



EVALUATION OF ANXIETY AND AGGRESSION IN SUBJECTS WITH ALCOHOL DEPENDENCE- A CROSS SECTIONAL STUDY

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ABSTRACT

BACKGROUND and PURPOSE: There is association of anxiety in alcoholism with behavioral changes, emotional expressivity, health related quality of life, memory, fear, distress tolerance, stress. Also, depression is the major cause of alcoholism. Due to aggression there is disturbance in family, marital and financial status, domestic violence, legal issues, physical and other psychological issues. Nearly 2.3 billion people were currently consuming alcohol. Thus, the aim of the study is to evaluate the association between anxiety and aggression in subjects with alcohol dependence.

METHOD: A total of 104 participants were recruited in this cross-sectional correlational study. They were above the age of 18 years, alcohol dependency syndrome according to ICD-10 without any neurological condition which is involving any psychiatric illness other than alcohol dependency. The Anxiety and Aggression were assessed; "Hamilton Anxiety Rating Scale and Modified Overt Aggression Scale.

RESULTS: There was significant correlation seen in anxiety and aggression where p-value = 0.0384. aggression is positively correlated with age as p-value = 0.0236 where as age with anxiety doesn't show any significance where p-value = 0.3137. BMI had no significant relation with aggression and anxiety.

CONCLUSION: There was significant correlation between anxiety and aggression in subjects with alcohol dependency.

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INTRODUCTION

Alcohol has been a part of human culture since the beginning of the recorded history.¹The term alcoholism generally refers to chronic continual drinking or periodic consumption of alcohol which is characterized by impaired control over drinking, frequent episodes of intoxication and pre-occupation with alcohol and the use of alcohol despite adverse consequences.²2.3 billion people were currently consuming alcohol. Total per capita in the world's population rise from 5.5 litres of pure alcohol in 2005 to 6.4 in 2016. On an average 32.8 grams of pure alcohol consume per day³. According to the 2003 World Health Survey in India, the rate of life time abstainers was 89.6% (total), 80.2% (males) and 98.4% (females).^{3,4}

Alcohol dependence and harmful use of alcohol is briefly described in International Statistical Classification of Disease tenth revision (ICD-10). Alcohol use disorders specially in men are among the most disabling disease categories for the global burden of disease.

Alcohol seeking behavior is a special case of appetitive behavior which involves varieties of neurogenetic process. Three dimensions of personality that may reflect individual differences in brain systems modulating the activation, maintenance, and inhibition of behavioral responses to the effects of alcohol and other environmental stimuli. These personality traits distinguish alcoholics with different patterns of behavioral, neurophysiological, and neuropharmacological responses to alcohol.¹³

Anxiety is an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure. People with anxiety disorders usually have recurring intrusive thoughts or concerns. They may avoid certain situations out of worry. They may also have physical symptoms such as sweating, trembling, dizziness or a rapid heartbeat. Anxious people engage in risky drinking behaviour to avoid negatively evaluated by others and thought that others are also drinking. Alcohol can reduce anxiety temporarily, it can also increase anxiety within just few hours of consumption. The relationship between anxiety and alcohol use remains unclear.¹⁰

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Aggression is defined as a behaviour that is intended to harm another individual who does not wish to be harmed. (Baron & Richardson, 1994). Because it involves the perception of intent, what looks like aggression from one point of view may not look that way from another, and the same harmful behavior may or may not be considered aggressive depending on its intent. Intentional harm is, however, perceived as worse than unintentional harm, even when the harms are identical. Alcohol related aggression is associated with alcohol chronic alcohol intake and alcohol dependence. The incidence of violent behaviour in alcohol dependent subjects estimated to be between 20% to 50%. An individual that abuse or depend on alcohol are likely to be involved in violence compared with individuals without a psychiatric disorder. A cross sectional study reported that hazardous drinking was associated with injury to the victim and perpetrator and the risk almost doubled for individuals with alcohol dependence.¹¹

Alcoholism is one of the major factor for disturbance in family, marital and financial status, domestic violence, legal issues, physical and other psychological issues. There is association of anxiety in alcoholism with behavioral changes, emotional expressivity, health related quality of life, memory, fear, distress tolerance, stress. Also, depression is the major cause of alcoholism. But there was no study done in India on evaluation of anxiety and aggression in subjects with alcohol dependency.^{6,12}

In order to develop adequate preventive and assessment measures for aggression, it is important to gain insight knowledge in anxiety level of alcoholics and the association with aggression. Hence this study will be conducted to evaluate the aggression and anxiety in subjects with alcohol dependence in India.

METHODS

Study Design and Ethics

It was a cross-sectional correlational study to evaluate the association between anxiety and aggression in subjects with alcohol dependence. Ethical clearance was obtained from the Institutional Ethical Committee.

Study Setting

Participants were recruited from KLES Dr. Prabhakar Kore Charitable Hospital and Medical Research Centre and Sahara De-addiction Centre from Belagavi, Karnataka, India from October 2018 to March 2019.

Participants: The inclusion criteria was 18 years from all genders, Alcohol dependency syndrome according to ICD-10 which will be diagnosed by psychiatrist, Complicated withdrawal subject, any neurological condition which is involving any psychiatric illness other than alcohol dependency were excluded.

Sample Size: It was an open-ended study with convenience type of sampling.

Quantitative Variables

Hamilton Anxiety Rating Scale (HAM-A)

The HAM-A was designed for a patient with anxiety neurosis or anxiety disorders. It is a 14 item scale designed to assess the severity of a patient's anxiety. Each of the 14 item contains a number of symptoms. Each item is scored from 0 (not present)

to 4 (severe) with a total score of 56. It has an internal reliability and test re-test reliability of 0.86.⁷

Modified Overt Aggression Scale

It is a 4 part behavior rating scale designed to measure four types of aggressive behavior. Each section consist of 5 question and 4 sections which are verbal aggression, aggression against property, auto aggression and behavior aggression with a total score of 0-40 with a higher score indicating more aggressive behavior. It has internal reliability and test retest reliability of 0.93⁸

Procedure: After obtaining ethical clearance, people above 18 years were screened. All the participants were explained about the nature and process of the study. As per the inclusion criteria, a total of 150 participants were screened; out of which 37 did not meet the criteria and 09 refused to participate. Thus, 104 participants were finally recruited in the study. Demographic data of each participant were obtained. Two scales 'The Hamilton Anxiety Rating Scale' and 'The Modified Overt Aggression Scale' were filled by the examiner.

Statistical Analysis

The descriptive and quantitative data in the study did not follow normal distribution. Therefore, non-parametric tests were applied. Correlation of age with anxiety was done using The Karl Pearson's Correlation Coefficient test and Correlation of age with aggression was done Spearman's Rank Correlation. Correlation between anxiety and aggression was assessed using Spearman's Rank Correlation Coefficient test. Statistical significance was set at two-tailed p-value < 0.05. All statistical analyses were conducted with Statistical Package for Social Sciences (SPSS) software version 21.

RESULTS

A total number of participants included in the study were 104, out of which majority were in the age group of 21-30. The mean age of total participants was 36.64. alcohol dependency was seen to be decreased in the older adults age group and the mean BMI score was 21.5. [TABLE 1]

Table 1 Age groups wise distribution

Age groups	No	%
21-30	38	36.54
31-40	37	35.58
41-50	19	18.27
51+	10	9.62
Total	104	100.00
Mean age	36.64	
SD age	11.16	

SD=Standard Deviation

The components of the outcome measures were analysed for normality using Kolmogorov-Smirnov Test and duration and quantity of alcohol consumption were also analysed. The duration of alcohol consumption shows statistically significance as p-value < 0.0010 and the quantity of alcohol consumption were very high amongst the adults and it also shows strongly with the p-value < 0.0001 where as with the component of Modified Overt Aggression Scale the verbal aggression, aggression against property, physical aggression shows significant result with the p-value < 0.0001. There is no significant difference seen in anxiety p-value > 0.2150. [TABLE 2]

Table 2 Normality of all variables by Kolmogorov Smirnov test

Variables	Z-value	p-value
Age in yrs	1.0500	0.2200
BMI	0.8220	0.5080
Duration of alcohol consumption	1.9440	0.0010*
Quantity alcohol consumption per day	2.3090	0.0001*
Anxiety	1.0550	0.2150
Verbal aggression	2.3370	0.0001*
Aggression against property	2.1290	0.0001*
Auto aggression	2.0310	0.0010*
Physical aggression	2.4790	0.0001*
Total aggression	1.3560	0.0500*

*p<0.05

The correlation between anxiety with aggression were analysed using Spearman’s Rank Correlation. Anxiety is strongly correlated with aggression in subject with alcohol dependency and were statistically significant with the p-value < 0.0384. The correlation between the anxiety and the components of MOAS, verbal aggression and aggression against property was significant with p-value < 0.0156 and p-value < 0.0355 respectively.rank correlation.[TABLE3] [FIGURE1]

Table 3 Correlation between Anxiety with total aggression and its components.

Variables	Correlation between Anxiety with			
	N	Spearman R	t-value	p-value
Verbal aggression	104	0.2365	2.4584	0.0156*
Aggression against property	104	0.2065	2.1314	0.0355*
Auto aggression	104	0.0682	0.6907	0.4913
Physical aggression	104	0.1803	1.8516	0.0670
Total aggression	104	0.2033	2.0973	0.0384*

*p<0.05

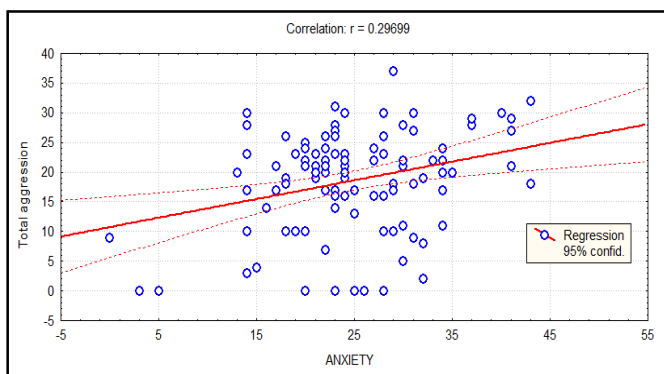


Figure 1 Scatter diagram of correlation between Anxiety with total aggression scores

Correlation between age with total aggression and its components were analysed using Spearman’s rank correlation. There was statistical significance present between correlation of age and aggression with the p<0.0236. Here the table indicates strong negative correlation which means as the age increases, aggression decreases [TABLE4]. Correlation of age with anxiety is also analysed but there was no significance result is found p>0.3137.[TABLE5]

Table 4 Correlation between age with total aggression and its components

Variables	Correlation between age with			
	N	Spearman R	t-value	p-value
Verbal aggression	104	-0.2049	-2.1143	0.0369*
Aggression against property	104	-0.1750	-1.7951	0.0756
Auto aggression	104	-0.1575	-1.6109	0.1103
Physical aggression	104	-0.1768	-1.8146	0.0725
Total aggression	104	-0.2218	-2.2976	0.0236*

*p<0.05

Table 5 Correlation between age with anxiety scores.

Variables	Relationship between age with		
	r-value	t-value	p-value
Anxiety scores	-0.0997	-1.0125	0.3137

*p<0.05

DISCUSSION

Alcohol is the common and widely use drugs among Indian population. Numerous studies had been done on describing the effects of alcohol in human effecting their physical and cognitive health, social functioning and eventually their well being and quality of life. In India, the percentage of alcohol consumption is increasing rapidly. In recent years there have been many studies which reported achohol-use disorders which categorized among the most disabling disease in ICD-10. The published reports have revealed that there are numerous studies which shows that alcohol affects on human behavior. Hence in this study, we attempted to evaluate the correlation between anxiety and aggression on subjects who have Alcohol Dependency Syndrome according to ICD-10. These finding are in line with Adrienne J. Heinz *et al.*, (2011) who found a positive correlation of alcohol and aggression.⁶

The literature disclosed many factors in influencing aggressive behaviour of an individual which also depends on their intake of alcohol. In many studies it has been revealed that the consumption of alcohol and age is closely related with aggression.

In the study done by Amie R. Schry *et al.*, (2013) revealed that individuals with high level of social anxiety, alcohol use play a major role,¹⁷ as they may use alcohol to avoid any social situations.

However no one has attempted to evaluate between anxiety and aggression in subjects with alcohol dependency. To best of our knowledge, this is first study for the evaluation of anxiety and aggression in subjects with alcohol dependence.

The current study findings displayed that anxiety is strongly correlated with the aggression in alcoholic subjects. The components of the MOAS were also analysed and it results that verbal aggression and aggression against property were strongly significant.

In the current study, evaluation of age with the components of the MOAS a significant difference were seen in age with verbal aggression. Verbal aggression is strongly negatively correlated and it is highest among the adults, as the age increases the aggression decreases.

The correlation between anxiety and age is analysed and it shows no significance between age and anxiety.

The current study confirmed that there is correlation between aggression and anxiety in subjects with alcohol dependence.

The limitation of this study is that there is no female participants, only men were evaluated.

In future studies, we recommend that there should be participation of the female also so that it can give a broad idea about the female behaviors due to alcohol. Further, multicentered intervention studies are recommended to regulate in subjects with alcohol dependence.

CONCLUSION

Aggression and anxiety is strongly correlated in subjects with alcohol consumption where verbal aggression and aggression against the property is more significant than any other component. There is negative correlation between the aggression and age, when age increases the aggression decreases or vice versa. There is no correlation found between the age and anxiety. Thus, alcohol increases the anxiety and aggression who are regular drinkers and aggression were more likely to be seen in adult population.

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