

## SHORT ARTICLE

# Community based interventional study to assess the impact of health education on alcohol use among adult males in Bareilly, Uttar Pradesh

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## Abstract

**Background:** Alcoholic beverages have been a piece of social life for centuries, yet social orders have constantly thought that it was hard to comprehend or control their utilization. Apart from the health concerns, chronic alcoholism is one of the major foundations for poverty in the country. **Aims & Objectives:** To assess the impact of health education on alcohol use in adult males of Bareilly District, Uttar Pradesh. **Material & Methods:** A community based interventional study performed in the Bareilly district among males aged >15 years during November 2015 to April 2017 taking a sample of 699 by 30 cluster sampling with population proportional to size. Data collection was done by home visit using WHO-AUDIT (Alcohol Use Disorder Identification Test) questionnaire. After data collection, health education was provided to study population as speech, posters, short films and focus group discussion. One year after providing health education, AUDIT questionnaire was re-filled by current alcohol drinkers to know the impact of health education. **Results:** Prevalence of drinking alcohol is 30.47% i.e. 213 current drinkers. AUDIT Scores before and after Health education were positively correlated ( $r=.768$ ,  $p=0.0001$ ). There was a significant average difference between AUDIT Scores of pre and post Health education ( $t_{178}=2.973$ ,  $p=0.003$ ). **Conclusion:** Health education has a positive impact on alcohol use therefore research focus should be on primary prevention by health education/behaviour change communication in primary and secondary care settings.

## Keywords

Alcohol use; Health education; AUDIT; Drug abuse

## Introduction

The human experience swarms with confirm, both diverse and universal, that individuals can utilize

liquor in an assortment of mindful and productive ways.(1) Distinctive social orders not just have diverse arrangements of convictions and guidelines about drinking.(2) According to Global status report on alcohol and health 2014, In India, in 2010, total alcohol per capita consumption (drinkers only) of male (15+) was 32.1 litres of pure alcohol, and female (15+) was 10.6 liters of pure alcohol.(3) People need to be informed about these issues because they live in a world in which Alcohol use is everywhere. Even if individual don't use these substances, Alcohol can affect their lives in a number of ways, including through people who do use them.(4) Preventing or delaying early use for as long as possible is important because it predicts problems and dependence later in life.(5)

Alcohol policies are developed with the aim of reducing harmful use of alcohol and the alcohol-attributable health and social burden in a population and in society. Such policies can be formulated at the global, regional, multinational, national and subnational level. Successful alcohol policies outline comprehensive policy responses covering areas such as availability, marketing, pricing, drink-driving, prevention interventions and treatment in health-care systems. Policy should also have a clear focus on implementation and evaluation.(3)

### Aims & Objectives

1. To assess pre and post interventional difference between mean of AUDIT Scores and distribution of drinkers according to risk level as per AUDIT scores

### Material & Methods

A community based interventional study was performed in the Bareilly district of Uttar Pradesh from November 2015 to April 2017. Males who have completed 15 years of age at the time of data collection (3) and residing in the study area were taken in the sampling universe as study population. Prevalence of alcohol use among male in Uttar Pradesh (National Family Health Survey 3) (6) is 25.3%. With 20% allowable error, using formula  $n=4pq/L^2$  sample size derived was 296, thereafter multiplying it by 2 as design effect (for cluster sampling) and taking 15% of non-responsive rate, the calculated sample size was 697.

Bareilly district have population of 44,48,359 residing in 2,437 villages and wards.(7) All 2,437 villages and wards were taken as Sampling frame and 30 clusters were selected from the population by

cluster sampling with probability proportional to size (PPS) and out of each cluster, first house was taken out by simple random sample technique then consecutive houses were taken and from which one adult male was chosen till the sample size achieved, a total of 24 individuals were chosen from each cluster, therefore total 720 individual were selected from 30 clusters. In the event that in excess of one adult male present in one house, one adult male was picked by lottery technique. In the event that no adult male in house, house is locked or individual not willing to take part after repetitive counseling, we moved further as indicated by random table.

Data was collected after obtaining the Institutional ethical committee clearance. All participants were explained about the objectives and an informed written consent was taken. Face-to-face interviews was carried out after explaining the risks, benefits, purpose and ensure them for their confidentiality and anonymity of the study. Data was collected by home visit using WHO-AUDIT (Alcohol Use Disorder Identification Test) questionnaire. Schedule was made by the investigator which includes both open ended and close ended questions. Schedule was pretested by conducting pilot study with a sample size of 72 subjects (10% of calculated sample size) to know the feasibility of the study. Those 72 subjects were excluded from the study.

After data collection, health education was given to study population in form of speech, posters, short films and focus group discussion as community-based intervention. Data was checked, verified, cleaned, edited and entered into Epi Info 7.2 software in the computer. Due to partial/incorrect response 21 schedules were excluded. Therefore, 699 study participants were finally included in study. AUDIT questionnaire was filled by 213 current drinkers. During follow-up, 35 participants dropped out and AUDIT score was refilled by 178 current drinkers after one year of imparting Health Education on Alcohol use. Impact of health education was evaluated by comparing data. The outcome was shown with the assistance of tables as indicated by the aim and objectives of the study. Valid information was contrasted and compared with the other studies.

### Results

[Figure 1](#) reveals that out of total 699 study subjects 213 (31%) were current drinkers 448 (64%) were teetotalers and only 38 (5%) were past drinkers.

[Table 1](#) reflects that as per AUDIT score 120 (56.3%) of current drinkers were at low risk (score <7), whereas rest of the current drinkers i.e. 93 (43.7%) were problem drinkers (score >8).

[Table 2](#) & [Figure 2](#) reveals that after intervention, proportion of current drinkers increased in Zone I i.e. 115 (64.6%) out of 178 current drinkers scored between 0-7 when contrasted with 56.3% in pre-intervention evaluation. In total of 178 alcohol users, 63 (35.4%) were problem drinker i.e. scored 8 or above. It was observed that there was a decreasing trend, with the increase in AUDIT score, as 36 (20.2%) alcohol users scored between 8-15, while 15 (8.5%) scored between 16-19 and in Zone IV proportion decreased by 6.7% as compared to 12.2% in pre-intervention evaluation who need diagnostic evaluation i.e. scored 20 or above.

[Table 3](#) show that among 178 current drinkers, 74 (41.6%) didn't change i.e. AUDIT score remained same or increased while 28 (15.7%) left drinking i.e. AUDIT score is 0, and 76 (42.7%) of alcohol users showed change in their drinking pattern i.e. AUDIT score decreased than earlier.

Mean AUDIT score before health education was  $8.46 \pm 7.506$  and after was  $7.35 \pm 6.889$

On application of Paired t-test following were the observation,

- AUDIT Scores before Health education and AUDIT Scores after Health education were positively correlated ( $r=0.768$ ,  $p=0.0001$ ).
- There was a significant average difference between AUDIT Scores before Health education and after Health education ( $t_{178}=2.973$ ,  $p=0.003$ ).
- On an average, AUDIT Scores before Health education were 1.101 points higher than AUDIT Scores after Health education ( $95\%CI[0.370,1.832]$ ).
- It can be obviously expressed that health education has a positive impact of on the pattern of alcohol use among alcohol users.

## Discussion

In the present study, prevalence of problem drinking were reliable with the findings of Brisibe S (12) conducted a study in 2011 in which problem drinkers were 33.23%. He also reported 57.7% of non-problem drinkers which were similar to finding of our study. There is a positive effect of Health education regarding alcohol use on changing the pattern of alcohol consumption which was inconsistent with a

study of Geshi M (13) conducted study in 2007 reported that there is no significant effect of health education was observed regarding drinking behavior or problem drinking as measured by CAGE ( $p>0.05$ )

## Conclusion

Out of total 213 of current drinkers 120 (56.3%) of current drinkers were at low risk (score <7), whereas, 93 (43.7%) were problem drinkers (AUDIT score >8). After Health Education, 35 participants were dropped out during follow up so 178 participants were involved in the study after health education. From total 178, 42.7% of current drinkers had changed their drinking pattern and 15.7% didn't drink for last one year after getting health education. On an average, AUDIT Scores before Health education were 1.101 points higher than AUDIT Scores after Health education ( $95\%CI[0.370,1.832]$ ), and a significant average difference between AUDIT Scores before and after Health education ( $t_{178}=2.973$ ,  $p=0.003$ ) was found, so it can be expressed that there is a positive impact of health education on the pattern of alcohol use among alcohol users.

## Recommendation

Primary and secondary centres should be equipped with facilities of counsellors and health educators in addition to health facilities for on-going research activities, behaviour change communication and health education to reduce the huge burden of alcohol abuse in rural and semi-urban areas. Aggressive media campaigning, with involvement of private sector, Non-Governmental Organizations (NGOs), Faith Based Organizations (FBOs) is essential to increase awareness regarding health and social hazards of alcohol abuse.

## Limitation of the study

Non-cooperation due to social stigma was observed in few of study subjects, therefore number of subjects included in study were higher than calculated sample size.

## Authors Contribution

All the authors have contributed equally in this study.

## References

1. Heath, D.B. Some generalizations about alcohol and culture. Heath, D.B. (Ed.), International Handbook on Alcohol and Culture. Westport, CT: Greenwood Press; 1995. 348-361.
2. Pattison, E.M., and Kaufman, E. Encyclopedic Handbook of Alcoholism, New York: Gardner Press; 1982. 429-430

3. World Health Organization. Global status report: alcohol policy. 2014. Available at: [http://www.who.int/substance\\_abuse/publications/global\\_alcohol\\_report/en/](http://www.who.int/substance_abuse/publications/global_alcohol_report/en/). Assessed on October 4th 2015
4. Allsop S. Fanning the flame of prevention effort. *Drug Alcohol Rev.* 2012 Sep;31(6):729-30. doi: 10.1111/j.1465-3362.2012.00484.x. PubMed PMID: 22950724. [PubMed].
5. Victorian Drug and Alcohol Prevention Council, 2009 Victorian youth alcohol and drug survey, Department of Health, Melbourne; 2010, p. 54.
6. National family Health Survey-3, 2005-2006, vol.1, table-13.10: 433. Available from URL: <http://www.nfhsindia.org/nfhs3.html>. Assessed on September 14th 2015.
7. Census, 2011, Bareilly district. Available from URL: <http://www.census2011.co.in/census/district/bareilly.html>. Assessed on September 14th 2015.
8. Saunders J.B., Aasland O.G., Babor T.F., Juan R., Fuente D.L., Grant M, Development of the alcohol use disorders identification test (AUDIT). WHO collaborative project on early detection of persons with harmful alcohol consumption — II. *Addiction* 1993, June; 88:791–804.
9. Ewing JA. Detecting alcoholism. The CAGE questionnaire. *JAMA.* 1984 Oct 12;252(14):1905-7. PubMed PMID: 6471323. [PubMed].
10. Sampath S.K., Chand P.K., Murthy P. Problem Drinking among Male inpatients in a Rural General Hospital. *Indian Journal of Community Medicine* 2007 Jan; 1(1):93.
11. D'Costa G, Nazareth I, Naik D, Vaidya R, Levy G, Patel V, King M. Harmful alcohol use in Goa, India, and its associations with violence: a study in primary care. *Alcohol Alcohol.* 2007 Mar-Apr;42(2):131-7. Epub 2006 Dec 15. PubMed PMID: 17172257. [PubMed].
12. Brisibe S., Ordinioha B. Socio-demographic characteristics of alcohol abusers in a rural Ijaw community in Bayelsa State, South-South Nigeria. *Annals of African Medicine* 2011; 10 (2): 97-102.
13. Geshi M, Hirokawa K, Taniguchi T, Fujii Y, Kawakami N. Effects of alcohol-related health education on alcohol and drinking behavior awareness among Japanese junior college students. *Acta Med Okayama.* 2007 Dec;61(6):345-354.

## Tables

**TABLE 1 PRE-INTERVENTIONAL DISTRIBUTION OF CURRENT DRINKERS IN RELATION TO RISK LEVEL AS PER AUDIT**

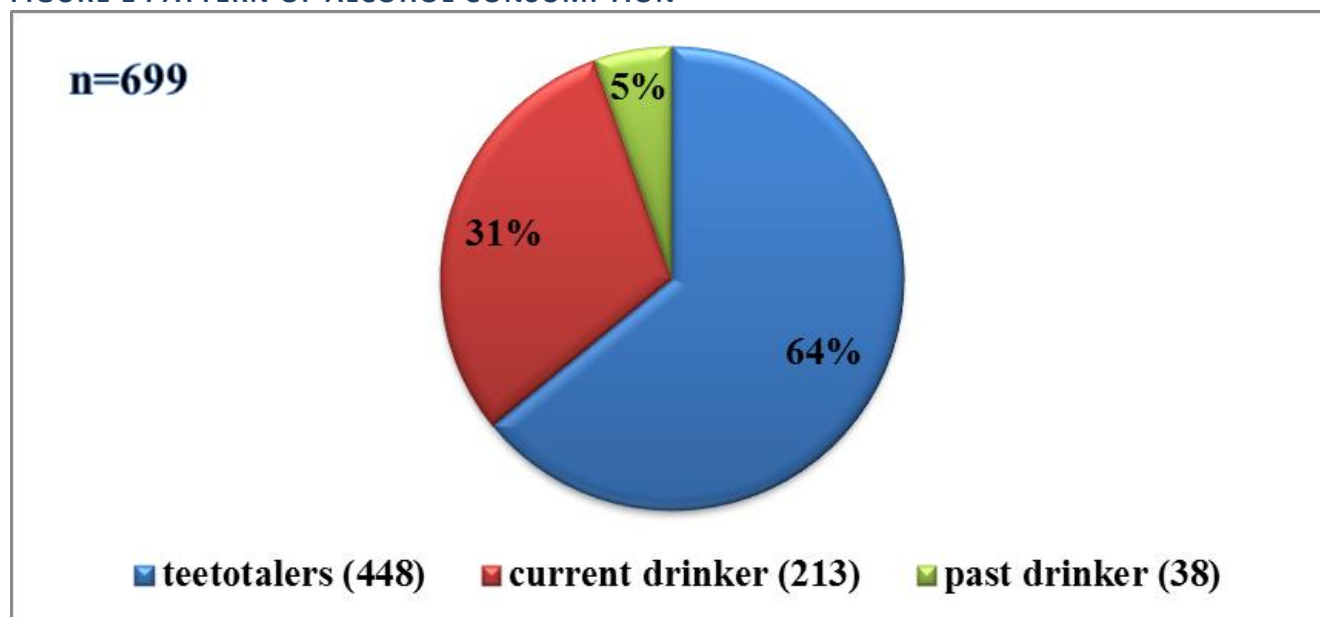
Level of Risk	Current drinkers (n=213)	
	no.	%
Zone I (AUDIT Score=0-7)	120	56.3
Zone II (AUDIT Score=8-15)	50	23.5
Zone III (AUDIT Score=16-19)	17	8.0
Zone IV (AUDIT Score=20-40)	26	12.2
Total	213	100

**TABLE 2 POST-INTERVENTIONAL DISTRIBUTION OF CURRENT DRINKERS IN RELATION TO RISK LEVEL AS PER AUDIT SCORES**

Level of Risk [after health education]	Current drinkers (n=178)	
	No.	%
Zone I (AUDIT Score=0-7)	115	64.6
Zone II (AUDIT Score=8-15)	36	20.2
Zone III (AUDIT Score=16-19)	15	8.5
Zone IV (AUDIT Score=20-40)	12	6.7
Total	178	100

**TABLE 3 DISTRIBUTION OF CURRENT DRINKERS ACCORDING TO POST-INTERVENTIONAL CHANGE OF DRINKING PATTERN**

Change of drinking pattern after Health education		Current Drinker (n=178)	
		No.	%
No change of drinking pattern (AUDIT score same as earlier or increased)		74	41.6
Change of drinking pattern	Left drinking (AUDIT score=0)	28	15.7
	Changed pattern (AUDIT score decreased than earlier)	76	42.7
Total		178	100

**Figures****FIGURE 1 PATTERN OF ALCOHOL CONSUMPTION****FIGURE 2 COMPARISON OF PRE AND POST INTERVENTIONAL DISTRIBUTION OF CURRENT DRINKERS IN RELATION TO RISK LEVEL AS PER AUDIT SCORES**