

## A Study on Prevalence and Pattern of Alcohol Consumption among the Munda Tribes of North Odisha

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**ABSTRACT** Alcohol use and its relationship to the tribal people has been a part of their culture and tradition in different communities. Now it has become a common beverage among tribal people. Alcohol is taken unrestrictedly by the tribals as it is brewed at every household and therefore both men and women consume it. The study was conducted in Keonjhar and Mayurbhanj districts of Odisha. One hundred and twenty Munda respondents were selected purposively and information on prevalence and patterns were collected. Munda's usually consumes an indigenous fermented rice beer called 'Diang'. Eighty-five percent males and eighty percent females were regular alcohol users. According to AUDIT, 36.6 percent of males and 28.3 percent females belong to harmful drinking category. The harmful effect of alcohol consumption experienced by tribes suggest that an alternative healthy option and lifestyle needs to be developed to help these tribes.

### INTRODUCTION

Alcohol consumption is a culturally defined activity, impacted by the economy and policy of a society at a given point of time. Alcohol and tobacco are important products of the global addictive demand and have experienced a rapid increase in the per capita consumption. Globally, alcohol consumption results in approximately 3.3 million deaths each year (WHO Global Status Report 2014). It is the third largest risk factor leading to disease and disability in the world. Alcohol has been in use for centuries in the Indian region. The amount of alcohol consumption has risen in India between 2008 to 2012. Around thirty percent of the total population of India consumed alcohol in the year 2010 (WHO 2014). These developments have raised concerns about the health and the social consequences of excessive drinking (Saxena 1999). Overall, 3.5 percent of the global burden of disease is attributable to alcohol, which accounts for as much

death and disability as tobacco and hypertension (Rehm et al. 2003)

Alcohol is one of the commonly consumed intoxicating substances in India. As per WHO Global Report on Alcohol (2004), India was in 150<sup>th</sup> position among the 184 countries on alcohol consumption. According to WHO, about thirty percent of Indians consume alcohol, out of which four-thirteen percent are daily consumers and upto fifty percent of these fall under the category of hazardous drinking (Roy 2015). India is a very diverse country with considerable variation in climate, vegetation, natural resources, cultures, and traditions. This diversity is also reflected in the types of alcoholic beverages consumed and the cultural meaning associated with alcohol use. The pattern of drinking in India has changed from occasional and ritualistic use to social use.

The use of alcohol is very common among the different tribal communities. Alcohol consumption is a part of their culture and therefore, both men and women consumed homemade liquor such as 'handia' or 'mahua' during festivals (Ghosh and Mallik 2009). From a social and cultural point of view, alcohol binds the tribals together like a string of thread. Alcohol is consumed traditionally on every occasion of sacraments from birth to death. Alcohol has been used in this way from times immemorial among Mun-

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da tribe. Munda's usually consume an indigenous rice beer called *Handia* ('*Diang*'-in Munda language). Besides rice beer another alcoholic beverage is also brewed at their home known as *Mahuli* obtained from *mahua* flower. This leads to the diversion of food grains to alcohol production and thus it is affordable and consumed regularly.

Alcohol related problems have been familiar to human societies since the beginning of recorded historical accounts for as much as death and disability as tobacco and hypertension (Rehm et al. 2003). It is true that no social occasion is understood to be completed without the use of alcohol among tribals; but their heavy consumption affects their health, efficiency and ultimately leading to negligence of their health and family welfare and even causing early death. Many studies have been carried out on alcoholism (Mohan et al. 2000. Singh et al. 2000. Negi et al. 2003. Gupta et al. 2003. Neufeld et al. 2005. Subramanian et al. 2005) but studies on the tribal drinking habit and effect of drinking on the health and morbidity of the tribal population are very few in number. However it has been observed that excessive intake of alcohol by the tribal population is the main cause of their poor health, spousal violence, psychological and medical disorders. In this backdrop the present study has been carried out to reveal the prevalence and pattern of alcohol consumption among the Munda tribes of North Odisha.

## METHODOLOGY

The study was carried out in Keonjhar and Mayurbhanj district of North-Odisha during 2010-11. For this, 120 household belonging to Munda tribe were selected purposively from the three villages (Naradapur, Ramachandrapur, Ruguddih) of Keonjhar district, and three villages (Kotash, Jaunriposi, Saramgod) of Mayurbhanj District where the Munda people inhabit. Information on socio-economic status of the sample households was collected by personal interview. Alcohol consumption pattern, frequency of alcohol intake, type of alcohol used, use of alcohol history etc. were collected through the help of structured interview schedule. The head of the family (both male and female) were interviewed. Tools like Alcohol Use Disorders Identification Test (AUDIT) developed by WHO was used to identify respondents with harmful, hazardous or alcohol dependence problem. Scores

obtained from AUDIT were diagnostic data reflecting low, medium and high degree of alcohol dependence. It was found that AUDIT score range of 8-15 represented a medium level of problem where as score of sixteen and above represented a high level of alcohol problem. Scores ranged above 19 represents alcohol dependency.

## RESULTS AND DISCUSSION

### Prevalence and Patterns of Alcohol Consumption

As Table 1 shows the prevalence rate of alcohol consumption was cent percent among the study subjects. Out of total population male and female were equally observed as regular drinker that is, eighty-five percent and eighty percent respectively.

**Table 1: prevalence of alcohol consumption among respondents**

Frequency of drinking	Male		Female		Total	
	No.	%	No.	%	No.	%
Regularly	51	85	48	80	99	82.5
Occasionally	9	15	12	20	21	17.5
Total	60	100	60	100	120	100.0

As Table 2 shows that fifty-one percent males and forty-eight percent females were consuming rice beer, therefore, it indicates that rice beer is very much popular among tribal population. Rice beer is brewed at every household at regular interval so it might be another reason behind it being so popular. Besides this, another distilled alcoholic drink known to Munda people that is, *Mahuli* is extracted from *Mahua* flower by distillation process- locally named '*Arki*'. Like rice beer it is not brewed or available in every household. Tribals brew it during festive seasons or they can obtained it from local *daru bhattis*. Though it is not consumed regularly but on many occasions. Twenty percent Munda male and 11.6 percent of female consume both rice beer and *Mahuli*. Maximum males (28.3%) who drink rice beer also like to drink IMFL (Indian Made Foreign Liquor) and other brands available locally. Most common type of drink was locally brewed rice beer and *mahuli*. Deswal et al. (2006) in his study found local beverages as the most common type of liquor. Seagle et al.

(2002) in their study reported beer as the most common type. Similar results were also found in other studies like Khosla et al. (2008), John et al. (2009) and Girish et al. (2010). In case of females, the choice of alcoholic beverage is limited to rice beer and *mahuli*. It was found that those who have a good source of income go for *Mahuli* and other brands like IMFL as it is little bit costlier than rice beer.

**Table 2: Type of alcohol consumed by respondents**

Type of liquor	Male		Female		Total	
	No.	%	No.	%	No.	%
Only rice beer	31	51.6	53	88.3	84	70
Rice beer and Mahuli	12	20	7	11.6	19	15.8
Rice beer and IMFL	17	28.3	-	-	17	14.1
Total	60	100	60	100	120	100.0

Table 3 reflects that rice beer is not only popular among tribals but it is also consumed in large quantity. Out of total regular alcohol users, seventy percent were reportedly said that they consume rice beer up to 1000ml or more than that on a single occasion. Similarly, in case of women, mostly (53.3%) drink more than 1000ml/day. Occasional users comparatively drink less than regular users that is, between 250-1000ml. Those who are regular consumers

of rice beer consume not below than 1000ml. There are many reasons behind taking rice beer in such a large quantity like its production in every home at regular interval. It has low alcohol content and also good satiety value. *Mahuli* or '*Arki*' drinkers are very less among male population. Among them only 8.3 percent consume it regularly and fifteen percent consume it occasionally. But they don't know the actual quantity they drink. Other brand like IMFL (Indian Made Foreign Liquor) is not so popular among regular users but among occasional users. IMFL was usually consumed on different occasions like marriage and birthday ceremonies. 23.3 percent occasional users consumed more than 50ml during those occasions.

According to Table 4, regular alcohol users were more concentrated between the age group of 31 to 60. From male population, maximum twenty-five percent of regular alcohol users were in 31-50 age group. Similarly in case of female regular alcohol users maximum belong to the age group of 31-40 and 41-50 that is, twenty-five percent and forty percent respectively. The result is very close to other studies like Girish et al. (2010) and Yadav et al. (2016), they found that the younger age group (25-44 years) were consuming more alcohol as compared to youth and older people. Nuclear family influenced more on drinking pattern because majority of the regular alcohol consumers were found in nuclear family than joint family that is, sixty-one percent male and fifty-eight percent female. So far as marital status is concerned maximum seventy-six percent of male and sixty-three percent of female

**Table 3: Frequency and quantity of alcohol consumption by respondents**

Type of liquor	Quantity	Male				Female			
		Regular drinker		Occasional drinker		Regular drinker		Occasional drinker	
		No.	%	No.	%	No.	%	No.	%
Rice beer	<250ml	-	-	2	3.3	2	3.3	-	-
	250-500ml	2	3.3	4	6.6	4	6.6	6	10
	500-1000ml	7	11.6	3	5	10	16.7	4	6.6
	>1000ml	42	70	-	-	32	53.3	2	3.3
	Total	51	85	9	15	48	80	12	20
Mahuli(Arki)	25ml	-	-	-	-	-	-	-	-
	50ml	2	3.3	-	-	-	-	-	-
	75ml	-	-	-	-	-	-	-	-
	Not known	3	5	9	15	3	5	7	11.6
	Total	5	8.33	9	15	3	5	7	11.6
Other Brands	30ml	-	-	-	-	-	-	-	-
	50ml	3	5	4	6.6	-	-	-	-
	100ml	-	-	3	5	-	-	-	-
	Not known	-	-	7	11.6	-	-	-	-
	Total	3	5	14	23.33	-	-	-	-

**Table 4: Socio-demographic characteristics of the respondents**

	Male						Female					
	Reg.	%	Occ.	%	Total	%	Reg.	%	Occ.	%	Total	%
<i>Age</i>												
Below 30	8	13.3	1	1.66	9	15	3	5	1	1.6	4	6.6
31-40	15	25	6	10	21	30	15	25	3	5	18	30
41-50	15	25	1	1.66	16	26.6	24	40	8	13.3	32	53.3
51-60	13	21.6	1	1.66	14	23.3	6	10	-	-	6	10
<i>Type of Family</i>												
Nuclear	37	61.6	5	8.3	42	70	35	58.3	9	15	44	73.3
Joint	14	23.3	4	6.6	18	30	13	21.6	3	5	16	37.6
<i>Marital Status</i>												
Single	3	5	-	-	3	8	7	11.6	1	1.6	8	13.3
Married	46	76.6	8	13.3	54	90	38	63.3	10	16.6	48	80
Widower	2	3.3	1	1.6	3	5	3	5	1	1.6	4	6.6
<i>Occupational Status</i>												
Agricultural	24	40	8	13.3	32	53.3	23	38.3	3	5	26	43.3
Business	2	3.3	-	-	2	3.3	6	10	1	1.6	7	11.6
Laborers	11	18.3	1	1.6	12	20	19	31.6	8	13.3	27	45
Service persons	14	23.3	-	-	14	23.3	-	-	-	-	-	-
<i>Monthly Income (in Rs)</i>												
<3000	6	10	2	3.3	8	13.3	8	13.3	3	5	11	18.3
3000-6000	23	38.3	4	6.6	27	45	19	31.6	6	10	25	41.6
6000-9000	12	20	1	1.6	13	21.6	14	23.3	1	1.6	15	25
>9000	10	16.6	2	3.3	12	20	7	11.6	2	3.3	9	15
<i>Education</i>												
Illiterate	20	33.3	-	-	20	33.3	34	56.6	5	8.3	39	65
Literate	31	51.6	9	15	40	66.6	14	23.3	7	11.6	21	35

regular alcohol consumers were married. This highest drinking incidence reflects that a married person is regarded as more mature than before and gets himself involved in social and religious activities of the community. As drinking is an integral part of *Adivasi* life, they also drink more of it on special occasions and is also traditionally accepted. Negi et al. (2003) also observed the higher prevalence of regular alcohol consumption in married persons.

According to the occupational status highest regular alcohol consumers that is, forty percent and 38.3 percent of male and female category were from agricultural background. Second highest regular consumers 23.3 percent male and 31.6 percent female were laborers.

Maximum number of regular alcohol users belonged to the income group of Rs.3000-6000 in the combined population (38.3% male and 31.6% female). It was minimum in below Rs.3000 income group. Maximum fifty-six percent female and 33.3 percent male regular alcohol consumer were illiterate whereas among literate population 51.6 percent were male; but most of them educated up to upper primary level, and 23.3

percent female were regular alcohol users. This result reflected that more regular alcohol drinkers were illiterate in combine population. The high rate of drinking among illiterates was also reported by Chakravarthy (1990) and Yadav (2016).

AUDIT (Alcohol Use Disorder Identification Test) was used to assess drinking problem of Munda people. Table 5 shows Higher percentages of male respondents were in problem drinkers category compared to women. The persons identified as problem drinkers, were mostly regular alcohol users. Harmful or hazardous drinking habit was observed more in male (36.6%) regular drinkers than females (28.3). Only 11.6 percent of male and 6.6 percent of female were regular alcohol users and were identified as alcohol dependent according to the AUDIT. Katyal et al. (2013) stated that according to the AUDIT score, hazardous, dependent and harmful drinkers were 7.7 percent, 9.2 percent and 2.4 percent respectively. Dhupdale et al. (2006) stated as hazardous drinkers: 76.2 percent, harmful drinkers: 14.3 percent and alcohol dependents: 9.5 percent respectively in their study done in Goa.

**Table 5: Prevalence of drinking problem among the respondents**

AUDIT ( Alcohol Disorder Identification Test)	Male						Female					
	R	%	O	%	Total	%	R	%	O	%	Total	%
Harmful drinking	22	36.6	-	-	22	36.6	17	28.3	-	-	17	28.3
Severe alcohol problem	2	3.3	-	-	2	3.3	-	-	-	-	-	-
Alcohol dependence	7	11.6	-	-	7	11.6	4	6.6	-	-	4	6.6

Seagle et al. (2002) also stated 94.2 percent as hazardous, 36.5 percent as dependent and 80.2 percent as harmful drinkers which were much higher than the researchers' study whereas in case of female it was very low.

D'costa et al. (2007) also reported the same that less women were classified as harmful or dependent drinkers in their study. Easy availability of rice beer and *Mahuli* encourage positive attitude towards regular consumption of alcohol. On the other hand preference of country liquor IMFL, whose availability is widespread in the region may be a greater risk for hazardous use.

Tribals who were identified as alcohol dependence do not have control over their drinking. It is impossible for them to stay still without drinking. Some respondents were observed to be very silent, did not utter a word since they didn't get a drink. Severe alcoholic problem was also reported by the tribal women who consumed alcohol regularly. Women were easily intoxicated after drinking and once they get intoxicated they lose control over everything. Arguing, scolding and mischievous evidence towards family members and outsiders were observed to be common in females.

### CONCLUSION

The study concluded that prevalence of regular alcohol consumption was high among the population under study. Drinking behavior, among tribal and social problems was observed higher in lower education and lower income groups; whereas prevalence of 'drunkenness' was lower in higher education and high income groups. Prevalence of regular drinking was higher in the illiterate group among females. The male belongs to literate group but less educated. It was clear that prevalence of drinking was high among uneducated or lower educational group.

Alcohol dependence and severe alcohol drinking problem was reported by very few respondents. This is because consumption of other brand liquors or *Mahuli* were limited and low alcohol content of rice beer played the least role to get easy intoxication which leads to other behavioral problems among tribals.

### RECOMMENDATIONS

The result of the study shows that there is a need for detailed assessment and treatment for alcohol dependence. Beside this policies and public health awareness programs should be strengthened in these areas to reduce alcohol related problems in tribal communities. Adequate attention should be given to create awareness among tribal people on alcohol related problems and diseases as most of them are illiterates. High prevalence of alcohol consumption among tribal women is to be considered seriously. Special attention should be given to high risk group that is, chronic drinkers.

### REFERENCES

- Chakravarthy C 1990. Community workers estimate of drinking and alcohol- related problems in rural areas. *Indian Journal of Psychological Medicine*, 13: 49-56.
- D'Costa G, Nazareth I, Naik D, Vaidya R, Levy G, Patel V, King M 2007. Harmful alcohol use in Goa, India, and its associations with violence: A study in primary care. *Alcohol and Alcoholism*, 42(2): 131-137.
- Deswal BS, Jindal AK, Gupta KK 2006. Epidemiology of alcohol use among residents of remote hills of Arunachal Pradesh. *Indian Journal of Community Medicine*, 31(2): 88-90.
- Dhupdale NY, Motghare DD, Ferreira AMA, Prasad YD 2006. Prevalence and pattern of alcohol consumption in rural Goa. *Indian Journal of Community Medicine*, 31(2): 104-105.
- Girish N, Kavita R, Gururaj G, Benegal V 2010. Alcohol use and implication for public health: Patterns of use in four communities. *Indian Journal of Community Medicine*, 35: 238-244.

- Ghosh S, Malik S 2009. Assessment and administration for health in a tribal community of India. *The Internet Journal of Biological Anthropology*, 3: 2.
- Gupta PC, Saxena S, Pednekar MS, Maulik PK 2003. Alcohol consumption among middle-aged and elderly men: A community study from western India. *Alcohol and Alcoholism*, 38(4): 327-331.
- John A, Barman A, Bal D, Chandhy G, Samuel J, Thokchom M 2009. Hazardous alcohol use in rural southern India: Nature, prevalence and risk factors. *The National Medical Journal of India*, 22(3): 123-125.
- Katyal R, Bansal R, Goel K, Sharma S 2013. Hazardous, harmful and dependence alcohol users according to audit in an urban slum, Meerut. *Int J Medical Science Public Health*, 2: 26-30.
- Khosla V, Thankappan KR, Mini GK, Sharma PS 2008. Prevalence and predictors of alcohol use among college students in Ludhiana, Punjab, India. *Indian J Med Res*, 128(1): 79-81.
- Mohan D, Chopra A, Ray R, Sethi H 2000. Alcohol consumption in India: A cross-sectional study. In: A Demers, R Room, C Bourgault (Eds.): *Surveys of Drinking Patterns and Problems in Seven Developing Countries*. Geneva: World Health Organization, Department of Mental Health and Substance Dependence, pp. 103-114.
- Negi KS, Kandpal SD, Rawat CMS 2003. Prevalence of alcoholism among the males in a rural and urban area of district Dehradun (Uttaranchal). *Indian Journal of Preventive and Social Medicine*, 34(3 and 4): 86-91.
- Neufeld KJ, Peters DH, Rani M, Bonu S, Brooner RK 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.
- Rehm J, Rehn N, Room R, Monteiro M, Gmel G, Jernigan D, Frick U 2003. The global distribution of average volume of alcohol consumption and patterns of drinking. *Eur Addict Res*, 9: 147-156.
- Roy SD 2015. Alcohol Consumption Rising Fast in India: Organisation for Economic Cooperation and Development report. *The Indian Express*, May 17.
- Saxena S 1999. Country profile on alcohol in India. In: L Riley, M Marshall (Eds.): *Alcohol and Public Health in Eight Developing Countries*. Geneva: World Health Organization, pp. 37-60.
- Seagle JP, Seagle JD, Alvarado M, Vogel RL, Terry NE 2002. Prevalence of problem drinking in a Venezuelan Native American population. *Alcohol and Alcoholism*, 37(2): 198-204.
- Singh J, Singh G, Mohan V, Padda AS 2000. A comparative study of prevalence of regular alcohol users among the male individuals in an urban and rural area of district Amritsar, Punjab. *Indian Journal of Community Medicine*, 25(2): 73-78
- Subramanian SV, Nandy S, Irving M, Gordon D, Smith DG 2005. Role of socioeconomic markers and state prohibition policy in predicting alcohol consumption among men and women in India: A multilevel statistical analysis. *Bulletin of the World Health Organization*, 83(11): 829-836.
- WHO 2004. *Global Status Report on Alcohol*. Geneva: Department of Mental Health and Substance Abuse, World Health Organization.
- WHO 2014. *Global Status Report on Alcohol and Health 2014*. Geneva: World Health Organization.
- Yadav J, Gautam S, Singh KJ 2016. Prevalence and correlates of alcohol consumption in northeast states, India (Evidence from District Levels Household Survey: 2012-13). *Int J Community Medicine and Public Health*, 4(1): 30-37.

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