QUALITY OF LIFE AND ITS RELATIONSHIP TO SEVERITY OF ADDICTION- A CROSS SECTIONAL HOSPITAL-BASED STUDY AMONG ALCOHOL DEPENDENT PATIENTS

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ABSTRACT

BACKGROUND
WHO has estimated that alcohol accounts for 4% of all disease burden worldwide. Alcohol is the 3rd leading cause of disability in the developed world. It causes 5.9% of all deaths globally & 5.1% of the disability adjusted life years. Quality of life is a concept situated between social and clinical sciences, and is an indicator to evaluate the subjective experience of the patient and to quantify the psychosocial burden of alcoholism.

MATERIALS AND METHODS
This is a hospital based cross sectional study Validated semi structured questionnaires containing sociodemographic details, Severity of Alcohol Dependence Questionnaire and WHO Quality of Life- BREF were used.

RESULTS
The study population showed that 93.8 % (375 nos.) were males and 6.3% (25 nos.) were females. More than half of the patients had moderate level of alcohol dependence (54.5%), followed by mild alcohol dependence in 23.5% and severe in 22% of the subjects. The mean WHO Quality of Life assessment on the various domains were procured after detailed interview. In that, physical health had a mean score of 23.76 ± 5.7, followed by psychological health in 19.07 ± 4.6, social relationship score was lower at 9.02±1.7, environmental score was highest with 31 ± 1.7 and the final overall score was 6.84 ± 2.2. The correlation between various Quality of Life Scores and the mean age of onset of alcohol dependence was assessed. There was positive correlation between psychological health and WHO Quality of Life, but rest of the factors showed negative correlation. But all the scores were not statistically significant.

CONCLUSION
The Quality of Life is affected in alcohol dependents significantly. Our study showed that people with severe alcohol dependence had poor quality of life.

KEY WORDS
Alcohol Dependence, Quality of Life, Correlation

BACKGROUND
Alcoholism, also known as alcohol use disorder (AUD), is a broad term for any drinking of alcohol that results in mental or physical health problems[1]. WHO has estimated that alcohol accounts for 4% of all disease burden worldwide. Alcohol is the 3rd leading cause of disability in the developed world. It causes 5.9% of all deaths globally & 5.1% of the disability adjusted life years.

Quality of life (QoL) is an important parameter that provides an insight into how a disorder impacts life of those affected. WHO defined quality of life as "an individual perception of their position in life, and in the context of culture and value systems in which they live, and also in relation to their goals, expectations, standards and concerns"[2].

Quality of life is a concept situated between social and clinical sciences, is an indicator to evaluate the subjective experience of the patient and to quantify the psychosocial burden of alcoholism.[3] Quality of Life measures provide the link between demonstrating improvement in objective measures and demonstrating clinically meaningful improvement in the life of the patient. Furthermore, Quality of Life measures consider the effect of the treatment on the patient.[4]. This study is intended to assess the quality of life and severity of the alcohol dependence in patients with alcohol dependence syndrome.

Aims & Objectives
To assess the relation between Quality of Life and severity of addiction in alcohol dependent patients.

MATERIALS AND METHODS

Study Design
This study is a hospital based cross sectional study.

Study Setting
The Psychiatry department in a major tertiary care centre of North Malabar.
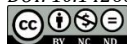
Study Population

All patients aged 18 years and above who satisfy the International Classification of Diseases 10th Revision diagnostic criteria for Alcohol dependence syndrome.

Sample Size

Considering WHO Quality of life domain scores from the study by Shruthi Srivastava et al,[2] the mean physical domain score of 9.04 was used.

$N = Z_{(1-\alpha/2)}^2 \times 6^2/d^2$, where

Z (1-α/2) = standardized normal deviate at 95% Confidence interval (1.96)

6 = mean physical domain score of 9.04

q = (100-p)

d = relative precision of 10 % was used

The Approximate Sample size (N) was Calculated to be 400.

Sampling Procedure

A consecutive series of 400 patients who satisfy the inclusion and exclusion criteria would be recruited in the study.

Study Duration

The study was conducted for a total of one year from 1st April 2017 to 31st March 2018.

Inclusion Criteria

- Patients of either gender of age group 18-70 years who satisfied the International Classification of Diseases 10th Revision criteria for Alcohol dependence syndrome.
- Willingness to participate and provide informed consent.

Exclusion Criteria

Any alcohol dependent complications such as; delirium tremens, head injury, encephalopathy, dementing illness.

Data Collection

All patients aged 18-70 years who satisfied the International Classification of Diseases 10th Revision criteria for alcohol dependence and other inclusion and exclusion criteria would become part of the study. Severity of alcohol dependence would be assessed with Severity of Alcohol Dependence Questionnaire, Quality of life would be assessed with WHO Quality of Life-BREF.

Study Tools

A. International Classification of Diseases 10th Revision diagnostic criteria for Alcohol dependence syndrome.
B. Sociodemographic data sheet.
C. Severity of Alcohol dependence questionnaire (SADQ).
D. World health organization quality of Life Scale (WHOQOL-BREF).

Statistical Analysis

Descriptive statistic tools would be used to assess mean, median, standard deviation, fraction percentage, interquartile range. Categorical variables would be analysed using Fisher's exact test and continuous variables would be analysed using student's t test. ANOVA test was also used. P value < 0.05 would be considered clinically significant. Spearman's rank correlation coefficient would be used to study the correlation of severity of alcohol addiction with quality of life.

RESULTS

Gender Wise Distribution

The gender distribution showed that males were the majority 93.8 % (375 nos.) and females were just a small fraction of the total population 6.3 % (25 nos.). (Figure 1)

Age and Gender Wise Distribution

The mean age of the study population is 48.03 ± 14.7 years, in that females were having slightly higher mean age of 54.64 ± 14.8 years when compared to 47.58 ± 14.6 years for males. (Table 1: Age and gender distribution)

Socioeconomic Variables

The socioeconomic status was calculated using modified B.G Prasad's scale. Majority were from Class III (68.3 %) and there were no family in Class I. The occupation levels of the participants showed that a major chunk of the patients (78.8%) were unemployed at the point of data collection. But in contest the overall education levels were better in them. The family type showed more than half of them in a nuclear family setup. (Table 2: Socioeconomic variables)

Source of Income

The source of income for the current treatment and daily needs were assessed. More than half of the patients (204 nos.; 51%) used their own finance methods, of them 21.4 % of the patients spend their own salary, 26.8% used up their savings and just 3 % had their pension. Financial assistance was obtained from other family members. In them spouse contributed in 17.8%, siblings 23.3%, from parents in 7.8% and from their own children in one patient (0.3%). (Table 3: Source of income)

Family History

Family history of psychiatric illness was present in 20.8% of the patients. A major chunk of the patient's family was addicted to alcohol. A small fraction of the family had the history of suicide (11%). Hanging was the most popular method of suicide (61.4%) followed by insecticide consumption in 29.5 % and drug overdose in 9.1%. Psychiatric illness in spouse was present in 37.3% of the patients. (Table 4: Family history)

Substance Abuse

Substance abuse of nicotine was present in 59.5% of the patients, followed by 16.5% of cannabis addiction and a small fraction having Benzodiazepine addiction. (Table 5: Substance abuse)

Severity of Alcohol Dependence Questionnaire (SADQ)

The Severity of Alcohol Dependence Questionnaire assessment was done on all patients. More than half of the patients had moderate level alcohol dependence (54.5%), followed by mild alcohol dependence in 23.5% and severe in 22% of the subjects. (Table 6: Severity of Alcohol Dependence Questionnaire (SADQ), Figure 2: SADQ).

Reasons Behind Drinking

Majority of the patients said that with peers were their initiating factor for drinking. Around one third of them were usually drinking with their relatives. The main reason for their current drinking habit is peer pressure, which was

reported by nearly half of the patients (49.3%). (Table 7: Reasons behind drinking).

WHO Quality of Life (WHOQOL)
The mean WHO Quality of Life assessment on the various domains were procured after detailed interview. In that physical health had a mean score of 23.76 ± 5.7, followed by psychological health in 19.07 ± 4.6, social relationship score was lower at 9.02 ± 1.7, environmental score was highest with 31 ± 1.7 and the final overall score was 6.84 ± 2.2. (Table 8: WHO Quality of Life (WHOQOL).

Correlation Between Age of Onset (Dependence) & WHOQOL Status
The correlation between various Quality of Life Score and the mean age of onset of alcohol dependence was assessed. There was positive correlation between psychological health and WHO Quality of Life, but rest of the factors showed negative correlation. But all the scores were not statistically significant. (Table 10: Correlation between age of onset (Dependence) & WHO Quality of Life status)
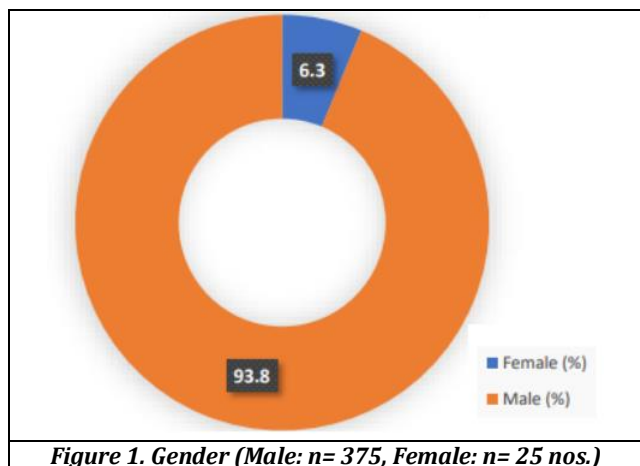

Figure 1. Gender (Male: n= 375, Female: n= 25 nos.)

Age groups (years)	Female n (%)	Male n (%)	Total n (%)
21 to 30 years	02 (08.0)	53 (14.1)	55 (13.8)
31 to 40 years	02 (08.0)	91 (24.3)	93 (23.3)
41 to 50 years	08 (32.0)	82 (21.9)	90 (22.5)
51 to 60 years	13 (52.0)	129 (46.9)	142 (59.6)
Total	25 (100)	375 (100)	55 (100)

Table 1. Age and Gender Distribution (Male: n= 375, Female: n= 25 nos.)

Socioeconomic Status B.G. Prasad's Classification	n (%)		
Class II	17	(4.3	)
Class III	273	(68.3	)
Class IV	78	(19.5	)
Class V	32	(8.0	)
Occupation Levels	n (%)		
Semi Professional	10	(2.5	)
Clerical	32	(8.0	)
Unskilled	43	(10.8	)
Unemployed	315	(78.8	)
Education Levels	n (%)		
Illiterate	6	(1.5	)

Less than Primary	147	(	36.8	)
Primary School Completed	72	(	18.0	)
Secondary School Completed	53	(	13.3	)
High School Completed	80	(	20.0	)
College Completed	35	(	8.8	)
PG Degree Completed	7	(	1.8	)
Family Type	n (%)			
Nuclear	208	(	52.0	)
Joint	174	(	43.5	)
Joint Extended	18	(	4.5	)
Age of Onset of Drinking	Mean ± S.D.			
Mean Age	20.50 ± 3.343			
Range	14 to 30			

Table 2. Socioeconomic Variables (N=400)

Source of income	n (%)		
Self			
Own Salary	85	(21.3	)
Pension	12	(3.0	)
Savings	107	(26.8	)
Financial assistance from Family			
Spouse	71	(17.8	)
Children	1	(0.3	)
Siblings	93	(23.3	)
Parents	31	(7.8	)

Table 3. Source of Income (N=400)

Family history	n (%)		
Family h/o Psychiatric illness	83	(20.8	)
Family h/o addictions	351	(87.8	)
Family h/o suicide	153	(38.2	)
Mode of suicide (n=44)			
Poisoning	33	(75.0	)
Hanging	5	(11.4	)
Jumping from height/front of train	2	(4.5	)
Psychiatric illness in spouse	264	(66.0	)

Table 4. Family History

Substance abuse (N=400)	n (%)		
Nicotine addiction	238	(59.5	)
Cannabis addiction	66	(16.5	)
Benzodiazepine addiction	07	(1.8	)

Table 5. Substance Abuse

Severity of Alcohol Dependence Questionnaire (SADQ)	n (%)		
Mild Alcohol Dependence	94	(23.5	)
Moderate Alcohol Dependence	218	(54.5	)
Severe Alcohol Dependence	88	(22.0	)

Table 6. Severity of Alcohol Dependence Questionnaire
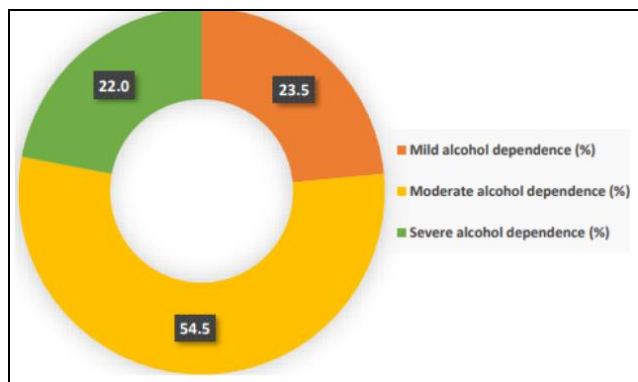
Figure 2. SADQ

Initiating factors			
Self	90	(	22.5)
Peers	230	(	57.5)
Relatives	61	(	15.3)
Situation of the initiation			
Alone	54	(	13.6)
With relatives	133	(	33.3)
With friends	76	(	19.0)
Reasons for first drinking			
Experimentation	128	(	32.0)
Peer pressure	197	(	49.3)
False myths	9	(	2.2)
Cope with stress	51	(	12.8)

Table 7. Reasons Behind Drinking (N=400)

WHO Quality of Life (WHOQOL)	Mean ± S. D		
Physical Health	23.76	±	5.7
Psychological Health	19.07	±	4.6
Social Relationship	9.02	±	1.7
Environment	31.00	±	1.7
Overall	6.84	±	2.2
Association with Age of Onset of Drinking and WHO Quality of Life (WHOQOL)	One-Way ANOVA Test		
	F test Value		p Value
Physical Health	0.575		0.835
Psychological Health	.156		0.999
Social Relationship	0.632		0.786
Environment	**1.975**		**0.035**
Overall	1.652		0.090

Table 8. WHO Quality of Life (WHOQOL)

Age of Onset of Drinking	WHOQOL Environment Component			
	28 to 29.9 (n)	30 to 31.9 (n)	32 to 33.9 (n)	> 34 (n)
14 to 17 Years	16	22	26	0
18 to 20 Years	56	67	60	2
21 to 25 Years	41	42	30	0
26 to 30 Years	8	20	10	0
Total	121	151	126	2

Table 9. Association Between WHO Quality of Life Environment Component & Age of Onset of Drinking

Correlation between Age of Onset (Dependence) & WHOQOL Status	Pearson Correlation	p Value
WHOQOL -BREF Physical Health	-0.007	0.882
WHOQOL -BREF Psychological Health	0.026	0.607
WHOQOL -BREF Social Relationship	-0.031	0.538
WHOQOL -BREF Environment	-0.021	0.675
WHOQOL -BREF Overall	-0.095	0.057

Table 10. Correlation Between Age of Onset (Dependence) & WHO Quality of Life Status

DISCUSSION

A hospital-based cross-sectional study was done on patients who are alcoholics admitted in the psychiatry who satisfied our inclusion and exclusion criteria. A total of 400 patients were included in the study.

Age and Gender Wise Distribution

In our current study the gender distribution showed that males were the majority 93.8 % (375 nos.) and females were just a small fraction of the total population 6.3 % (25 nos.). The mean age of the study population is 48.03 ± 14.7 years, in that females were having slightly higher mean age of 54.64 ± 14.8 years when compared to 47.58 ± 14.6 years for males.

The reviewed studies showed that the patient profile of the current study consisted of all male inpatients with majority of subjects being middle aged, married, employed, and educated up to middle school, findings which were similar to the previous studies carried out in India on alcohol-dependent patients. The mean age of initiation of drinking was 21.40 years and dependence were 32.32 years with 6.75 years as mean duration of dependence.[5,6] A total of 75% of subjects had started drinking before they turned 25. Another study by Bhadoria, Ajeet Singh et al[7] showed the mean age of men with ARD was found to be 41.24 years and that their spouses were 35.04 years.

Socioeconomic Variables

In the present study the socioeconomic status was calculated using modified B.G Prasad's scale. Majority were from Class III (68.3 %) and there were no family in Class I. The occupation levels of the participants showed that a majority of the patients (78.8%) were unemployed at the point of data collection. But in contest the overall education levels were better in them. The family type showed more than half of them in a nuclear family setup. The source of income for the current treatment and daily needs were assessed. More than half of the patients (204 nos.; 51%) used their own finance methods, of them 21.4 % of the patients spend their own salary, 26.8% used up their savings and just 3 % had their pension. Financial assistance was obtained from other family members. In them spouse contributed in 17.8%, siblings 23.3%, from parents in 7.8% and from their own children in one patient (0.3%). Other Indian study also reported maximum alcohol dependence (55.9%) in illiterates. Education was protective against development of alcohol dependence in another Indian study[8]. A significant proportion of patients in the co-morbid subgroup were unemployed. This may be due to higher severity of alcohol consumption, morbidity and occupational dysfunction in this subgroup of patients. Alcohol dependent patient living in a joint family had fewer co morbidities in this sample. This was like other Indian studies. Poor social support has been found to be etiologically linked to psychiatric co-morbidity.

Severity of Alcohol Dependence Questionnaire (SADQ)-

In our present study the Severity of Alcohol Dependence Questionnaire assessment was done on all patients. More than half of the patients had moderate level alcohol dependence (54.5%), followed by mild alcohol dependence in 23.5% and severe in 22% of the subjects. In a study reviewed by Aruna Dandu et al showed the range of Severity of Alcohol Dependence Questionnaire score was from 9 to 53 (mean ±

SD: 26.92 ± 10.83). Almost equal numbers of patients were found in the mild, moderate, and severe dependence range; only 4% of patients had very severe dependence. There is statistically significant association present between Severity of Alcohol Dependence and psychiatric morbidity of spouses. A study done by Bagul et al.[9] observed scores on the short alcohol dependence data ranged from 4 to 45, with a mean score of 20.45 ± 9.356, indicating significant dependence. In another study, the marital satisfaction negatively correlated with the Severity of Alcohol Dependence in men, satisfaction being lower as severity of dependence increases. Western studies have found a correlation between duration of alcohol dependence and marital discord,[9,10,11] while one Indian study had found a positive correlation between duration of dependence in men and higher levels of distress in their spouses.[12]

Reasons Behind Drinking
Majority of the patients said that with peers were their initiating factor for drinking. Which is similar to many countries, drinking and intoxication may have important social meanings, such as coping with stressful situations. Around one third of them were usually drinking with their relatives[13]. The main reason for their current drinking habit is peer pressure, which was reported by nearly half of the patients (49.3%). As evidenced by reviewed literature drinking to cope with negative emotions is related to high levels of neuroticism and sensitivity to anxiety, low level of agreeableness and a negative self-image.[14]

WHO Quality of Life (WHOQOL)-
The mean WHO Quality of Life assessment on the various domains were procured after detailed interview. In that physical health had a mean score of 23.76±5.7, followed by psychological health in 19.07±4.6, social relationship score was lower at 9.02±1.7, environmental score was highest with 31±1.7 and the final overall score was 6.84±2.2. The association between age of onset and WHO Quality of Life and 4 domains were assessed. There was no association with physical, psychological and social domain, but environmental domain showed significant association with the age of onset of drinking. Which means that lower age of onset of drinking has a significant effect over quality of life, especially in the environmental domain. The age of onset of drinking and the WHO Quality of Life score were seen using ANOVA test, there was significant association between environmental domain and age of onset, rest of the domain were not statistically significant. (Table 8: WHO Quality of Life (WHOQOL).

The WHO Quality of Life Environment component showed majority of the patients were having score between 30 to 31.9 (151 nos.) followed by 32 to 33.9 (126 nos.) and 28 to 29.9 (121 nos.). The age of onset of drinking under the WHO Quality of Life Environment component showed that age group 18 to 21 years had more people with WHO Quality of Life score between 30 to 31.9. The Quality of Life score between 32 to 33.9 was highest in the age group 18 to 21 years. Similarly scores of >34 were higher in the same age group, whereas only 2 patients were in score more than 34. The score decreases as the age of onset of drinking decreases. (Table 9:Correlation between WHOQOL environment component & age group)

A study done by M Annita et al showed the mean physical health domain score of the subjects was 21.53 ± 2.07, the mean psychological domain score was 68.76 ± 14.95, the mean social relationship domain score was 9.73 ± 1.67 and the mean environment domain score was 29 ± 2.03. In comparison, Srivastava S and Bhatia MS20 reported a similar physical domain score (21.45 ± 5.17) and social relationship domain score (9.04 ± 2.64), but very low psychological domain score (18.39 ± 4.0) and lower environmental domain score (24.07 ± 4.68).

M Annita et al[15] showed there was a weak positive correlation between age of onset of dependence and WHO Quality of Life -BREF physical health (r: 0.258, P: 0.074). There was a weak positive correlation between age of onset of dependence and WHO Quality of Life-BREF Psychological (r: 0.229, P: 0.114). There was a weak negative correlation between age of onset of dependence and WHO Quality of Life-BREF social Relationship (r: -0.056, P: 0.703). There was a weak positive correlation between age of onset of dependence and WHO Quality of Life-BREF Environment (r: 0.081, P: 0.578).

The present study findings reaffirm with existing evidence that the pattern of alcohol use is important both for the Quality of Life of alcohol abusers and other aspects of their lives. Psychiatric and/or physical comorbidity, along with the use of psychoactive substances, social support, sleep quality, and leisure time affect the Quality of Life of these subjects.

CONCLUSION
WHO Quality of Life assessment on the various domains were procured after detailed interview showed most had poor quality of life. The correlation between various Quality of Life Scores and the mean age of onset of alcohol dependence was assessed. There was positive correlation between psychological health and WHO Quality of Life, but rest of the factors showed negative correlation. But all the scores were not statistically significant. Our study showed that people with severe alcohol dependence had poor quality of life, personality disorders and psychiatric comorbidities.

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