

## **Behavioural Health Risks Associated with Substance Use: Tobacco and Alcohol Consumption among Ethnic Population in Tripura**

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Behavioural health risk is quite common amongst the male population of Tripura. Alcohol and tobacco use are highly correlated behaviours. The risk behaviours of tobacco and alcohol consumption and their socio-economic and cultural conditions often put risk for their poor health. One of the most common challenges that the state now faces is substance use disorder (addictions). This paper analyses the behavioral health risk of substance use among the Scheduled Tribes (STs) of the state as the prevalence of smoking and alcohol is high among them. The poor socio-economic condition suggests more with regards to high level of substance among the ethnic communities. Thus, tobacco and alcohol use remain higher among the STs. Lower socio-economic strata and vulnerable groups (STs) are predisposition to substance use (i.e. smoking and alcohol). Therefore, interventions to prevent substance use need to be targeted among ST population in the state.

**Keywords:** Behavioural health risk, Scheduled tribes (STs), Substance use, Tobacco, Alcohol, Tripura

### **Introduction**

Tripura (one of the states in North-East India) which cover the total land area of 10,491 sq.km and occupies 0.31% of the land area of India sub-continent. It is the third smallest state after Goa and Sikkim in terms of geographical land area. Goa with total land area of 3,702 sq.km. and Sikkim with 7,096 sq.km occupies about 0.11% and 0.21% of the total land area of India respectively. Its geographical location holds a strategic position in Indo-Bangla relations. The state shares international border with Bangladesh on the three sides - in the north, south and west directions and with two Indian states of Assam and Mizoram in the east (Mishra and Nayak, 2008). The share of international and national borders are clearly shown in the Appendix (Table 1). The state lies between latitudes 22°56' and 24°32'N and longitudes 90°09'E and 92°20'E latitude (De et. al., 2010). Its maximum stretch

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measures about 184 km from north to south and 113km from east to west with an area of 10,492 km<sup>2</sup>. The State is split into four districts (recently divided into eight administrative units) namely North Tripura, West Tripura, Dhalai and South Tripura. It has a total population of 3,671,032 residents, constituting 0.3% of the country's population with a density of 350/km<sup>2</sup> (910/sq mi). Majority of ethnic tribal population groups live largely in the hilly areas each characterized by linguistic chords and rich cultural heritage (Dev et. al., 2015). As recognized by the Indian constitution there are 19 tribes in Tripura (Economic Review of Tripura, 2014-15)<sup>1</sup>. The 19 scheduled tribes in Tripura are: (1) Tripuri or Tripura, (2) Riang, (3) Jamatia, (4) Chakma, (5) Halam, (6) Noatia, (7) Mog, (8) Kuki, (9) Garo, (10) Munda, (11) Orang, (12) Lushai, (13) Santal, (14) Uchai, (15) Khasia, (16) Bhil, (17) Lepcha, (18) Bhutia and (19) Chaimal (Bhattacharjee, et. al., 1996). Thus, these were the tribes that have been living in the state from time immemorial. The figure of all these 19 scheduled tribes and generic tribes is presented in Table. 2 (Appendix).

This former princely state was ruled by Maharajas of Manikya dynasty. It was an independent administrative unit under the Maharaja and even during the British rule in India, though this independence was qualified, being subject to the recognition of the British, as the paramount power of each successive ruler. As per Rajmala, the royal chronology of Tripura, a total of 184 kings ruled over the state before it merged with the Indian Union on October 15, 1949. Since then the history of Tripura has been interspersed with various political, economical and social developments. On January 26, 1950 Tripura was accorded the status of a 'C' category state and on November 1, 1956, it was recognized as a Union Territory. With the sustained efforts and struggle of the people of Tripura, it gained full statehood on January 21, 1972, as per the North-East Reorganisation Act, 1971. And democratic set-up got further stretched up to the village level in 1978 with election to the local bodies that ultimately culminated in the introduction of three-tier Panchayati Raj System.

On the other hand, for socio-economic development, preservation of language and culture of Tripura Tribal Areas Autonomous District Council (TTAADC) was constituted in 1982 under the 7th Schedule of the Constitution and later on in 1985 it was brought under the 6th Schedule. The ADC in Tripura encompasses 68.10% of the state's total geographical territory and is home to roughly one third of the state's population.

### **Objectives**

The paper aims to assess some broad factors through a behavioural health risk discourse which offers a more holistic approach to our understanding of substance use and an attempt to explain the behavioural health risk and substance use. The main objective of the study is to examine the health outcome of Scheduled Tribes (STs), a socially backward groups, and their health risk behaviour. The high incidence of poverty and backwardness always has a direct impact on the health condition of the community.

### **Methodology**

For understanding the linkage between socially excluded groups and health risk or

health outcomes of particular groups (ethnic minorities, STs), we examined the health indicators of adult men of 15-54 age groups. For ascertaining the relationship of adult indicators, which are considered to be developmental indicators in health, the age of initiation, type of substance use and main introducer. As far as adult's health indicators are concerned, we examined the prevalence, determinants and health risk problems. For better understanding of ethnic-based variation in health outcome, we compare with the above indicators with other ethnic groups. For this analysis, data have been derived from National Family Health Survey NFHS-4 (2015-2016)<sup>2-3</sup> which is a large-scale survey, and equivalent to Demographic Health Survey; NFHS-4 has collected data on above all aspects of men's health etc. and also provides other indicators of health on AIDS (Acquired Immuno Deficiency Syndrome), HIV (Human Immunodeficiency Virus), etc. For all the analyses tables, figures were presented using frequencies, percentages; chi-square has been performed to determine the level of significant differences between the expected and the observed frequency. And finally, bivariate analysis has been performed to estimates the relationships between variables.

## **Theoretical Framework**

### ***Determinants of behavioural health risks***

Behavioral risk factors are major contributors to health problems and costs. In many areas of health research, the historic focus has been on person- or individual-level factors that impact health, with less interest in area characteristics as potential health/disease determinants (Garcia-Munzo et. al., 2018; Morris and Halkitis, 2015). Picket and Pearl in 2001 reviewed 25 studies, demonstrating that 23 of the studies reported a statistically significant association between the environment/location and a health outcome. There are cultural and social factors that put people at a greater risk. Poverty, lack of education and unemployment, and a stressful environment can also increase the risk. Environmental risk factors are the characteristics in a person's surroundings that increase their likelihood of becoming addicted to drugs such as community, family, school, and friends. These types of problems are commonly seen in nuclear families due to inadequate nurture, abuse or neglect, as they become emotionally sensitive. These factors may not always lead to substance misuse or dependency or any other addictive behavior, but they can increase the vulnerability. All of these biological and behavioral observations that focus on the individual, strongly suggest that a causal relationship between alcohol and tobacco use exists at a higher level.

So, much in the states of India the influence of socio-cultural on substance use play an important role. Thus, alcohol use may influence tobacco use and vice versa, not only in the individual, but also in the community (Prabhu et. al., 2014). For instances, offering raw tobacco by children to the elderly as a present during their visit is a common practice in some communities in Kerala, India and tobacco is also used in celebrations including marriage (Thankappan and Thresia, 2007). Tobacco water called *taibur* is offered to guests or visitors as a form of greeting and is an essential item at parties in rural areas in Mizoram, India (Sinha et. al., 2004). Sharing

a *hookah* among the rural north Indian men is seen as a symbol of companionship, solidarity and consultative process. Sikhism in India does not allow tobacco use because it was banned by a Sikh Guru in the 17<sup>th</sup> century and even today the prevalence of tobacco use is low in Punjab where the main religion is Sikhism (Kyaing et. al., 2011). The socio-cultural factors determining the consumption of substances has its own significance in the culture of a particular society and a region in general. In both developed and developing countries the use of alcohol and tobacco are an accepts by the society, regions. Thus, acceptance of the consumption varies across the globe among regions, cultures and differs across ethnic groups. It is often linked to social events and special occasions, but also to everyday life such as relaxation at leisure time (Li et. al., 2017). For instances, this (Figure 1) below represent the cause for alcohol consumption and its health outcomes. Alcohol causes more harm than any other drug in society (Wright, 2018; Nutt et. al., 2010).

Figure 1: Conceptual causal model of alcohol consumption and health outcomes



\* Quality of the alcohol consumed can also be a factor

\* Development of health and welfare system, and economy as a whole

Source: Based on Rehm et al., 2010 and Blas et al., 2010.

Source: Alcohol fact sheet (WHO, 2015)

Despite a large number of studies examining alcohol consumption and mortality, questions remain about the nature of this relationship. Three primary concerns include the influence of confounding factors, appropriate public health recommendations, and differential effects between types of alcohol. Selection bias is a particular concern when comparing non-drinkers to drinkers. Non-drinkers may abstain from alcohol because of an initial health condition and be more likely to have other conditions that might confound the relationship including obesity, physical inactivity, and overall health problems. In addition, moderate alcohol consumption has been associated with positive psychosocial outcomes including sociability and stress reduction, which may further confound the association with mortality. (Howie et. al., 2011; Di Castelnuovo

et. al., 2010; El-Guebaly, 2007; Mukamal et. al., 2006; Peele and Brodsky, 2000). Often, these socio-economic and demographic correlates do have greater influence among male youth (tribal) population. Therefore, the socio-cultural factors do play an important role in Tripura which might be the reason for higher prevalence of substances.

### ***Behavioural health risk among ethnic population***

The development of healthy behaviours, attitudes and lifestyles during adolescence can contribute significantly to a person's current and future physical well-being. Youth risk behaviours (YRB) are described as adverse health behaviours adopted in childhood or adolescence and are one of several indicators of the health of young people. YRB serve as a basis for measuring adolescent health over time as well as for the improved targeting of health policies and programmes (Mohanani et. al., 2014). The behavioural health risk from alcohol and tobacco has both long-term and short-term factors on health. Alcohol and tobacco use are highly correlated behaviors. There are quite many literatures that study the association of behavioural health risk with alcohol and tobacco both nationally and at international level. Severity of alcohol dependence is related to the high-risk behavior of alcohol dependents (Korlakunta and Reedy, 2019). Morbidity and mortality associated with alcoholism is in part related to the link between alcohol use and high-risk behavior (Ponnudrai et. al., 1991). Alcohol use has been shown to be positively correlated with a variety of risk-taking behaviors such as high-risk sexual behavior, violent and criminal acts, self-injurious behavior, and fatal injury including motor vehicle accidents (Leigh, 1999). The term risk implies the probability of occurrence of harm, and different approaches have been used to examine the association between alcohol use and high-risk behavior (Leigh and Stall, 1993). NCDs include a number of conditions that are behaviour linked and lifestyle related in nature. Indian population, especially young people, is passing through a nutritional transition and is expected to witness higher prevalence of adult non-communicable diseases such as hypertension, diabetes and chronic lung diseases in the coming years (Sunitha and Gururaj, 2014). Alcohol and tobacco use may lead to major health risks when used alone and together. In addition to contributing to traumatic death and injury (e.g., through car crashes), alcohol is associated with chronic liver disease, cancers, cardiovascular disease, acute alcohol poisoning (i.e., alcohol toxicity), and fetal alcohol syndrome. Smoking is associated with lung disease, cancers, and cardiovascular disease (Harwood, 2000). Additionally, a growing body of evidence suggests that these substances might be especially dangerous when they are used together; when combined, alcohol and tobacco dramatically increase the risk of certain cancers (Pelucchi et. al., 2007). Tobacco and alcohol use are serious public health problems in many countries including India because of the associated health hazards. Smoking causes a vast spectrum of diseases, many of which could result in death. There are over 50 diseases that are caused, increased or exacerbated by smoking. Globally, approximately, 47% of men and 12% of women smoke. Available data suggest that in developing countries, 48% of men smoke compared with 7% of women, while in developed countries, 42% of men and 24% of women

smoke (Goswami et. al., 2005; Gupta and Sinha, 2004). The World Health Organization (WHO) estimates that 4.9 million deaths (8.8%) and 59.1 million disability-adjusted life-years (DALYs) (4.1%) are attributable to tobacco every year. Unless the current trends are reversed, the figure is expected to raise to 10 million deaths per year by the 2020s or early 2030s, with 7 million of these deaths occurring in developing countries, mainly in China and India. Worldwide, about one-fifth of all deaths attributed to tobacco occur in India, i.e. more than 8,00,000 people die and 12 million become ill as a result of tobacco use every year (Goswami et. al., 2005). The health impact of substance use varies from wide ranges of both long-term and short-term one. The health risks often depend on how frequent the substance consumption is misuse. Often, many researchers have studied adverse health effects due to substance misuse and abuse across the globe. The health risks of smoking are indisputable and well understood by the public. Tobacco use accounts for 7 million deaths per year globally with an estimated two thirds of smokers expected to die from their habit (Hydes et. al., 2019; Doll et. al., 1994). Smoking is responsible for 22% of cancer deaths worldwide (Forouzanfar et. al., 2016). Each year approximately 3.3 million deaths occur due to the harmful use of alcohol, corresponding to 5.9% of all deaths globally (WHO, 2014). Furthermore alcohol was the leading cause of death among 15–49 year olds worldwide in 2016 (Griswold et. al., 2018). However alcohol is generally perceived as being comparatively less harmful by the public, particularly in terms of cancer, despite being directly linked to carcinoma of the oropharynx, larynx, oesophagus, colorectum, liver and breast (Hydes et. al., 2019; Baan et. al., 2007; Corrao et. al., 2004; Hamajima et. al., 2002).

India has more than 2000 ethnic groups with genetically distinct ancestry and diverse lifestyles (Dandona et. al., 2017; Bose, 1998). Approximately 225 out of the 450 tribes of India reside in this region, representing different ethnic groups with distinct culture entities and rich traditional knowledge (Mao et. al., 2009; Chatterjee et al., 2006). The definition of indigenous peoples put forward by the International Labor Organization in Convention 169, as well as the recently revised World Bank Policy on indigenous people, supports the application of the term “indigenous” to the scheduled tribes in India (Erni, 2008; Errico, 2006; Subramanian et. al., 2006). Indigenous people are amongst the poorest and most marginalized population groups experiencing extreme levels of health deprivation. The suboptimal health status of indigenous peoples and the health inequalities between indigenous and non-indigenous populations reflect a fundamental failure to ensure the freedom of indigenous peoples to fully realize their human, social, economic, and political capabilities (Subramanian et. al., 2006; Willis et. al., 2004; Sen, 2014). So, here in this study scheduled tribes were considered as one of the ethnic groups of the North-East India (NEI) state of Tripura.

NEI is known for demographic heterogeneity of its tribal population (Shrivastava et.al., 2013). Here in this study the ethnic minority is inclusive to those minority representation alone (i.e., tribal groups or the STs) that are marginalized in the socio-economic milieu. Of course, many researchers and academicians have defined the term “*minority*”. Francesco Capotorti defines minority as “a group numerically inferior

to the rest of the population of a State, in a non-dominant position, whose members – being nationals of the state - possess ethnic, religious and linguistic characteristics differing from the rest of the population and show, if only implicitly, maintain a sense of solidarity, directed towards preserving their culture, traditions, religion and language.”(Francesco, 1991).

The Indian constitution provides certain rights to minorities on the bases of caste and language and not on the religious grounds. However, this study from a little perspective assesses the minorities on the bases of the constitutional framework which is based on the marginalized position of the scheduled tribes (STs) alone. Total India Scheduled Tribes proportions represented only 8.6 percent of the total population which near about (10.5 crores) populations. In proportion, the populations of states in the northeast had the greatest concentrations of Scheduled Tribe members. For example, 31 percent of the population of Tripura belong to STs (Census, 2011).

## **Results**

Recent available data on substance use shows the socio-economic and demographic factors related to substance use (smoking, smokeless tobacco and alcohol consumption). The factor includes; age, place of residence, educational level, caste or ethnicity and wealth index. The study revealed differences in social conditions of substance use, the prevalence of smoking and alcohol consumption remain high among STs population in Tripura (Figure 1). The precarious social conditions of STs have remained poor due to historical backwardness, marginalised and low socio-economic status (SES). Thus, the living conditions of males who are users of substance are often reported to be very poor. The indicators of social exclusion in a study conducted by (March et al., 2006) in Ten European Cities include housing, employment and education. Therefore, in this study the social exclusion indicators (i.e. ethnicity, place of residence, educational level and wealth index) are considered and were most closely linked to substance use (i.e. smoking, smokeless tobacco and alcohol consumption) in North East state of Tripura.

The states of Tripura consistently report relatively high substance use prevalence (i.e. smoking and alcohol). The present study was conducted among 878 male, selected (extracted data) from the data set NFHS-4. It was a cross-sectional study, carried out in 2015–2016, across sites from 29 states and 6 UTs in the country which has 112,122 men eligible for the interview) among male adults youth in Tripura, India, with the broad objective of studying substance use and related health risk among them. [Table 3] shows a brief summary of sample for the study.

[Table 4] presents the prevalence of substance use by age groups. Smoking (bidi/cigarette) prevalence was 76.26 % who belong to age group 45-49 years. Smokeless tobacco was 92.54 % among the age groups 15-19 years. As well as the prevalence of alcohol consumption tends to be as high among the age groups 25-29 years. There is a sharp increase of smoking prevalence by age. While there is sharp decline of prevalence for smokeless tobacco and alcohol consumption by age. Age was found to be significantly associated with substance use ( $p=0.000$ ).

Table 3: Sample description with background characteristics Tripura. NFHS-4 [2015-2016] (Source: Authors own calculation from NFHS-4, India, 2015-2016)

<b>Background variables</b>	<b>Un weighted (%)</b>	<b>Weighted (%)</b>
<b>Age groups</b>	<b>Freq. (N)</b>	<b>Percent</b>
15-19	116	13.40
20-24	119	13.19
25-29	136	15.45
30-34	140	15.99
35-39	108	12.28
40-44	98	10.70
45-49	104	12.23
50-54	57	6.76
<b>Place of residence</b>		
Urban	257	30.69
Rural	621	69.31
<b>Ethnicity</b>		
SCs	522	60.33
STs	257	28.00
Neither SCs/STs	99	11.66
<b>Educational Level</b>		
No education	54	5.41
Primary	174	18.25
Secondary	544	63.16
Higher	106	13.17
<b>Wealth Index</b>		
Poorest	179	17.91
Poorer	172	18.10
Middle	164	19.49
Richer	159	19.01
Richest	204	25.49
<b>Smoking</b>		
Yes	472	52.23
No	406	47.77
<b>Smokeless tobacco</b>		
Yes	612	69.18
No	266	30.82
<b>Alcohol</b>		
Yes	504	56.84
No	374	43.16
<b>Total</b>	<b>878</b>	<b>100</b>



Table 4: Age-wise prevalence of substance use in Tripura, NFHS-4, [2015-2016]

Age groups (years)	Smoking	Smokeless tobacco	Alcohol
15-19	13.63	<b>92.54</b>	16.97
20-24	42.32	<b>72.90</b>	<b>60.39</b>
25-29	47.30	<b>77.15</b>	<b>74.35</b>
30-34	<b>59.11</b>	65.42	66.63
35-39	<b>57.09</b>	68.79	55.40
40-44	<b>62.58</b>	61.75	67.16
45-49	<b>76.26</b>	50.40	60.16
50-54	<b>74.30</b>	52.73	45.97

Source: Computed from NFHS-4, India, 2015-2016

Note:  $X^2= 120.6386$ ,  $p = 0.000$  for smoking;  $X^2= 58.2139$ ,  $p= 0.000$  for smokeless tobacco and  $X^2= 102.1171$ ,  $p=0.000$  for alcohol. All indicated percentages are weighted.

[Figure.2] shows the ethnic comparison of substance use. Here Smoking (bidi/cigarette) prevalence is as high as 59.87 % those belonging to STs, while the prevalence for SCs and neither SCs/STs with 50.44 % and 43.11 % respectively. Thus, ethnicity was found to be significant with smoking ( $p=0.003$ ). Hence, smokeless tobacco remains as high 75.95 % among neither SCs/STs groups followed by SCs with 69.68 % and the least with 65.29 % by STs. There were not much difference among these three groups and the association of smokeless tobacco with ethnicity is ( $p=0.092$ ). Lastly, alcohol consumption remains high among the STs with 69.93 % while there was no difference among SCs and neither SCs/STs with 51.64 % and 52.27 % respectively. The ethnicity for alcohol consumption remain significantly associated ( $p=0.000$ ).

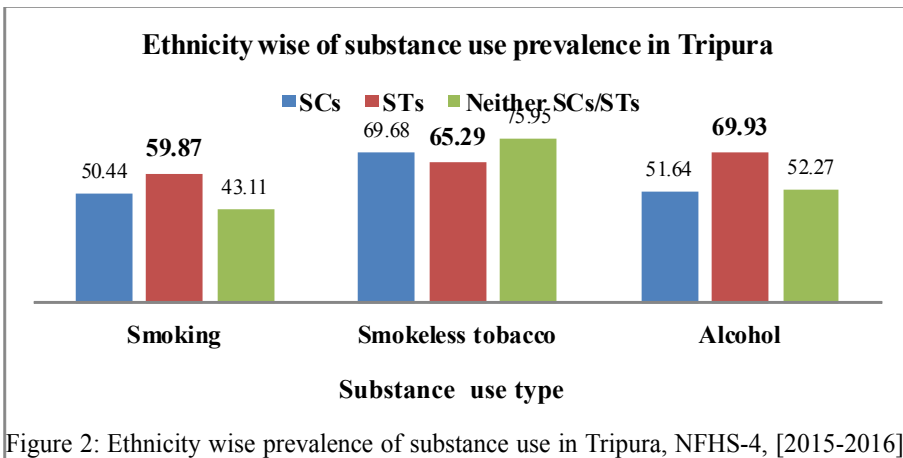
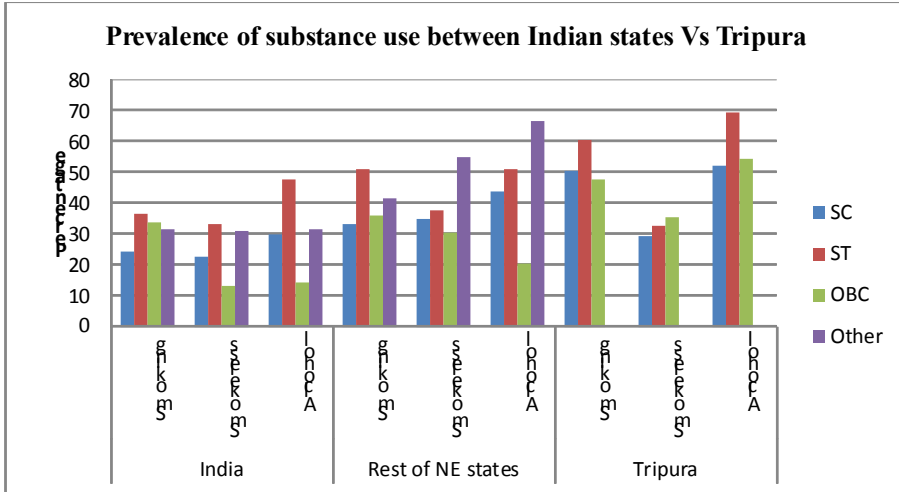


Figure 2: Ethnicity wise prevalence of substance use in Tripura, NFHS-4, [2015-2016]

Figure 2 - Source: Computed from NFHS-4, India, 2015-2016

Note:  $\chi^2 = 11.867$ ,  $p = 0.003$  for smoking;  $\chi^2 = 4.7758$ ,  $p = 0.092$  for smokeless tobacco and  $\chi^2 = 21.0958$ ,  $p = 0.000$  for alcohol. All indicated percentages are weighted.

Figure 3: Prevalence of substance use variations between Indian states Vs Tripura



Source: Computed from NFHS-4, India, 2015-2016

Here in this figure.3, if the prevalence be compared with rest of the states still the STs of Tripura prevalence for smoking and alcohol remain high. This is much higher than even compared to the national average. This clearly, depicts that there are some factors underlying behind. It could be socio-cultural factors that might be the reason for high prevalence of smoking and alcohol consumption.

Looking at other factors [Table 5] highlights substance use association with place of residence, educational level and wealth index. Here in this table smoking has a significant association with place of residence ( $p=0.001$ ), educational level ( $p=0.000$ ) and for wealth index ( $p=0.000$ ). However, in case of smokeless tobacco it shows less association for place of residence ( $p=0.533$ ), for wealth index ( $p=0.043$ ) and educational level shows a significant association ( $p=0.000$ ). Similarly, association with alcohol consumption for place of residence is ( $p=0.497$ ), level of education ( $p=0.027$ ) and for wealth index ( $p=0.155$ ). Thus, the result revealed that substance use and other factor are significantly associated.

## Discussions

Large inequalities in health exist between indigenous and non-indigenous populations worldwide. This “health divide” has also been demonstrated in India, where indigenous groups are officially classified as Scheduled Tribes. Compared to national averages, Scheduled Tribes have higher mortality rates and experience a greater prevalence of tuberculosis and under nutrition, including high anaemia levels. These groups are also exposed to higher risks of inadequate food intake, poor hygiene, and tobacco

Table 5: Various factors affecting substance use in Tripura (n = 878)

Various factors	Smoking (bidi/cigarette)		Smokeless tobacco		Alcohol consumption	
		$X^2, p$ value		$X^2, p$ value		$X^2, p$ value
<b>Place of residence</b>						
Urban	43.20	10.867	<b>71.20</b>	0.3884	53.81	0.4609
Rural	<b>56.23</b>	0.001	68.28	0.533	<b>58.18</b>	0.497
<b>Educational Level</b>						
No education	<b>88.62</b>		51.57		<b>66.98</b>	
Primary	<b>75.85</b>	93.4124	56.29	19.3287	<b>64.08</b>	9.1686
Secondary	46.55	0.000	<b>73.08</b>	0.000	55.82	0.027
Higher	31.74		<b>75.58</b>		47.49	
<b>Wealth Index</b>						
Poorest	<b>67.05</b>		67.02		<b>62.72</b>	
Poorer	<b>61.91</b>	45.5689	65.13	9.8598	<b>60.76</b>	6.6659
Middle	48.03	0.000	<b>72.17</b>	0.043	53.22	0.155
Richer	55.03		64.17		58.84	
Richest	36.05		<b>75.02</b>		51.18	

Source: Computed from NFHS-4, India, 2015-2016

and alcohol consumption, as well as lower access to health care. (Haddad et. al., 2012; Cunningham, 2010; Subramanian et. al., 2006; Kaulagekar and Radkar, 2007; Bawdekar and Ladusingh, 2008; Bharati et. al., 2008; Nayar, 2007; Ghosh and Bharati, 2005; Basu, 1994; Neufeld et. al., 2005). In the wake of the epidemiological transition, alcohol attributed non-communicable diseases are not limited to urban areas, which most studies conducted in India barely touch upon. More studies are required to understand the problems of alcohol use and for devising specific interventions at the community level, especially in rural settings (Barik et. al., 2015). Hence, the behavioural risk health among ethnic population with reference to scheduled tribes (STs) in India and in Tripura particular is among the high-risk of health problem with regards to substance uses.

In India we come across many social groups or societies who might have some of these characteristics. The term tribe is more functional in nature in India. There was a purpose to declare or recognize some societies as tribal societies through constitutional Act of the country. Thus when we talk of tribe we talk of the Scheduled Tribes, the social groups recognized or listed in the Schedule of the Constitution of India. Therefore, by definition, the Scheduled tribes (STs) are those social groups who are “such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under Article 342 to be Scheduled Tribes for the purposes of this constitution”(Sonowal, C. J, 2008). As per 2011 census 8.6 % (10.5 crores) of tribal constitutes the total population. The tribal population is even more or

equal to the total population of France and Britain and it is four times the total population of Australia. The caste-based discrimination put these tribal populations to backwardness in terms of Health, Education and Income. Ethnic minority remain to be the most disadvantage groups, which is positively correlated with particular occupational/livelihood strategies. By different economic groups- the vulnerable groups are the agricultural labour households in the rural and the casual labour household in the urban areas. Thus, the membership of social groups strongly overlaps with Scheduled Castes (SCs) and Scheduled Tribes (STs) status. These exclusion of groups either in rural/urban, either SCs/STs groups has accentuated the 'prevalence, depth and severity' of poverty (Gardener and Subrahmanian, 2006). STs Population depicts heterogeneity at national, state and even in district level having differences in language, cultural practices and pattern of livelihood which influence their socio-economic status. Their problems differ from area to area even within their own groups (Tattwamasi and Gayatri, 2014; Dubey, 2009). Young people start to use substances, singly or in combination, at early ages, and they report many different reasons for using them. Despite the harm that substances can and do cause, effective responses to substance use, and especially to harmful use among young people, remain limited. A vicious nexus of ill-health practises are on rise, socio-economic backwardness and exclusion seems to have severely affected the tribal population in Tripura. The health risk of the ethnic communities remains a major concern of development programme in the state. The majority of the tribal still have or rely on their traditional beliefs in health management. Here, in this study the deprivation of ethnic communities is closely linked with the Indian processes of caste-based exclusion and discrimination. Thus, this discrimination entails social, economic exclusion. The health outcomes among the STs or the ethnic remain poor. Substance use among youths is a worldwide epidemic. Young people start to use substances, singly or in combination, at early ages, and they report many different reasons for using them. Despite the harm that substances can and do cause, effective responses to substance use, and especially to harmful use among young people, remain limited (Gruskin, S et.al. 2001).

National Family Health Survey (NFHS-4) and Global Adult Tobacco Survey (GATS-2) is a global standard for systematically monitoring alcohol consumption and tobacco use (smoking and smokeless) and tracking key tobacco control indicators. The study is based on a household survey of persons 15-54 years of age and persons 15 years of age and older conducted in all states and Union Territories, also in all 30 States of the country and two Union Territories respectively. Here, in this present study the details report have been referred. Sixty-eight percent of men age 15-49 use some form of tobacco. Men are more likely to smoke bidis or cigarettes (30% each) than to use other types of tobacco, while women are most likely to use gutka or paan masala with tobacco (25%). Among men, the use of any form of tobacco is higher in rural areas than in urban areas with bidis being especially popular in rural areas. Most men who smoke cigarettes or bidis smoked 5 or fewer cigarettes or bidis in the past 24 hours. Men are less likely to drink alcohol (58%) than to use tobacco, and only 5 percent of women say that they drink alcohol. Among men who drink alcohol, more than half drink alcohol at least once a week (NFHS-4 report). While, the data

about tobacco use and other related substance use in the States have provided a valuable source of information for strengthening tobacco control policies and prevention programmes.

### **Conclusion**

The behavioural health risk has provided an opportunity to take a more holistic approach to understand the problem of substance use. Further, the study reveal the rise in substance uses with regards to smoking and alcohol by examining the prevalence and exhibiting many other characteristics of health risk. Evidences of certain social and economic factors (i.e. place of residence, ethnicity, educational level and wealth index) were used to explain the behaviour. It shows the wide variations in the level of prevalence of self-reported substance use among population in the states of Tripura. The variations are characterized by selected factors such as age, ethnicity, place of residence, demographic factors and enabling factors like education level and wealth index. The information on behavioural health risk from substance use among population is vital in health policy making, as it might throw some features of health intervention to reduce inequity. The main findings and their relation to behavioural health risk are summarized.

First, there was age variation as well as variations among ethnic groups. In comparison to lower age (15-29) groups, behaviour of smoking is low among the lower age groups and tends to increase among the higher age groups (30-54). Similarly, the prevalence of smokeless tobacco and alcohol were the opposite, lower age groups are at the peak and tend to decline among the higher age groups. This shows that lower age groups are more vulnerable to behavioural health risk of smokeless tobacco and alcohol consumption. Further, the higher risk of this behaviour need to be checked and public health policy is essential among the adolescents and youth in the states. Secondly, the behavioural pattern of substance use was higher among the STs compared to neither SCs/STs which implies the prevalence of ethnic bias in our society. This inequity must be intervene incorporating all cultural and social settings by an large across the state.

Thirdly, as compared with the rest of the India and NE states, Tripura with specific prevalence of smoking and alcohol consumption remain the high. This have clearly shows that the behavioural health risks among STs Population were vulnerable to chance of chronic disease like diabetes, cancer. Especially, the chronic disease those are associated with smoking and alcohol consumption. Not only this the study also reveal that the STs of Tripura still far behind than rest of the STs in the country in term of this self-reported health status.

Fourthly, there was also significant influence of the factors like educational level and wealth index. In general, education has negative impact on prevalence of substance. Therefore, by providing more education, it may reduce the prevalence of substance use. As because level of education can give rise to more health awareness. The bivariate analysis significantly confirmed the expected association between behavioural health risk and its determinants. The analysis shows that the marginalised sections of the society still lack behind. The social, economical and cultural

environment does play as important factor to determine the behavioural health risk across the ethnic groups in the state. The study does have some limitations which cannot do much to show various socio economic characteristics in determining the health status of a population for the STs. The analyses and finding of the study is basically, based on the prevalence (self-reported) substance use during the year preceding the survey. This study has proof basic preliminary kind of finding on the STs Health conditions with behavioural health risk and its outcome. Yet, the STs in the state were among the least with about less than 30% as compared to rest of the NE states. The STs remain poor in terms of not only health but also lacking some social and infrastructural development. Besides, all of these today the most common and challenges in the state are substance use disorder (addictions) from drugs, RTIs (Road Traffic injuries) among youth and adolescents, STI (Sexually Transmitted diseases), HIV (Human Immunodeficiency virus), teenage and unplanned pregnancies, violence and above all the hardships such as unemployment, poverty etc and many others. The finding does show that there still exist large inequalities across ethnic groups where more cautions are to be taken by the policy makers towards the health inequities. Similarly, the inequities of health status among different educational level, place of residence, wealth class, could suggest the need to encourage more public health awareness. Further, this study provides important insights into substance use, particularly among tribal groups (STs) of Tripura. Suggesting that an approach to ensure prevention strategies be should consider involving a more holistic examination of raising the prevalence of substance use (smoking and alcohol) in the state for STs Population.

### Notes

<sup>1</sup> Tripura. (2014-2015). Economic Review of Tripura Report, 2014-15. <https://ecostat.tripura.gov.in/Economic-Review-2014-15.pdf> (Last accessed on May 2, 2019).

<sup>2</sup> India. (2015-2016). The Fourth National Family Health Survey (NFHS-4). Tripura fact sheet, (2015-2016) [http://rchiips.org/nfhs/factsheet\\_nfhs-4.shtml](http://rchiips.org/nfhs/factsheet_nfhs-4.shtml) (Last accessed on Feb 4, 2019).

<sup>3</sup> India. NFHS-4. (2015-2016). Data from the latest round was drawn from <https://dhsprogram.com/what-we-do/survey/survey-display-355.cfm> (Last accessed on Jan 4, 2019).

### References

- Baan, R., Straif, K., Grosse, Y., Secretan, B., El Ghissassi, F., Bouvard, V., ... & Coglianò, V. (2007). Carcinogenicity of alcoholic beverages. *The lancet oncology*, 8(4), 292-293.
- Barik, A., Rai, R. K., & Chowdhury, A. (2015). Alcohol use-related problems among a rural Indian population of West Bengal: an application of the Alcohol Use Disorders Identification Test (AUDIT). *Alcohol and alcoholism*, 51(2), 215-223.
- Basu, S. K. (1994). A health profile of tribal India. *Health for the millions*, 2(2), 12-4.

- Bawdekar, M., & Ladusingh, L. (2008). Contextual correlates of child malnutrition in rural Maharashtra. *Journal of Biosocial Science*, 40(5), 771-786.
- Bharati, P., Som, S., Chakrabarty, S., Bharati, S., & Pal, M. (2008). Prevalence of anemia and its determinants among nonpregnant and pregnant women in India. *Asia Pacific Journal of Public Health*, 20(4), 347-359.
- Bose, M. (1998). *Social and cultural history of ancient India*. Concept Publishing Company.
- Chatterjee, S., Saikia, A., Dutta, P., Ghosh, D., Pangging, G., & Goswami, A. K. (2006). Background paper on biodiversity significance of North East India, for the study on natural resources, water and environment nexus for development and growth in North Eastern India. *Forest Conservation Programme*. conference held at the London School of Hygiene and Tropical Medicine, December 2004. *The right to health of Indigenous peoples*.
- Corrao, G., Bagnardi, V., Zambon, A., & La Vecchia, C. (2004). A meta-analysis of alcohol consumption and the risk of 15 diseases. *Preventive medicine*, 38(5), 613-619.
- Cunningham, C. (2010). Health of indigenous peoples. <https://www.ncbi.nlm.nih.gov/pubmed/20404061>
- Dandona, L., Dandona, R., Kumar, G. A., Shukla, D. K., Paul, V. K., Balakrishnan, K., ... & Nandakumar, A. (2017). Nations within a nation: variations in epidemiological transition across the states of India, 1990–2016 in the Global Burden of Disease Study. *The Lancet*, 390(10111), 2437-2460.
- De, B., Debbarma, T., Sen, S., & Chakraborty, R. (2010). Tribal life in the environment and biodiversity of Tripura, India. *Current World Environment*, 5(1), 59.
- Dev, V., Adak, T., Singh, O. P., Nanda, N., & Baidya, B. K. (2015). Malaria transmission in Tripura: Disease distribution & determinants. *The Indian journal of medical research*, 142(Suppl 1), S12.
- Di Castelnuovo, A., Costanzo, S., Donati, M. B., Iacoviello, L., & de Gaetano, G. (2010). Prevention of cardiovascular risk by moderate alcohol consumption: epidemiologic evidence and plausible mechanisms. *Internal and emergency medicine*, 5(4), 291-297.
- Doll, R., Peto, R., Wheatley, K., Gray, R., & Sutherland, I. (1994). Mortality in relation to smoking: 40 years' observations on male British doctors. *Bmj*, 309(6959), 901-911.
- Dubey, A. (2009). Poverty and Under-nutrition among Scheduled Tribes in India: A Disaggregated Analysis. *IGIDR Proceedings/Project Reports Series*, [from <http://www.igidr.ac.in/pdf/publication/PP-062-13.pdf>, accessed on 12-12-2013].
- El-Guebaly, N. (2007). Investigating the association between moderate drinking and mental health. *Annals of Epidemiology*, 17(5), S55-S62.
- Erni, C. (Ed.). (2008). *The concept of indigenous peoples in Asia: A resource book* (No. 123). IWGIA.
- Errico, S. (2006). The World Bank and Indigenous Peoples: the Operational Policy on Indigenous Peoples (OP 4.10.) Between Indigenous Peoples' Rights to Traditional Lands and to Free, Prior, and Informed Consent. *International Journal*

- on *Minority and Group Rights*, 13(4), 367.
- Forouzanfar, M. H., Afshin, A., Alexander, L. T., Anderson, H. R., Bhutta, Z. A., Biryukov, S., ... & Cohen, A. J. (2016). Global, regional, and national comparative risk assessment of 79 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990–2015: a systematic analysis for the Global Burden of Disease Study 2015. *The Lancet*, 388(10053), 1659-1724.
- Francesco Capotorti. (1991). *Study on the Rights of Persons Belonging to Ethnic, Religious and Linguistic Minorities*, New York, United Nations, p. 98.
- García-Muñoz, T., Neuman, S., & Neuman, T. (2018). Behavioral Health Risk Factors: the Interaction of Personal and Country Effects. *International journal of behavioral medicine*, 25(2), 183-197.
- Gardener, J. and Subrahmanian, R. (2006). ‘Tackling Social Exclusion in Health and Education: Case Studies from South Asia’, Report prepared for the Department for International Development (DFID), GHK International.
- Ghosh, R., & Bharati, P. (2005). Women’s status and health of two ethnic groups inhabiting a periurban habitat of Kolkata City, India: a micro-level study. *Health care for women international*, 26(3), 194-211.
- Goswami, A., Reddaiah, V. P., Kapoor, S. K., Singh, B., Dwivedi, S. N., & Kumar, G. (2005). Tobacco and alcohol use in rural elderly Indian population. *Indian journal of psychiatry*, 47(4), 192.
- Griswold, M. G., Fullman, N., Hawley, C., Arian, N., Zimsen, S. R., Tymeson, H. D., ... & Abate, K. H. (2018). Alcohol use and burden for 195 countries and territories, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016. *The Lancet*, 392(10152), 1015-1035.
- Gruskin, S., Plafker, K., & Smith-Estelle, A. (2001). Understanding and responding to youth substance use: the contribution of a health and human rights framework. *American Journal of public health*, 91(12), 1954-1963.
- Gupta, P. C., & Sinha, D. N. (2004). Tobacco research in India. *Indian journal of public health*, 48(3), 103.
- Haddad, S., Mohindra, K. S., Siekmans, K., Màk, G., & Narayana, D. (2012). “Health divide” between indigenous and non-indigenous populations in Kerala, India: Population based study. *BMC Public Health*, 12(1), 390.
- Hamajima, N., Hirose, K., Tajima, K., Rohan, T., Calle, E. E., Heath Jr, C. W., ... & Koetsawang, S. (2002). Collaborative Group on Hormonal Factors in Breast Cancer Alcohol, tobacco and breast cancer—collaborative reanalysis of individual data from 53 epidemiological studies, including 58,515 women with breast cancer and 95,067 women without the disease. *Br J Cancer*, 87(11), 1234-1245.
- Harwood, H. *Updating Estimates of the Economic Costs of Alcohol Abuse in the United States: Estimates, Update Methods, and Data*. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism, 2000.
- Howie, E. K., Sui, X., Lee, D. C., Hooker, S. P., Hébert, J. R., & Blair, S. N. (2011). Alcohol consumption and risk of all-cause and cardiovascular disease mortality in men. *Journal of aging research*, 2011.



- Hydes, T. J., Burton, R., Inskip, H., Bellis, M. A., & Sheron, N. (2019). A comparison of gender-linked population cancer risks between alcohol and tobacco: how many cigarettes are there in a bottle of wine?. *BMC public health*, 19(1), 316.
- Kaulagekar, A., & Radkar, A. (2007). Social status makes a difference: tuberculosis scenario during National Family Health Survey-2. *Indian journal of tuberculosis*, 54(1), 17.
- Korlakunta, A., & Reddy, C. P. (2019). High-risk behavior in patients with alcohol dependence. *Indian Journal of Psychiatry*, 61(2), 125.
- Kyaing, N. N., Islam, M. A., Sinha, D. N., & Rinchen, S. (2011). Social, economic and legal dimensions of tobacco and its control in South-East Asia region. *Indian journal of public health*, 55(3), 161.
- Leigh, B. C. (1999). Peril, chance, adventure: concepts of risk, alcohol use and risky behavior in young adults. *Addiction*, 94(3), 371-383.
- Leigh, B. C., & Stall, R. (1993). Substance use and risky sexual behavior for exposure to HIV: Issues in methodology, interpretation, and prevention. *American psychologist*, 48(10), 1035.
- Li, J., Wu, B., Selbæk, G., Krokstad, S., & Helvik, A. S. (2017). Factors associated with consumption of alcohol in older adults—a comparison between two cultures, China and Norway: the CLHLS and the HUNT-study. *BMC geriatrics*, 17(1), 172.
- Mao, A. A., Hynniewta, T. M., & Sanjappa, M. (2009). Plant wealth of Northeast India with reference to ethnobotany.
- March, J. C., Oviedo-Joekes, E., & Romero, M. (2006). Drugs and social exclusion in ten European cities. *European addiction research*, 12(1), 33-41.
- McCrystal, Patrick. (2004). Social exclusion – a holistic approach to understanding adolescent drug use. *Radical Statistics*, (85), pp. 1-17.
- Mishra, S. K., & Nayak, P. (2008). Facets and factors of human development in Tripura. *Growth and human development in North-East India*, 281-296.
- Mohanani, P., Swain, S., Sanah, N., Sharma, V., & Ghosh, D. (2014). A study on the prevalence of alcohol consumption, tobacco use and sexual behaviour among adolescents in urban areas of the Udupi District, Karnataka, India. *Sultan Qaboos University Medical Journal*, 14(1), e104.
- Morris, P., & Halkitis, P. N. (2015). The influence of context on health. <https://www.ncbi.nlm.nih.gov/pubmed/26287454>
- Mukamal, K. J., Ding, E. L., & Djoussé, L. (2006). Alcohol consumption, physical activity, and chronic disease risk factors: a population-based cross-sectional survey. *BMC Public Health*, 6(1), 118.
- Nayar, K. R. (2007). Social exclusion, caste & health: a review based on the social determinants framework. *Indian Journal of Medical Research*, 126(4), 355.
- Neufeld, K. J., Peters, D. H., Rani, M., Bonu, S., & Brooner, R. K. (2005). Regular use of alcohol and tobacco in India and its association with age, gender, and poverty. *Drug and alcohol dependence*, 77(3), 283-291.
- Nutt, D. J., King, L. A., & Phillips, L. D. (2010). Drug harms in the UK: a multicriteria decision analysis. *The Lancet*, 376(9752), 1558-1565.

- P.R. Bhattacharjee, P.R., Nayak, P and Saha, P. (1996). Economic-demographic changes in the tribal societies of Tripura. *Journal of NEICSSR*, 20(2), pp. 1-18.
- Peele, S., & Brodsky, A. (2000). Exploring psychological benefits associated with moderate alcohol use: a necessary corrective to assessments of drinking outcomes?. *Drug and alcohol dependence*, 60(3), 221-247.
- Pelucchi, C.; Gallus, S.; Garavello, W.; et al. Cancer risk associated with alcohol and tobacco use: Focus on upper aero-digestive tract and liver. *Alcohol Research & Health* (29)3:193–198, 2007.
- Pickett, K. E., & Pearl, M. (2001). Multilevel analyses of neighbourhood socioeconomic context and health outcomes: a critical review. *Journal of Epidemiology & Community Health*, 55(2), 111-122.
- Ponnudrai, R., Jayakar, J., Raju, B., & Pattamuthu, R. (1991). An epidemiological study of alcoholism. *Indian journal of psychiatry*, 33(3), 176.
- Prabhu, P., Srinivas, R., & Kashi Vishwanathan, A. R. (2014). Factors influencing alcohol and tobacco addiction among patients attending a de-addiction Centre, South India. *Journal of International Society of Preventive & Community Dentistry*, 4(2), 103.
- Sen, A. (2014). Development as freedom (1999). *Roberts, JT, Hite, AB & Chorev, N. The Globalization and Development Reader: Perspectives on Development and Global Change*, 2, 525-547.
- Shrivastava, S. R., Shrivastava, P. S., & Ramasamy, J. (2013). Implementation of public health practices in tribal populations of India: challenges and remedies. *Healthcare in Low-resource Settings*, 1(1), e3-e3.
- Sinha, D. N., Gupta, P. C., & Pednekar, M. (2004). Tobacco water: a special form of tobacco use in the Mizoram and Manipur states of India. *Natl Med J India*, 17(5), 245-7.
- Sonowal, C. J. (2008). Indian tribes and issue of social inclusion and exclusion. *Studies of Tribes and Tribals*, 6(2), 123-134.
- Subramanian, S. V., Nandy, S., Irving, M., Gordon, D., Lambert, H., & Davey Smith, G. (2006). The mortality divide in India: the differential contributions of gender, caste, and standard of living across the life course. *American Journal of Public Health*, 96(5), 818-825.
- Subramanian, S. V., Smith, G. D., & Subramanyam, M. (2006). Indigenous health and socioeconomic status in India. *PLoS Medicine*, 3(10), e421.
- Subramanian, S. V., Smith, G. D., & Subramanyam, M. (2006). Indigenous health and socioeconomic status in India. *PLoS Medicine*, 3(10), e421.
- Sunitha, S., & Gururaj, G. (2014). Health behaviours & problems among young people in India: Cause for concern & call for action. *The Indian journal of medical research*, 140(2), 185.
- Tattwamasi Paltasingh and Gayatri Paliwal. (2014). Tribal population in India: Regional dimensions and imperatives. *Journal of Regional Development and Planning*, Vol. 3 (2).
- Thankappan, K. R., & Thresia, C. U. (2007). Tobacco use & social status in Kerala. *Indian Journal of Medical Research*, 126(4), 300.

- Willis, R., Stephens, C., & Nettleton, C. (2004). The Right to Health of Indigenous Peoples, Report of a World Health Organization. Management of Substance Abuse Unit. (2014). *Global status report on alcohol and health, 2014*. World Health Organization.
- Wright, K. (2018). Alcohol-Related Harm Profile.

### Appendix

Table 1: International and national border shares of state Tripura

Country/States	Shares of borders (in Km) and directions
Bangladesh	856 km (in north, south and west directions)
Assam	53 km (in the east directions)
Mizoram	109 km (in the east directions)

Table 2: Scheduled tribes population distribution of Tripura

Sl. No.	Name of the Tribe	2001	%	2011	%
1	Tripuri/Tripura	543848	54.74	592255	50.75
2	Reang	165103	16.62	188220	16.13
3	Jamatia	74949	7.54	83347	7.14
4	Noatia	6655	0.67	14298	1.22
5	Uchoi	2103	0.21	2447	0.20
6	Kuki	11674	1.18	10965	0.93
7	Halam	47245	4.76	57210	4.90
8	Lushai	4777	0.48	5384	0.46
9	Bhutia	29	0.00	28	0.00
10	Lepcha	105	0.01	157	0.01
11	Khashia	630	0.06	366	0.03
12	Chakma	64293	6.47	79813	6.84
13	Mog	30385	3.06	37893	3.24
14	Garo	11180	1.13	12952	1.11
15	Munda/Kaur	12416	1.25	14544	1.24
16	Santal	2151	0.22	2913	0.24
17	Orang	6223	0.63	12011	1.02
18	Bhil	2336	0.24	3105	0.26
19	Chaimal	226	0.02	549	0.04
20	Generic Tribes etc.	7098	0.71	48356	4.14
	Total	993426		11,66,813	

Source: Census data, India, 2001 and 2011