected out of 28 villages in the Union Territory of Chandigarh. In the selected villages, again every 16th house was selected and all individuals in those houses, 18 years of age and above, were studied as above. 70 respondents were studied from the villages.
- (3) Two villages near the city of Jullundur were arbitrarily picked up. The selection of houses and residents was carried out in a similar fashion in these villages. This contributed 146 respondents to the study.

A structured questionnaire was verbally administered to each respondent individually. The respondents were reassured of confidentiality of the response. In

addition to socio-demographic variables, the questions inquired into the extent and pattern of alcohol use and alcohol-related problems or features suggestive thereof.

The data were analysed to ascertain the proportion of those who have had a drink in the past 12 months (current users), those who have had a drink in the past but not in the last 12 months (ever used), and those who have never had a drink (never used), age at onset of alcohol use, the kind of beverage used (beer, country liquor, distilled, English liquor meaning thereby Indian-made-foreign-liquor, i.e. whisky, rum gin, vodka or brandy), the frequency and quantity of use, the place where drinking usually occurs, and a number of questions to tap out the possible indications or alcohol-related problems during the preceding 12 months. The type of alcoholic beverages used, quantity and frequency of intake were studied by asking them to give a detailed account of every occasion drinking took place in the seven preceding days (where no drinking took place in seven preceding days, they were asked to give details of drinking over the preceding 30 days, failing that also, of the preceding 12 months). In addition, the relationship between these and the socio-demographic variables was studied by means of Chi-square tests to ascertain the significance of differences.

Out of a total of 1031 subjects, 60.3 per cent had never had any alcoholic beverages (more than a sip) in their life time never used, 16.0 per cent had had a alcoholic beverages in the past but none in the preceding 12 months (ever used), and 23.7 per cent had had alcoholic beverages in the preceding 12 months (current users). The percentage of current users was 41.0 for males (34.0 per cent of Chandigarh urban males, 40.7 per cent of Chandigarh rural males and 75.0 per cent of Jullundur rural males) and 2.0 per cent for females.

The three samples differed significantly from each other in relative proportion of

RESULTS

TABLE I—Prevalence of alcohol use and its relationship with socio-economic variables

	N	CU	EU	NU
Total	1031	23.7	16.0	60.3
Chandigarh urban	815	19.0	18.7	62.3
Chandigarh rural	70	31.4	12.9	55.7
Jullundur rural	146	45.9	2.0	52.1
		$X^2=64.16^{**}$		
Age (in years)				
18-30	460	21.7	14.8	63.5
31-50	369	29.0	13.5	57.5
51+	202	18.3	23.3	58.4
		$X^2=17.46^{**}$		
Sex—				
Male	573	41.0	23.7	35.3
Female	458	2.0	6.3	91.7
		$X^2=399.79^{**}$		
Marital status				
Never married	270	20.7	16.7	62.6
Ever married	760	24.7	15.8	59.5
		$X^2=1.73$, N.S.		
Education (number of years of schooling)				
0-8 years	380	22.6	9.5	67.9
9-12 years	350	24.0	14.0	62.0
13+ years	299	24.7	26.8	48.5
		$X^2=43.59^{**}$		
Occupation :				
1. Professionals and semi-professionals.	112	37.5	20.5	42.0
2. Medium and small farm owners, businessmen, clerks, tech. and class III employees.	260	39.2	24.6	36.2
3. Skilled, semi-skilled and un-skilled workers.	140	49.5	15.0	35.7
4. Housewives, retired and unemployed	419	4.8	9.1	86.1
5. Students	100	11.0	19.0	70.0
		$X^2=410.50^{**}$		
Religion :				
Hindus	511	18.6	14.5	66.9
Sikhs	472	28.6	18.2	53.2
Others	48	29.2	10.4	60.4
		$X^2=17.41^{**}$		

Family type

Nuclear	518	24.1	15.0	60.9
Extended and joint	513	23.2	17.0	59.8
		$X^2=0.72$, N.S.		

CU=current users. Had a 'drink' in the last 12 months.

EU=ever used. Had an alcoholic beverage (more than a slip) ever in life time, but none in the last 12 months.

NU=never used. No history of any alcoholic beverage intake.

figures indicate the percentage of the row total.

* $p < .05$ ** $p < .01$

current users, those who had ever used and those who had never used alcohol; so did the two sexes, and the different age, educational, occupational and religious categories. The proportion of current users was greater in rural samples, in age group 31-50 years, in males, in skilled, semi-skilled and unskilled workers and in non-Hindus. A larger proportion of those with higher educational levels had "ever used" alcoholic beverages. Greater proportion of older age group (51+ years) and the higher occupational levels (professionals, semi-professionals, farm owners, businessmen and class II and III workers) who had earlier had alcoholic beverages did not have any in the preceding 12 months.

Table 2.—Age of onset in years

(Percentage of total current users)

N=244

Age of onset in years	Percentage
11-14	15.2
15-17	24.6
18-21	38.5
22-25	14.3
26+	7.4

Majority (78.3 per cent) of current users had started alcohol intake by the time they were twenty-one years of age.

Table 3—Type of beverage used in the preceding week/month/year

	N	Beer only	English liquor with or without beer	Country liquor with or without beer	Other combinations@
Total	244	32.8	32.4	33.6	1.2
Chandigarh urban	155	40.6	36.8	21.9	0.6
Chandigarh rural	22	9.1	22.7	68.2	0.0
Jullundur rural	67	22.4*	25.4	49.3	3.0
		$X^2=30.46^{**}$			
Age (in yrs).					
18-30	100	38.0	32.0	29.0	1.0
31-50	107	33.6	33.6	30.8	1.9
51*	37	16.2	29.7	54.1	0.0
		$X^2=9.46$ N.S.			
Marital status					
Never married	56	41.1	46.4	12.5	0.0
Ever married	188	30.3	28.2	39.9	1.6
		$X^2=15.44^*$			
Occupation—					
1. Professional and semi-professionals	42	33.8	54.8	11.9	0.0
2. Medium and small farm owners, businessmen, clerks, tech. and class III employees.	102	35.3	35.3	26.5	2.9
3. Skilled, semi-skilled and unskilled workers	69	21.7	14.5	63.8	0.0
4. Housewives, retired unemployed and students	31	48.4	32.3	19.3	0.0
		$X^2=46.07^{**}$			
Religion—					
Hindus	95	38.9	33.7	26.3	1.1
Sikhs	135	30.4	31.9	36.3	1.5
Others@	14	14.3	28.6	57.1	0.0
		$X^2=2.99$ N. S.			

@Excluded from X^2 analysis * $p < .05$ ** $p < .01$

1 Seventy five had used only English liquor, 4 had used beer also.

* All the 82 had used country liquor only (Figures indicate percentage of the row total)

As regards beverages used, the current users could be easily divided into three groups. 80 reported using only beer, 82 only country liquor, whereas 79 (4 in conjunction with beer) primarily English liquor. There was no significant difference between the various age groups and the two religions in the preference for the beverage type. How-

ever, use of country liquor was significantly greater in rural groups, in the married and in lower occupational categories and that of English liquor among the professionals and semi-professionals. The differences between the sexes on this variable were not analysed as very few (9) of females were current users.

Table 4—Where does drinking take place?
(Percentage of total current users)
N=244

	Mostly at—	Also at—	Never at—
Home	63.5	22.6	15.6
At or near liquor shops	4.1	5.7	59.8
Restaurants	1.2	7.8	9.0
Friend's houses	15.6	38.9	3.3
Equally at own and friends' homes.	9.4	3.3	..
Social clubs	2.0	11.1	8.2
Other places	3.3	5.7	..
Social festivals, occasions only.	0.8
No other place	4.9 11.1

The subjects were asked where did they mostly drink, where else they drank and where they never drank. The results indicate that most of them drank at their own or at their friend's homes. 63.5 per cent of current users drank mostly at their own home and 22.6 per cent whose primary venue was elsewhere also drank at home. Similarly, 38.9 per cent who primarily drank elsewhere also drank at their friends' houses. On the other hand, very few reported drinking at or near liquor shops, in restaurants and clubs, etc. The questionnaire contained one separate response category to elicit drinking on social festivals and occasions only. However, only two (0.8 per cent) reported that this applied to them.

Of the current users, 15.9 per cent consumed equivalent of 1-4 pegs* in the last 12 months, 3.3 per cent 5-11 pegs in the last 12 months, 33.6 per cent 1-4 pegs in the last months, 44.3 per cent 1-4 pegs per week and 2.9 per cent more than 4 pegs per week.

There was no significant relationship between the quantity consumed and the socio-demographic variables.

Relatively few of the current users presented with any alcohol-related problems

or features suggestive thereof. 24.6 per cent drank alone, 18.4 per cent reported dizziness, 19.7 per cent were criticised for drinking, and 17.6 per cent were advised by others to reduce drinking. 15.5 per cent reported drinking during day time/all times and 12.7 per cent had arguments with family/friends. 12.3 per cent became nauseated, 14.3 per cent vomitted, 10.7 per cent had speech problems and 12.7 per cent became ataxic. However, serious problems like trouble in job (2.9 per cent), physical (3.3 per cent) or psychological (1.6 per cent) illness due to drinking, trouble with police (1.2 per cent), remaining intoxicated for 48 hours or more at a time (6.6 per cent); having to have a morning drink to steady nerves (1.6 per cent), actual physical fights (4.1 per cent) and inability to work (4.1 per cent) were relatively less common amongst current users. Only one (0.4 per cent) had ever tried to receive treatment for alcohol-related problems.

DISCUSSION

The present study was based on a representative random sample of the entire adult population of Union Territory of Chandigarh, both rural and urban. Such studies covering a definite and relatively populous general population in India have been few in the reported literature. In our study we found that 23.7 per cent of the sample were current users. However, the current use prevalence went up to 41.0 per cent in case of adult males. This figure of 41.0 per cent compares favourably with the figures reported by Deb and Jindal (1974), Lal and Singh (1978) and Sethi and Trivedi (1979).

The finding of higher proportion of current users in the two rural groups was rather surprising. The figure of 75.0 per cent for Jullundur rural males compares very closely with the figure of 74.1 per cent reported by Deb and Jindal (1974) for adult males in rural Ludhiana. Our figure

*1 peg=50 ml of spirits or 325 ml of beer.

for rural Jullundur may be open to criticism that it is based on the survey of two villages arbitrarily chosen. However, within the Union Territory of Chandigarh itself, there was a considerable difference in percentage of current users between urban and rural groups, although both were randomly chosen. This finding lends some support to the oft-expressed comment that increasing alcohol use may be associated with the green revolution causing rural affluence. As alcohol use may be really greater in rural areas, at least in Punjab, preventive and therapeutic efforts should also take it into account.

One other interesting difference between the urban and the rural groups was that the proportion of past users who have now discontinued the use was much lower in the rural group (18.7 per cent in urban Chandigarh as opposed to 12.9 per cent in rural Chandigarh and only 2.0 per cent in rural Jullundur). This may suggest that the start of alcohol use may indicate the beginning of a more sustained use pattern in rural areas with fewer drop-outs and fewer experimental users.

The present study was based on individual verbal administration of a structured questionnaire. Although the questionnaire was derived from various national and international sources, it was adapted to suit our situation. There is a considerable need in our country to improve the methodology of drug and alcohol surveys to include more representative sampling and rigorous method of data collection. One noteworthy feature of the present survey was, that to ascertain the beverage preference and frequency and quantity of intake, the respondents were asked to recount all the drinking they had done in the immediate preceding seven days (in case of those who had not had any drinks in the preceding seven days, they were asked to recount for the preceding 30 days, failing which again for the preceding 12 months). As is well known, people have a very 'ques-

tionable' memory and perception of their general quantity and frequency of drug and alcohol use. By asking to recount such use over a clearly defined period of time, greater reliability can be achieved in the prevalence figures.

In assessing the relationship between alcohol use and socio-economic variables, the current use was found to be greater in rural subjects, the middle age group (31-50 years), males, Sikhs, those with higher education and amongst workers. Greater use in males has been reported for most dependence-producing drugs and has been adequately discussed in the literature. As to the age, we found that a greater proportion of those above 51 years of age admitted of use in the past, but were not current users. The same applies to the higher educational and occupational levels. It is quite possible that ever-use increases with age but a proportion of them revert to the abstinent status with time. It is possible that these variables of older age and higher educational and occupational status were inter-related to each other.

Surprisingly, we found that the use had started by the age of 21 years in the overwhelming majority of the cases. This can be taken to be a cause for concern. People who have started use at such early years may gradually develop into problem-drinkers and alcoholics with passage of time.

There was a significant relationship between the beverage choice and socio-economic status. It is quite understandable that people from the lower socio-economic status would use the cheaper beverage, i.e. country liquor as compared to those from higher status. The use of country liquor was also much greater in rural subjects and those married. A greater proportion of students used beer which is again understandable in the sense that the students would be experimenting with a lighter beverage. It may be that beer drinking may not be looked upon by the people as such an indicator of alcohol use in general and may

thus be resorted to more casually.

We found that drinking took place mostly at peoples' own homes or their friends' homes. The stereotype of drinking at liquor shops, clubs, restaurants or at social festivals was not supported by the stated responses of the subjects.

Of the quantity and frequency of drinking, 47.2 per cent of current users reported of one or more pegs per week. They can possibly be taken as regular users. People consuming one or more pegs per week thus represented 11.2 per cent of the total subjects.

As compared to the situation in the Western countries, serious alcohol-related problems were reported by relatively fewer current users. Although this finding may be reassuring on the surface, it must be kept in mind that it takes 10 to 20 years of periodic alcohol use for a person to develop alcoholism. If the indirect data are any indicator, alcohol use has sky-rocketed in our country since Independence. It is quite possible that a considerable percentage of those who are social drinkers currently will present serious alcohol-related problems or alcoholism in the near future.

There is clearly need to augment the available data on prevalence of alcohol use in our country. Such data should ideally be based on representative sample covering large geographic areas and hopefully entire states and possibly even the entire country. Indirect figures, although valuable, are not adequate.

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