



## Prevalence of Substance Abuse in Rishikesh: A Community Based Study

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## ABSTRACT

**Introduction:** There are various problem which have harmful impact on health, these problem are mainly behavioural with multi-functional causation. Amongst such problem, addiction of substance abuse is on rising trend, overall globally. The study conducted to determine the prevalence of substance abuse in the community.

**Methods:** A community based cross sectional study was conducted in Rishikesh Tehsil. People of age group between 15-60 years residing in study area were recruited as study participants. Total sample size covered in this study was 804. Since the population of urban and rural area is almost equal, so to get equal representative from urban and rural area, 402 study participant were selected from each strata as rural and urban area respectively. The validated interview schedule were then analysed using appropriate statistical techniques like percentage, chi-square test and p-value.

**Results:** overall prevalence of substance abuse was found to be 37.4% out of which the prevalence of current users was 31.34% respectively.

**Conclusion:** The study revealed that in spite of having strict law for prohibition of substance abuse, people are still addicted. There is a need to change either in law or in behaviour of people at large.

**Keywords:** Substance abuse, Prevalence, Alcohol, Tobacco.

## INTRODUCTION

It is oftenly said that any agent used in proper dose and dosage within pharmacological limit is drug, but if we consume it beyond the standard upper limit or pharmacological limit then it become harmful and shall be called as substance abuse. According to WHO, substance abuse refers to "the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs". WHO also quote the definition of DSM-4, as per DSM-4, psychoactive substance abuse- is defined as a maladaptive pattern of use indicated by continued use despite knowledge of having a persistent or recurrent social, occupational, psychological or physical problem that is caused by the substance

use.<sup>1</sup> Substance abuse differs from addiction. Addiction is a chronic disease similar to other chronic diseases such as type II diabetes, cancer, and cardiovascular disease. Substance abuse is a serious problem in modern times. Many people especially the younger generation are indulging in drug addiction. Substance abuse is leading to millions of illnesses and deaths across the world. Apart from having health hazards it also causes various social evils like criminal offenses, violence, child abuse, etc. Drug users apart from harming self also exhibit destructive behaviour by involving in antisocial activities. Tobacco is the most common form of substance abuse and alcohol is the second most common. In the current scenario substance abuse is a major public health problem that impacts society

at multiple levels. Every family and community directly or indirectly is affected by substance abuse and addiction. Substance abuse is a huge burden on our society. More than \$484 Billion per year is spent on substance abuse in USA, as compared to cost on diabetes (\$131.7) and cost on cancer (\$171.6) per year.<sup>2</sup>

## METHODS

A community based cross sectional study was conducted in Rishikesh Tehsil. People of age group between 15-60 years residing in study area were recruited as study participants. Study carried out over a period from April 2018 to November 2019 in Rishikesh of Dehradun district, Uttarakhand. Study was approved by institutional ethical committee. The sample size was calculated following the formula  $n = 4pq / L^2$ , taking into consideration the prevalence of substance use as 61% (according to Pal et al.<sup>3</sup>) with an allowable error of 5% and confidence interval of 95%. The calculated sample size was 366. A non-response rate of 10% was added to this, so the final sample size was 402. This was later adjusted for multistage stratified sampling i.e. Design effect of 2, so total sample size covered in this study was 804. Since the population of urban and rural area is almost equal, so to get equal representative from urban and rural area, 402 study participant were selected from each strata as rural and urban area respectively. Written informed consent was obtained from each participant. Standardized and validated interview schedule was used for data collection. Time taken for one interview was around 9 -10 minute for substance user and 4 to 5 minute for non-user. The data was entered into MS excel sheet 2013 and exported to IBM SPSS (statistical package for social sciences) version 23 for analysis. Association between substance use and sex of study participants was calculated by chi square statistics and its measure of association was calculated by odds ratio. P value less than 0.05 percent was considered statistically significant.

Population of 15-60 years age group of both sexes were included in the study. Subjects who were non-cooperative, mentally retarded, migrants or residing since less than one year or refused to participate were excluded from the study..

### Working definitions

**Ever user:** The respondents who accepts having a mention substance (explained in the operational definition 3) ever in life.

**Current user:** The respondent, who accepts having used a mentioned substance (explained in operational definition 3) in the past 3 months.

**Substance:** The substances included in the study were tobacco product, alcohol, cannabis, cocaine, amphetamine, inhalant, sedatives, hallucinogen heroin, opioid and other.

**Substance abuse:** Substance abuse refers to the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs.

## RESULT

A total of 804 study participants were enrolled for the study, 402 study participants from urban area and rural area each with 51% (410) male and 49% (394) female. The sociodemographic details are depicted in table.1 The mean age of study participants 38.71 yr (SD=13.45), the mean age of male and female study participants were 41.65 yr (SD=13.57) and 35.64 yr (SD=12.68) respectively.

**Table 1: Socio-demographic profile of study participants (N=804)**

| Variables                                   | Participants (%) |
|---|------------------|
| <b>Age group</b>                            |                  |
| 15-30                                       | 248 (30.84)      |
| 30-45                                       | 245 (30.47)      |
| 45-60                                       | 311 (38.68)      |
| <b>Gender</b>                               |                  |
| Male  | 410 (51)         |
| female                                      | 394 (49)         |
| <b>Graduation</b>                           |                  |
| Professional degree                         | 42 (5.22)        |
| Post graduate or graduate                   | 158 (19.65)      |
| Intermediate                                | 159 (19.77)      |
| <b>Educational Status</b>                   |                  |
| High school                                 | 149 (18.53)      |
| Middle school                               | 116 (14.42)      |
| Primary school                              | 79 (9.82)        |
| illiterate                                  | 101 (12.56)      |
| <b>Employment</b>                           |                  |
| employed                                    | 273 (33.95)      |
| unemployed                                  | 25 (3.1)         |
| <b>Occupation</b>                           |                  |
| studying                                    | 110 (13.68)      |
| retired                                     | 73 (9.07)        |
| homemaker                                   | 323 (40.17)      |
| Upper class                                 | 103 (12.81)      |
| <b>Socioeconomic Class(BG Prasad scale)</b> |                  |
| Upper middle class                          | 245 (30.47)      |
| Middle class                                | 347 (43.15)      |
| Lower middle class                          | 91 (11.31)       |
| Lower class                                 | 18 (2.23)        |

**Table 2: Distribution of study participants according to type of substance use. (N=804)**

| Type of substance | Place of residence |                | Total (804)(%) |
|-------------------|--------------------|----------------|----------------|
|                   | Rural (402)(%)     | Urban (402)(%) |                |
| Ever user         | 145 (36)           | 156 (38.8)     | 301 (37.4)     |
| Current user      | 131 (32.6)         | 121 (30)       | 252 (31.34)    |

**Table 3: Association between substance use and sex of study participants. (N=804)**

| Sex    | Total (N=804) (%) | Substance use (n=301) (%) | OR (CI)            |
|--------|-------------------|---------------------------|--------------------|
| Male   | 410 (50.9)        | 260 (63.4)                | 14.57 (9.98-21.26) |
| Female | 394 (49.5)        | 41 (10.4)                 | 1                  |

$\chi^2=241.042$ , Df=1, P value<0.0001,  
OR=Odds ratio, CI=confidence interval)

Prevalence of substance abuse was 37.4% in ever user and prevalence of substance abuse was 31.34% in current user prevalence of substance abuse in urban and rural area in current user was 30% and 32.6% respectively

Table- 3 shows the association between substance abuse and sex, 63.4% male was substance abuser and 10.45 female was substance abuser. This difference was found to be highly significant ( $p<0.0001$ ).

## DISCUSSION

In the present study, overall prevalence of substance abuse was found to be 37.4% out of which the prevalence of current users was 31.34% respectively. These findings are similar to the findings reported by **Prashant et al.**<sup>4</sup> (32.7%) in 2011 from Andhra Pradesh. Prevalence of current use of substance was found to be 32.34% in present study which was higher than the study conducted by **Dadwani et al.**(18.86 %) <sup>5</sup> In 2016 from Gujarat, **Meena et al.** (19.78%)<sup>6</sup> In 2002 from Rohtak city(Haryana). Prevalence of current users of the present study was lower than the study conducted by **Ranjan et al.** (49.7%)<sup>7</sup> Ranjan et al. has conducted his study in urban slum of Mumbai in 2010.

There are several study on substance use out of them majority of study were on adolescent. In present study, overall prevalence of current use of substance was 31.34 % (n= 252) among study participants. Finding of present study was accord with the finding of **Prateek et al.**<sup>8</sup> at Gujarat in 2019, in which they reported use of substance as 30.17%. In Uttarakhand (2007) **Juyal et al.**<sup>9</sup> reported prevalence of substance use was 31.3% among college going student, which is comparable to present study. **Raphael et al.**<sup>10</sup> has conducted a study in 2017 from Kerala, in which they reported prevalence of substance use among adolescent was 31.8% almost similar to the present study.

In present study, overall prevalence of current use of substance was 31.34 %, finding of present was higher than the study conducted by **Ravikaran et al.**<sup>11</sup> (11.8%) in 2017 from Belagavi (Karnatka). **Liza et al.**<sup>12</sup>(2017) from Uttarakhand, reported preva-

lence of substance use was 55.38% among adolescent , which is higher than the present study(31.34%). Finding of present study was lower than the the finding of **Saxena et al.**<sup>13</sup> at Uttarakhand in 2010, in which they reported use of substance as 46.9%. **Adela et al.**<sup>14</sup> has conducted a study in 2014 from Andhra Pradesh, in which they reported prevalence of substance use among adolescent was 71%, finding of this study was higher than the present study(31.34%). **Somarjit et al.**<sup>15</sup> (2015) from Imphal (Manipur), reported prevalence of substance use was 54% among adolescent, which is higher than the present study(31.34%).

## CONCLUSION

Prevalence of substance use in present study was 37.4% in ever user and 31.3% in current user. Prevalence of substance use was almost equal in urban and rural area. Present study revealed that in spite of having strict law for prohibition of substance abuse, people are still addicted. There is a need to change either in law or in behavior of people at large.

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