



Severity of Alcohol Dependence and Correlation with Age of Onset of Drinking In Rural Adult Males, Karnataka

Kusum Shrirang Mane¹, Sunil S Kadam²

Financial Support: None declared

Conflict of Interest: None declared

Copy Right: The Journal retains the copyrights of this article. However, reproduction is permissible with due acknowledgement of the source.

How to cite this article:

Mane KS, Kadam SS. Severity of Alcohol Dependence and Correlation with Age of Onset of Drinking In Rural Adult Males, Karnataka. Natl J Community Med 2020;11(1):33-36

Author's Affiliation:

¹Associate professor, Dept. of Community Medicine, JJM Medical College, Davangere, Davangere; ²Professor, Dept. of Forensic Medicine, PK Das Institute of Medical Sciences, Vaniamkulam, Kerala

Correspondence

Sunil S Kadam
Sunilskadam76@gmail.com

Date of Submission: 28-11-19

Date of Acceptance: 02-01-20

Date of Publication: 31-01-20

ABSTRACT

Background: Alcoholism is one of the most challenging public health problem in most of the countries including India. In India it has shown a prevalence of 15-60 % for alcoholism. The study was conducted to determine the severity of alcohol dependence and also to determine the relationship between severity of alcohol dependence and age of onset of drinking.

Materials and Method: The study was conducted among above 18 year olds males from rural field practice area attached to SSIMS & RC, Davangere. Systematic random sampling was used to select the houses. Participants were interviewed for socio-demographic and alcohol related information with the use of pre-tested questionnaire. Written consent was taken before starting the study. AUDIT and SADQ was used.

Results: Total 265 participants were included in this study. 77% participants started drinking at the age of 18-20years. 57% participants showed the mild physical dependence. Severity of alcohol dependence is shown in those who have started drinking in early age.

Conclusion: Majority of participants were young to start drinking alcohol and early initiation of alcohol showed the mild physical dependence among them.

Key words: AUDIT, SADQ, alcohol dependence.

INTRODUCTION

Alcoholism is one of the most challenging public health problem in most of the countries including India. Alcoholism is drinking alcoholic beverages at a level that interferes with physical, mental and social health and family or job responsibilities¹. In India though it is a Dry culture country, it has shown a prevalence of 15-60 % for alcoholism.² Alcohol has become a substance of abuse in the recent times in India. The pattern of drinking in India has undergone a change from occasional and ritualistic use to being a social event. Alcohol and substance use disorders are predominantly socio-cultural phenomena in the early stages of experimentation which, with later abuse, acquire a distinct biological basis. It has become a major social problem and alcohol dependence has led to a vari-

ety of complications. According to the 2002 World Health Report, alcohol worldwide is responsible 3.2% of all deaths and 4% of the global disease burden measured in Disability Adjusted Life Years, which is higher than the 3.7% attributed to poor water and sanitation, and compares well with the 4.1% attributed to tobacco use. The International Classification of Diseases (ICD-10) defines alcohol use as ingestion of alcohol in any form, and alcohol abuse as all forms of risk and malfunction associated with hazardous alcohol drinking.³ In the light of these definitions and the potential health hazards associated with widespread alcohol use, it would be imperative to find out the situation in an Ijaw community, where alcohol use is part of social, religious, and traditional life. Over the past years, many studies have been made to correlate severity of alcoholism with various variables such

as family history & age of onset. This study aims at correlating severity of alcoholism solely with age of onset, which has not been considered before.

OBJECTIVES

The study was conducted to assess the severity of alcohol dependence among adult males and to determine the relationship between severity of alcohol dependence and age of onset of drinking.

MATERIALS AND METHODS

Study was conducted among males above 18 years old during Sept 2017 to Jan 2018 in the rural field practice area attached to SSIMS & RC, Davangere.

This study was carried out in rural field practice area attached to SSIMS& RC, Davangere. Houses were numbered and selected by using systematic random sampling. Prevalence of alcohol use among adult male population in India is 21%². By using this prevalence and by using 5% absolute precision with 95% confidence interval we got the sample size of 265. Male members in the house were selected randomly for further study. Information related to Socio-demographic factors and alcoholism was collected. The data were collected with a pre-tested, predesigned questionnaire mostly asked in Kannada language. Care was taken to ensure a correct translation, even though studies had revealed that the internal consistency of the AUDIT questionnaire is not affected much by changes in wording and ordering of questions. The questionnaire was adapted from the AUDIT screening Questions of World Health Organization⁴ and used to collect information on the socio-demographic characteristics of the respondents, hazardous alcohol use (frequency and quantity of alcohol intake), harmful alcohol use (guilt after drinking, blackouts, alcohol-related injuries, and others concerned about their drinking), and alcohol dependence (impaired control over drinking, increased salience, and morning drinking). The 'Audit' screening questionnaire has been found in many studies to be a valid and convenient instrument for screening alcohol problems in primary care settings. The AUDIT instrument consists of ten questions, with a maximum possible score of 40. The score of the subjects in the questionnaire were used to classify them according to the 10th Edition of the ICD.³ The subjects were thus classified as nondrinkers, moderate/social drinkers (score of less than 8), and alcohol abusers (those with scores of 8 and above), while those that scored 20 and above were classified as having alcohol dependence problem.

SADQ⁵ questionnaire was used to collect the information regarding severity of alcohol depend-

ence. Severity of Alcohol Dependence Questionnaire (SADQ) it is a 20 item questionnaire in which the respondents are required to focus upon a recent month typical of their heavy drinking. There are four items in each of the five sections used are 1) Physical withdrawal signs; 2) Affective withdrawal signs; 3) Withdrawal relief drinking; 4) Quantity and frequency of alcohol consumption; and 5) Rapidity of reinstatement of withdrawal symptoms following a period of abstinence.

Each item is rated upon a 4 point scale and responses are scored as 0, 1, 2 or 3 accordingly. Thus the range of total score is from 0-60. A score of 31 or higher is considered as severe alcohol dependence and less than 30 is considered as mild to moderate dependence. It takes around 5 minutes to complete the questionnaire.

Age of onset of drinking was assessed using the definition given by Grant et al.⁶ defining the age of onset as "age at which they first started drinking, not counting small tastes or sips of alcohol"

The collected data were cleaned and entered into a database using SPSS (version 20). Analysis and presentation of results were done, Microsoft word, and manually. Summary measures were calculated for each outcome of interest. Multiple logistic regression was applied to see the association between severity of alcohol dependence and early age of start of alcohol. The approval to undertake the study was sought and obtained from the institutional Ethical Review Committee. Informed consent was also sought and received from all the study participants. They were also reassured of the confidentiality of the data collected during the study.

Males above 18 years who were willing to participate in the study and taking alcohol at least for last one year were included in the study.

RESULTS

Total 265 participants were included in this study. 45% participants were in age group of 20-30 years. 73% participants were married. 58% were studied up to primary school. 66% were working in farm. 77% participants started drinking at the age of 18-20 years and curiosity was the reason to start. 57% participants showed mild physical dependence. Severity of alcohol dependence is shown in those who have started drinking in early age.

With the use of SADQ questionnaire, 57% participants were having mild dependency and 43% were having moderate dependency. (Table 4)

Out of 265 study participants, (Table 2) and (Table 3) 166(63%) adult males showed the AUDIT score

Table 1: Socio-demographic profile of Participants

Variables	Participants (%)
Age in years	
20-30	120(45)
31-40	78(30)
> 40	67(25)
Marital status	
married	193 (73)
unmarried	72 (27)
Educational Status	
Illiterate	48 (18)
Primary	154 (58)
secondary	63 (24)
Occupation	
farmer	175(66)
Laborer	64(24)
Business	26(10)
Type of Family	
Nuclear	24 (9)
Joint	241 (91)
Age at the initiation	
18-20	204 (77)
21-23	42 (16)
>23	19 (7)
Reason to start	
curiosity	115 (43)
peer pressure	70 (27)
experimentation	80(30)
AUDIT score	
8 and >8	166 (63)
<8	99 (37)
SADQ score (n=166)	
Moderate dependence	70 (42.2)
Mild physical dependence	96 (56.8)

Table 2: AUDIT score of the participants

Characteristics	AUDIT score	Participants (%)
Abstinence	0	0
Moderate drinkers	<8	99(37)
Harmful drinkers	8 and >8	166(63)
Alcohol dependence	>20	0

Table 3: Distribution of study participants according to their AUDIT score

Factors	AUDIT score 8 & >8 (n=166) (%)	AUDIT score < 8 (n=99) (%)	Total (n=265)
Age			
20-30	106(88.3)	14(11.7)	120
31-40	45(57.7)	33(42.3)	78
> 40	15(22.4)	52(77.6)	67
Marital status			
married	128(66.3)	65(33.7)	193
unmarried	38(52.8)	34(47.2)	72
Education			
Illiterate	45(93.7)	3(6.3)	48
Primary	11(7.15)	143(92.85)	154
secondary	11(17.5)	52(82.5)	63
Age of start of alcohol			
18-20	125(61.3)	79(38.7)	204
21-23	38(90.5)	04(9.5)	42
>23	03(15.7)	16(84.3)	19

more than 8 which is associated with harmful or hazardous drinking.

Those who began drinking in early age were more likely to experience alcohol dependence.

DISCUSSION

We have studied 256 participants in other study Chavan et al. (2007) found the prevalence of alcohol and drug dependence in rural and slum populations of Chandigarh to be 6.88%.⁷ There have been studies undertaken both in India and at an international level assessing the harmful use of alcohol, most of them by means of AUDIT. In this study we also used AUDIT to look for the problem or hazardous drinking in the community. As other studies used the AUDIT in the hospital setting showing 21% subjects had harmful drinking⁸. SADQ is a self-report measure and this has been used in this study as one to one interview basis to clarify doubts and to prevent any misinterpretation. 43% subjects showing moderate alcohol dependency. And severity of alcohol consumption was found to be significantly associated with age of onset of drinking. As we see in other studies the significant and positive relationship of severity of alcohol use with age of onset is consistent with reports by Latchan⁹ by using detailed assessment of subjects in a clinical alcohol treatment setting and EDSS to measure severity of alcohol use and its association with age of onset of drinking. Picken¹⁰ by using University twin register showed that both the severity of alcohol use and age of onset has strong inheritance pattern. Varma et al¹¹ study does support the idea of correlation between severity of alcohol and earlier age of onset.

In this study we found that initiation of alcohol consumption was 22.4 years of age, which is quite more than the mean age found in a study done on substance abuse patients admitted in Central Institute of Psychiatry, Ranchi, in which the mean age at onset of alcohol use was 18.72 years. Another study shows the age of first alcoholic beverage was 18.7 among male college students in Punjab¹². A recent Indian study reported that the age of onset of alcohol use in a hospital based population was 18 years and the age of onset of dependence was 27 years¹³. They also found that these subjects developed the first criteria of dependence after six years of alcohol use and then required only four years to develop the dependence syndrome according to previous studies^{13, 14}. Varma *et al.* does support the idea of a correlation between severity of alcoholism and early age of onset¹¹. Study done in 2006¹⁵ showed that respondents who began drinking at 21 years or older were more likely to experience alcohol dependence which are similar to this study.

Table 4: Factors associates with mild physical dependence by using SADQ score

Characteristics	Mild physical Dependence (%)		Total	P value
	No(n=70)	Yes(n=96)		
Marital status				
married	52(40.6)	76(59.4)	128	0.289
unmarried	18(47.4)	20(52.6)	38	
Educational Status				
Illiterate	54(49.1)	56(50.9)	110	0.006
Primary	10(22.2)	35(77.8)	45	
secondary	06(54.5)	05(45.5)	11	
Occupation				
farmer	05(25)	15(75)	20	0.030
Laborer	42(40.8)	61(59.2)	103	
Business	23(53.5)	20(46.5)	43	
Age At The Initiation				
18-20	60(48)	65(52)	125	0.005
21-23	10(26.3)	28(73.7)	38	
>23	00(00)	03(100)	03	

Table 5: Factors associated with the severity of alcohol (Multiple logistic regressions)

Factors	Exp (B) odds value	95% CI for β		P value
		Lower	Upper	
Education				
Illiterate	1			
Primary	4.43	1.6	11.6	0.004
secondary	0.45	0.23	0.86	0.016
Occupation				
farmer	1			
Laborer	3.74	1.76	7.94	0.001
Business	1.97	0.23	0.86	0/015
Age of start of alcohol				
18-20	1			
21-23	3.68	1.21	11.13	0.02
>23	0.94	0.24	3.79	0.94

CONCLUSION

The study performed establishes a positive correlation between the early age of onset of drinking and the severity of alcoholism, providing basis for the statement that earlier the age of onset of drinking, greater is the severity of alcoholism.

RECOMMENDATION

The study also highlights the need to educate younger age groups about the adverse effects of alcohol dependence on self and society. Need to identify high risk groups and prevent the development of alcohol dependence in them to the highest degree possible. There is a need to screen and counsel adolescents about alcohol use and to implement policies and programs that delay alcohol consumption.

Limitations: This study has several limitations as it is conducted in one particular geographic area. To

generalize the study results many studies should be conducted in large population and in variety of geographic region throughout India. Another limitation of the study was use of questionnaire method to assess the harmful effects of alcohol and severity of alcohol.

REFERENCES

1. Gruber E, DiClemente RJ, Anderson MM, Lodicco M. Early drinking onset and its association with alcohol use and problem behavior in late adolescence. *Prev. Med.* 1996; May -June 25(3):293-300.
2. Srinivasan & Mary Kutty. A study of alcohol related physical diseases in general hospital patients. *Ind, J Psy.* 2000. 42;(3):247-252.
3. Grant BF,DSM-IV, DSM_III_R and ICD -10 alcohol and drug abuse/ harmful use and dependence, United States, 1992: a nosological comparison. *Alcohol Clin Exp Res.* 1996;20:1481-1488.
4. WHO AUDIT Babor TF, Higgins-Biddle JC, Saunders JB, Monteiro MG. AUDIT: The alcohol use disorders identification test –Guidelines for use in primary care. Second edition. Geneva:World Health Organization; [Online] 2015 ; Available from: [URL:http://whqlibdoc.who.int/hq/2015/WHO_MSD_MSB_01.6a.pdf](http://whqlibdoc.who.int/hq/2015/WHO_MSD_MSB_01.6a.pdf)
5. Stockwell T, Murphy D, Hodgson R. The Severity of Alcohol Dependence Questionnaire (SADQ): Its use, reliability and validity. *Br J Addict* 1983; 78; 145-56.
6. Grant BF. The impact of a family history of alcoholism on the relationship between age at onset of alcohol use and DSM-IV alcohol dependence: Results from National Longitudinal Alcohol Epidemiologic Survey. *Alcohol Health Res World* 1998;22;144
7. Chavan BS, Arun P, Bhargava R, Singh GP. Prevalence of alcohol and drug dependence in rural and slum population of Chandigarh; A community survey. *Indian J Psychiatry* 2007;49(1):44-48
8. Fathima FN, Agrawal T, Nandish B, Ratnaprabha, Sebastian R, Sharma A, Briguglio S. alcohol consumption , harmful use and dependence among adult male in a village. *Nat. J. Res.Com. Med.* 2012;1(2):109-16.
9. Latham RW. Familial alcoholism, evidence from 237 alcoholics.*Br. J Psy.* 1985;147:54-57
10. Picken RW, Swikis DS, Matt M. Heterogeneity in the inheritance of alcoholism. *Arch Gen Psy* 1991.48;19-28.
11. Varma VK. Basu D, Malhotra A, Sharma A, Mattoo SK. Correlates of early and late onset alcohol dependence. *Addict. Behav.*1994. Nov-Dec;19(6):609-19.
12. Khosla V, Thankappan KR, Mini GK, Sarma PS. Prevalence & predictors of alcohol use among college students in Ludhiana, Punjab, India. *Indian J Med Res [serial online]* Jul 2009 [cited 2016 Aug 11]; 128:79-81.
13. Seale JP, Seale JD, Alvarado M, Vogel RL, Terry NE. Prevalence of problem drinking in a Venezuelan native American population. *Alcohol & Alcoholism [serial online]* 2002 [cited 2016 Aug 11];37(2):198-204.
14. Pitkänen T, Lyyra AL, Pulkkinen L. Age of onset of drinking and the use of alcohol in adulthood: A follow-up study from age 8-42 for females and males. *Addiction.* 2005;100:652-61. [PubMed: 15847623]
15. Hingson RW, Heeren T, Winter MR. Age at Drinking Onset and Alcohol Dependence:Age at Onset, Duration, and Severity. *Arch Pediatr Adolesc Med.* 2006;160:739-46.