PREVALENCE AND PATTERN OF SUBSTANCE ABUSE AT BANDARDEWA, A BORDER AREA OF ASSAM AND ARUNACHAL PRADESH

N.C. HAZARIKA, D. BISWAS, R.K. PHUKAN, D. HAZARIKA & J. MAHANTA

ABSTRACT

A total of 312 persons aged 10 years and above were interviewed to collect information about their habits of taking tobacco, alcohol and other substances. The study reveals that 40.4% of the respondents used tobacco irrespective of their using pattern, with significant difference between sexes (p<0.001). Among tobacco users 58.2% were only tobacco chewers, 26.3% were smokers and 15% of them were practicing both the modes. 61.4% among housewives were tobacco users. Prevalence of alcohol use was 36.5% among the respondents. Alcohol use among males (39.5%) was slightly higher than females (32.6%). A significant association of alcohol users (p<0.01) was observed with level of educational status. 3.4% of the study population were found to be habituated with substance abuse other than tobacco and alcohol. Percentage of injecting drug users was found to be 1.28%. A very small number (0.64%) was also found to be addicted to petrol inhalation.

Key words: Substance abuse, prevalence and pattern

Global trade and liberalisation of socio-cultural interaction of the society have made easy access to use and spread of Narcotic substances (Murray & Lopez, 1997). Progressive increase of substance abuse in the developing countries not only adds to the increasing morbidity pattern but has been forming a nidus for several dreaded infection of recent times (Neuweark & Anthony, 1997). It has been found in studies from different countries that geographical distribution of drug abuse correlated well with the availability of drugs (Gossop & Grant, 1990). North Eastern states of India bordering Myanmar have experienced high prevalence of substance abuse including injecting drug use. Out of the North Eastern States Manipur adjacent to the golden triangle has recorded a large number of injecting drug users with high positivity of HIV amongst Injecting Drug Users (IDU) (Panda et al., 1994). Seropositivity of HIV amongst injecting drug users in Mizoram and Nagaland has been showing an increasing trend (Hazarika et al., 1995). But it is observed that in Arunachal Pradesh, there has been no report of IDU in the state upto April, 1998 (State AIDS Cell, 1998). It may be mentioned that entry to the state of Arunachal Pradesh needs innerline permit. The fact cannot be denied that as Assam is the transit point for entry and exit of all the north eastern states access to drug availability in Arunachal Pradesh may become easier through some entry points to the state from Assam. The fallout of drug abuse should be more in the entry points. Keeping this view in mind the present study was planned at one of the main entry point of these two states.

MATERIAL AND METHOD

The present study was undertaken to determine the prevalence and pattern of substance abuse in a selected population of 10 years and above at 'Bandardewa', a newly emerging tiny commercial township in the
crossroad of exit from the state of Assam and
to the state of Arunachal Pradesh. This
place is inhabited by various ethnic group from
Assam and Arunachal Pradesh. Bandardewa is
 gaining its importance because it is one of
the main entry point to Arunachal Pradesh from
Assam and exchange of trade takes place in this
commercial township in between the two states.
This place is situated in National Highway No.52
at a distance of 186 km from Tezpur towards
west and 30 km from Lakhimpur, one of the major
town in the north bank of the river Brahmaputra
towards east. This junctional point Bandardewa
leads to the capital town Itanagar through
Naharlagun, another major town of Arunachal
Pradesh. These two towns are situated about
10 km inside Arunachal Pradesh from this place.

Sample size: Out of 300 household in the
township every 5th house was selected for the
study and persons of 10 years and above were
covered and were interviewed in a predesigned
pretested proforma.

Interview was carried out separately for
each person individually in a face to face manner
by two trained personnel. Substance abusers were
grouped as (1) current users who reported that
they were ever user who currently use everyday
or on some days and also presently using the
substance (Anonymous,1994); (2) ever users who
reported that they used previously but has left the
habit for more than one month to several years.

Data collected, compiled and were
analysed as per statistical norms. Chi-square test
was applied to observe the significance of
association between the variables.

RESULTS

The findings of the study are presented in
Table-1 and Table-2.

Out of 312 persons interviewed
prevalence of tobacco use was found in 40.4%,
of which 50.8 percent were found among males
and 28.7% were in females (p<001). Another
2.2% were ever users but has left the habit. Out
of the tobacco users 58.2% were tobacco
chewers, 26.3% were smokers and 15.5% were
practicing both chewing and smoking. No
significant association of tobacco use had been
observed with religion or marital status. It is
revealed from the study that literacy had no
impact on use of tobacco in the study population.
It was found that 61.4% of the housewives were
tobacco users followed by 44.9% of self
employed respondents (Table 1).

The study reveals that 36.5% among the
respondents were alcohol users. Alcohol use was
more (39.5%) in males as compared to females
(32.6%). Another 2.9% were ever users but has
left the habit. As regards to marital status alcohol
use was higher in unmarried than in married
respondents. But no significant association had
been observed among alcohol users with sex
and marital status. Unlike tobacco users literacy
had a strong impact on use of alcohol. Alcohol
users were found comparatively higher among
illiterate people (47.4%) followed by respondents
studying upto primary level (25.9%) and than
lower prevalence was found in respondents
studying upto secondary or higher level (p<.01).

Occupation wise, out of the respondents
employed in service, 53.3% were alcohol users,
followed by businessman (51%). Alcohol users
were also found among students (25%),
housewives (22.7%) and unemployed youths
(21.4%). Distribution of alcohol users according
to religious practices revealed that 41.3% of
alcohol users were Hindu followed by Christian
(16.0%) and Muslim (12.5%; p<-01) (Table-1).

Other substance abuse were found only
among males (3.4%). All of them were current
users Of these 1.28% were observed to be
injecting drug users and a small number (0.64%)
were found to be addicted to petrol inhalation.
rest of the substance abusers were found to be
habituated in taking antiallergic or sedative drugs
like phensedyl, diazepam etc (Table-1).

Distribution of substance abuse showed
an increasing trend with age (p<.001) - Table-2.
In case of other type of substance abuse a
relatively higher users (3.2%) had been observed
in adolescent group (10-19 years) followed by
3.1% in 20-29 years age group and 1.2% in 30-
39 years age group (Table-2).
TABLE 1
DISTRIBUTION OF SUBSTANCE USERS IN DIFFERENT SOCIODEMOGRAPHIC CLASS

| Variable          | No. of Respondents | Substance users (current) | Other drugs (%) |
|-------------------|--------------------|--------------------------|----------------|
|                   |                    | Tobacco                  | Alcohol        |                |
|                   |                    | (%)                      | (%)            | (%)            |
| Sex               |                    | 50.8                     | 39.5           | 3.4            |
| Male              | 177                |                          |                |                |
| Female            | 135                | 28.7                     | 32.6           |                |
| Chi-square        | 18.56 (p<.001)     |                          | .028 NS        |
| (Association)     | d.f.=1             |                          |                |
| Marital status    |                    |                          |                |                |
| Married           | 212                | 38.7                     | 34.9           | 1.9            |
| Unmarried         | 100                | 44.0                     | 40.0           | 2.0            |
| Chi-square        | .792 NS            |                          | .778 NS        |
| (Association)     | d.f.=1             |                          |                |
| Religion          |                    | 42.5                     | 41.3           | 1.2            |
| Hindu             | 254                |                          |                |                |
| Christian         | 50                 | 32.0                     | 15.0           | 4.0            |
| Muslim            | 8                  | 25.0                     | 12.5           | 12.5           |
| Chi-square        | 2.7 NS             |                          | 13.6 p<.01     | 6.7            |
| (Association)     | d.f.=2             |                          |                |
| Education         |                    | 40.0                     | 47.4           | 3.0            |
| Illiterate        | 135                |                          |                |                |
| Primary           | 69                 | 46.4                     | 28.9           | 2.9            |
| Middle            | 97                 | 38.1                     | 28.9           |                |
| Secondary & higher| 11                 | 27.3                     | 18.2           |                |
| Chi-square        | 2.03 NS            |                          | 12.62 p<.01    |
| (Association)     | d.f.=3             |                          |                |
| Occupation        |                    |                          |                |                |
| Student           | 52                 | 32.7                     | 25.0           | 5.8            |
| Unemployed        | 14                 | 28.6                     | 21.4           |                |
| Self-employed     | 69                 | 44.9                     | 30.4           | 4.3            |
| Employed          | 15                 | 26.7                     | 53.3           |                |
| House wife        | 44                 | 61.4                     | 22.7           |                |
| Business          | 98                 | 35.7                     | 51.0           |                |
| Cultivator        | 20                 | 40.0                     | 45.0           |                |
| Chi-square        | 13.83 (p<.05)      |                          | 5.56 NS        |
| (Association)     | d.f.=6             |                          |                |
| Total             | 312                | 126 (40.4%)              | 114 (36.5%)    | 6 (1.9%)       |

Most of the tobacco users (61.9%) started taking tobacco before the age of 20 years. The mean age at start of taking tobacco was 20.1 (sd=7.1) years. 49.1% of alcohol users started taking alcohol before they attained the age of 20 years and more than 50% of the users started taking alcohol after the age of 20 years. The mean age at start of taking alcohol use was 21.6 (sd=7.2) years. Substance abusers other than tobacco and alcohol started using drugs before 20 years of age. Duration of tobacco use in 50% of the respondents was 20 years or more. The mean duration of tobacco use of the users was found to be 18.9 (sd=6.9) years. Duration of alcohol use in 55.3% of the users was in between 10-19 years and 34.2% of the users had been using alcohol for more than 20 years. Mean duration of alcohol use was found to be 17.4 (sd=6.3) years (Table-2).

DISCUSSION

Prevalence of tobacco use was higher in males (50.8%) than females (26.7%). Tobacco
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### TABLE 2

SUBSTANCE USERS BY AGE, AGE AT START & DURATION OF USE

| Age group (years) | No. of Respondents | Tobacco (%) | Alcohol (%) | Drugs (%) |
|-------------------|--------------------|-------------|-------------|----------|
| 10-19             | 63                 | 14.3        | 4.8         | 3.2      |
| 20-29             | 95                 | 44.2        | 33.7        | 3.1      |
| 30-39             | 85                 | 45.9        | 42.3        | 1.2      |
| 40-49             | 33                 | 48.5        | 51.5        | --       |
| 50-59             | 22                 | 54.5        | 68.2        | --       |
| 60 & +            | 14                 | 57.1        | 78.6        | --       |

Chi-square (Association) |
- $23.83, \ p<.001$
- $52.33, \ p<.001$
- $d.f.=5$
- $d.f.=5$

### Duration of use

| Age at start | No. of Respondents | Tobacco (%) | Alcohol (%) | Drugs (%) |
|--------------|--------------------|-------------|-------------|----------|
| < 20 years   | 61.9               | 49.1        | 10.5        |          |
| 20-29 years  | 25.4               | 36.0        | 10.5        |          |
| 30 years & + | 12.7               | 14.9        | 10.5        |          |

Means±SD |
- $20.1±7.1$
- $21.6±7.2$

| Duration of use | No. of Respondents | Tobacco (%) | Alcohol (%) | Drugs (%) |
|-----------------|--------------------|-------------|-------------|----------|
| < 10 years      | 11.9               | 10.5        |            |          |
| 10-19 years     | 37.3               | 55.3        |            |          |
| 20 years & +    | 50.8               | 34.2        |            |          |

Means±SD |
- $18.9±6.9$
- $17.4±6.3$

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Use amongst males was high as reported in earlier studies from Arunachal Pradesh (Chaturvedi et al., 1997). Chewing (58.2%) was the mostly used mode amongst tobacco users. Prevalence pattern of tobacco users among housewives (61.4%) was higher than other respondents. Similar type of observation was made by Spangler et al. (1997). Literacy had no impact on use of tobacco by the respondents as revealed in the study.

Literacy had a direct impact on use of alcohol in the study population showing significant statistical association. Most of the alcohol users were either employed in service or holding petty business. This study revealed a definite association of use of alcohol with religion. Hindus were more addicted to alcohol than other religious groups. Results were similar to the findings of Seck et al. (1994).

Among the substance abusers alcohol and tobacco majority of the respondents were in the adolescent and younger group of people. All of the injecting drug users (1.28%) were found to be students. In our earlier study at Assam, Heroin users mostly injecting drug users were detected (studies on drug abuse pattern in Assam, India, unpublished data, Regional Medical Research Centre, N.E.Region, ICMR, Dibrugarh, 1993). Chaturvedi et al. (1997) has documented absence of injecting drug users in Changlang district of Arunachal Pradesh. So presence of 1.28% injecting drug users at border of these two states may suggest a lateral spread. Affinity towards inhalation of volatile substance - e.g. petrol though encountered in two of the respondents (0.64%) is a matter of serious concern as this type of behaviour leads to belligerent psychosocial behaviour and may even cause lead poisoning. This unique behaviour amongst them has been reported for the first time from this region. Pahwa et al. (1998) in a case report of petrol inhalation dependent reported violent and assaultive behaviour of a...
teenager of 13 years old who was addicted to inhalation of volatile substance - petrol and kerosene.

Mean age at start of taking tobacco and alcohol use was found to be 20.1 (±7.1) years and 21.6 (±7.2) years respectively. Mean duration of tobacco use by the users were 18.9 (±5.9) years and that of alcohol use mean duration of the users were found to be 17.4 (±6.3) years.

Inspite of some limitations, the study presents a variable picture of substance abuse at Bandardewa, the study area. While potential toxicity of excessive tobacco and alcohol use need not be elaborated, practicing of substance use other than these two in small number is quite alarming. Harmful effect on health from substance abuse in the area needs indepth study. Access to availability of narcotic substance and its spread should be checked in the entry points by creating awareness among people and implementing proper legislative measures.

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