Original Research Article

Correlation between age of alcohol dependence and quality of life - A hospital based cross sectional study

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Abstract

Background: Alcohol use Disorders (AUDs) are related to high rates of morbidity and mortality due to associated severe and chronic medical problems such as liver disease, cardiovascular disease, endocrine diseases, obesity, diabetes, osteoporosis, and cancers.
Aim and objectives: To assess the quality of life among the people with alcohol dependence, who are abstinent using WHOQOL-BREF questionnaire, to assess the correlation between age and different aspects of quality of life among study population.
Materials and methods: The study was a cross-sectional study conducted in the Department of Psychiatry, Chettinad Hospital and Research Institute. The study population included all male patients treated for current alcohol dependence syndrome, who were treated and were abstinent from alcohol intake for at least 1 month. The data collection for the study was conducted for a period of 6 months from May 2016 – October 2016.
Results: Among the study population, amount of alcohol consumption was 3 units per day in 1 (2.04%) subject. Nineteen (38.78%) were consuming 6 units per day, 16 (32.65%) were consuming 9 units per day, 11 (22.45%) were consuming 12 units per day, and 2 (4.08%) were consuming 24 units per day. The mean overall score was 6.96 ± 0.96 in the study population. Minimum level was 5 and maximum level was 8 in the study population (95% CI 6.68 to 7.23). There was a weak positive correlation between age of onset of dependence and WHOQOL-BREF physical health (R Value: 0.258, P value: 0.074).

Conclusion: To conclude the findings of the study suggest poor quality of life in alcohol-dependent subjects with weak positive correlation between age of onset of the habit and physical, psychological and environmental domains of the subjects.

Key words

Age of alcohol dependence, Quality of life, Correlation.

Introduction

Alcohol use Disorders (AUDs) are related to high rates of morbidity and mortality due to associated severe and chronic medical problems such as liver disease, cardiovascular disease, endocrine diseases, obesity, diabetes, osteoporosis, and cancers [1]. The main risk factor for alcohol dependence is chronic excessive drinking. As per the WHO global status report on alcohol and health 2015, 38.3% of the world population reportedly consumes alcohol regularly [2]. As per WHO, about 28.7% of individuals above 15 years of age use alcohol in some form and gender wise 32.1% of males and 10.6% of females consume alcohol. The notion that drinking can become a chronic damaging behaviour in some individuals was first postulated more than 200 years ago [3].

Several researchers have noted that prevalence estimates for abuse and dependence diagnoses from population surveys have showed higher rates for younger adults (e.g. 18–30-year age group) than for older adults (e.g. older than age 30) [4, 5].

Quality of life (QOL) is an important parameter that provides an insight into how a disorder impacts life of those affected. World Health Organization [6] defined quality of life as "an individual's 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." Among various psychiatric disorders, alcohol-related disorders significantly affect QOL, but this area has not been extensively studied.

Studies have found significant impairment of QoL in individuals with alcohol dependence, particularly with respect to their mental health and social functioning [7-9]. Determinants of QOL in patients with alcohol dependence who undergo treatment have also been studied. Factors that predict baseline QOL in such studies include severity of alcohol dependence, intensity of alcohol use, employment status, age, gender and psychiatric history, including the presence of personality disorders and post-traumatic stress disorder [10, 11].

A few studies have evaluated QOL as the primary measure in treatment trials of patients with alcohol dependence [12-14]. These studies indicate that QOL, particularly the mental aspect, improves during treatment for alcohol dependence. In addition, changes in QOL during treatment are influenced by baseline QOL, the duration of abstinence from alcohol, the presence/absence of psychotic symptoms and use/non-use of illegal drugs [12, 15]. However, these studies generally assessed QOL as part of a trial evaluating a specific treatment with abstinence as the treatment goal. It would also be helpful to observe the dynamics of QOL changes over an extended period in a more naturalistic, clinical practice, setting.

Equally important is identifying effective strategies for addressing alcohol use to improve health outcomes. A substantial body of research has documented treatment strategies that are effective at reducing alcohol use, including cognitive behavioural therapy (CBT) [16, 17].

Objectives

- To assess the quality of life among the people with alcohol dependence, who are abstinent using WHOQOL-BREF questionnaire.

- To assess the correlation between age and different aspects of quality of life among study population.

Materials and methods

The study was a cross-sectional study conducted in the Department of Psychiatry, Chettinad Hospital and Research Institute, which is a tertiary care teaching hospital. The study population included all male patients treated for current alcohol dependence syndrome, who were treated and were abstinent from alcohol intake for at least 1 month. The data collection for the study was conducted for a period of 6 months from May 2016 – October 2016.

The study participants included, male patients aged between 18 years – 59 with diagnosis of Mental and Behavioral disorder due to use of Alcohol (ICD-10 F10.2), both inpatient and outpatient, abstinent for at least last 1 month. The patients on benzodiazepines, Patients with history of multiple substance abuse/ dependence except tobacco, patients with other co morbid psychiatric illness and patients with Any known CNS/ Neurological illness, mental retardation and Chronic medical conditions were excluded from the study.

The following data collection tools were used for collection of appropriate data to conduct study.
- Socio-demographic details
- Detailed Clinical history
- Thorough Physical examination
- WHO Quality of Life (WHO QOL) – BREF

The assessment with the above the tools were conducted after 1 month after detoxification. This included detailed clinical examination for relapse signs and neuropsychological assessment. Quality of life as assessed by was considered as WHO Quality of Life (WHO QOL) – BREF the primary outcome variable. Various demographic parameters, alcohol consumption related parameters, presence of other psychiatric co-morbidities were considered as explanatory

variable. The impact of cognitive impairment on quality of life was also assessed. Descriptive analysis was carried out by mean and standard deviation for quantitative variables, frequency and proportion for categorical variables. Data was also represented using appropriate diagrams like bar diagram, pie diagram and box plots.

The association between categorical explanatory variables and quantitative outcome was assessed by comparing the mean values. The mean differences along with their 95% CI were presented.

The association between various explanatory parameters and cognitive impairment was assessed by cross tabulation and comparison of proportions. The statistical significance of this association was tested by Chi Square test. Quantitative parameters were compared between people with and without cognitive impairment. Age of onset on dependence was considered as outcome variable.

WHOQOL-BREF Physical Health, WHOQOL-BREF Psychological, WHOQOL-BREF Social Relationship and WHOQOL-BREF Environment was considered as explanatory variables.

Association between quantitative explanatory and outcome variables was assessed by calculating person correlation coefficient and the data was represented in a scatter diagram (**Figure – 1**). P value < 0.05 was considered statistically significant. IBM SPSS version 22 was used for statistical analysis [18].

Results

A total of 49 subjects who were abstinent from alcohol were included in the study.

Among the study population 6 (12.24%) were aged 18 to 29 years, 18 (36.73%) were aged in 30 to 39 years, 11 (22.45%) were aged 40 to 49 years, and 14 (28.57%) were aged 50 to 59 years (**Table - 1**). Among the study population, 2 (4.08%) participants were Illiterate, 15 (30.61%)

were primary school certificate, 14 (28.57%) were secondary school certificate, 11 (22.45%) were high school certificate, and 4 (8.16%) were graduate or post graduate (**Table - 1**). Among the study population, 1 (2.04%) participants were Not employed, 9 (18.37%) were semi-skilled, 17 (34.69%) were skilled, and 22 (44.90%) were Clerical shop owner, Farmer (**Table - 1**). Among the study population, 14 (28.57%) participants were lower class, and 35 (71.43%) were middle class. Among the study population, 38 (77.55%) participants were married, 6 (12.24%) were separated, 1 (2.04%) were unmarried, and 4 (8.16%) were widower (**Table - 1**).

Table - 1: Socio-demographic variables in study population (N=49).

	Frequency	Percentage
Age group		
18 to 29	6	12.24%
30 to 39	18	36.73%
40 to 49	11	22.45%
50 to 59	14	28.57%
Education		
Illiterate	3	10.20%
Primary school certificate	15	30.61%
Secondary School Certificate	14	28.57%
High School Certificate	11	22.45%
Graduate or Post graduate	4	8.16%
professional	0	0%
Occupation		
Not employed	1	2.04%
Unskilled	0	0%
Semi-Skilled	9	18.37%
Skilled	17	34.69%
Clerical shop owner, Farmer	22	44.90%
Semi Professional	0	0%
Professional	0	0%
Economic Status		
Lower Class	14	28.57%
Middle Class	35	71.43%
Upper Class	0	0%
Marital status		
Married	38	77.55%
Separated	6	12.24%
Unmarried	1	2.04%
Widower	4	8.16%

Among the study population, amount of alcohol consumption was 3 units per day in 1 (2.04%) subject. Nineteen (38.78%) were consuming 6 units per day, 16 (32.65%) were consuming 9 units per day, 11 (22.45%) were consuming 12 units per day, and 2 (4.08%) were consuming

24 units per day. The mean age of onset of dependence was 37.51 ± 9.7 in the study population. Minimum level was 22 and maximum level was 57 in the study population (95% CI 34.72 to 40.30). The mean duration of alcohol consumption was 15.08 ± 7.67 in the study population. Minimum level was 4 and maximum level was 35 in the study population (95% CI 12.88 to 17.28). The mean duration of dependence was 3.88 ± 3.19 in the study population. Minimum level was 1 years and maximum level was 15 years in the study population (95% CI 2.96 to 4.79) (**Table - 2**).

Table - 2: Amount of Alcohol consumption per day (in units) in study population (N=49).

Amount of Alcohol consumption per day in Units	Frequency
3 units N (%)	1 (2.04%)
6 units N (%)	19 (38.78%)
9 units N (%)	16 (32.65%)
12 units N (%)	11 (22.45%)
24 units N (%)	2(4.08%)
Age of onset of Dependence (Mean ±STD)	37.51 ± 9.7
Duration of Alcohol consumption (Mean ±STD)	15.08 ± 7.67
Duration of Dependence (Mean ±STD)	3.88 ± 3.19

Table - 3: Summary of quality of Life as assessed by WHOQOL-BREF in study population (N=49).

Domains	Mean ±STD
Overall score	6.96 ± 0.96
Physical health	22.63 ± 3.38
Psychological	21.53 ± 2.07
Social Relationship	9.73 ± 1.67
Environment	29 ± 2.03

Table - 4: Correlation between age of onset on dependence and WHOQOL-BREF status in the study population (N= 49).

Parameter	Pearson Correlation	P value
WHOQOL-BREF physical health	0.258	0.074
WHOQOL-BREF Psychological	0.229	0.114
WHOQOL-BREF social Relationship	-0.056	0.703
WHOQOL-BRE Environment	0.081	0.578

The mean overall score was 6.96 ± 0.96 in the study population. Minimum level was 5 and maximum level was 8 in the study population (95% CI 6.68   to 7.23). The mean physical health domain score was 21.53 ± 2.07 in the study population. Minimum level was 15 and maximum level was 29 in the study population (95% CI 21.66 to 23.60). The mean psychological domain score was 68.76 ± 14.95 in the study population. Minimum level was 17 and maximum level was 25 in the study population (95% CI 20.94 to 22.13).   The mean social relationship domain score was 9.73 ± 1.67 in the study population. Minimum level was 6 and maximum level was 12 in the study population (95% CI 9.26 to 10.21). The mean environment domain score was 29 ± 2.03 in the study population. Minimum level was 26 and maximum level was 32 in the study population (95% CI 28.42 to 29.58) (**Table - 3**).

There was a weak positive correlation between age of onset of dependence and WHOQOL-BREF physical health (R Value: 0.258, P value:

0.074). There was a weak positive correlation between age of onset of dependence and WHOQOL-BREF Psychological (R Value: 0.229, P value: 0.114). There was a weak negative correlation between age of onset of dependence and WHOQOL-BREF social

Relationship (R Value: -0.056, P value: 0.703). There was a weak positive correlation between age of onset of dependence and WHOQOL-BREF Environment (R Value: 0.081, P value: 0.578) (**Table – 4**).

Figure - 1: Correlation between age of onset on dependence and WHOQOL BREF raw score.
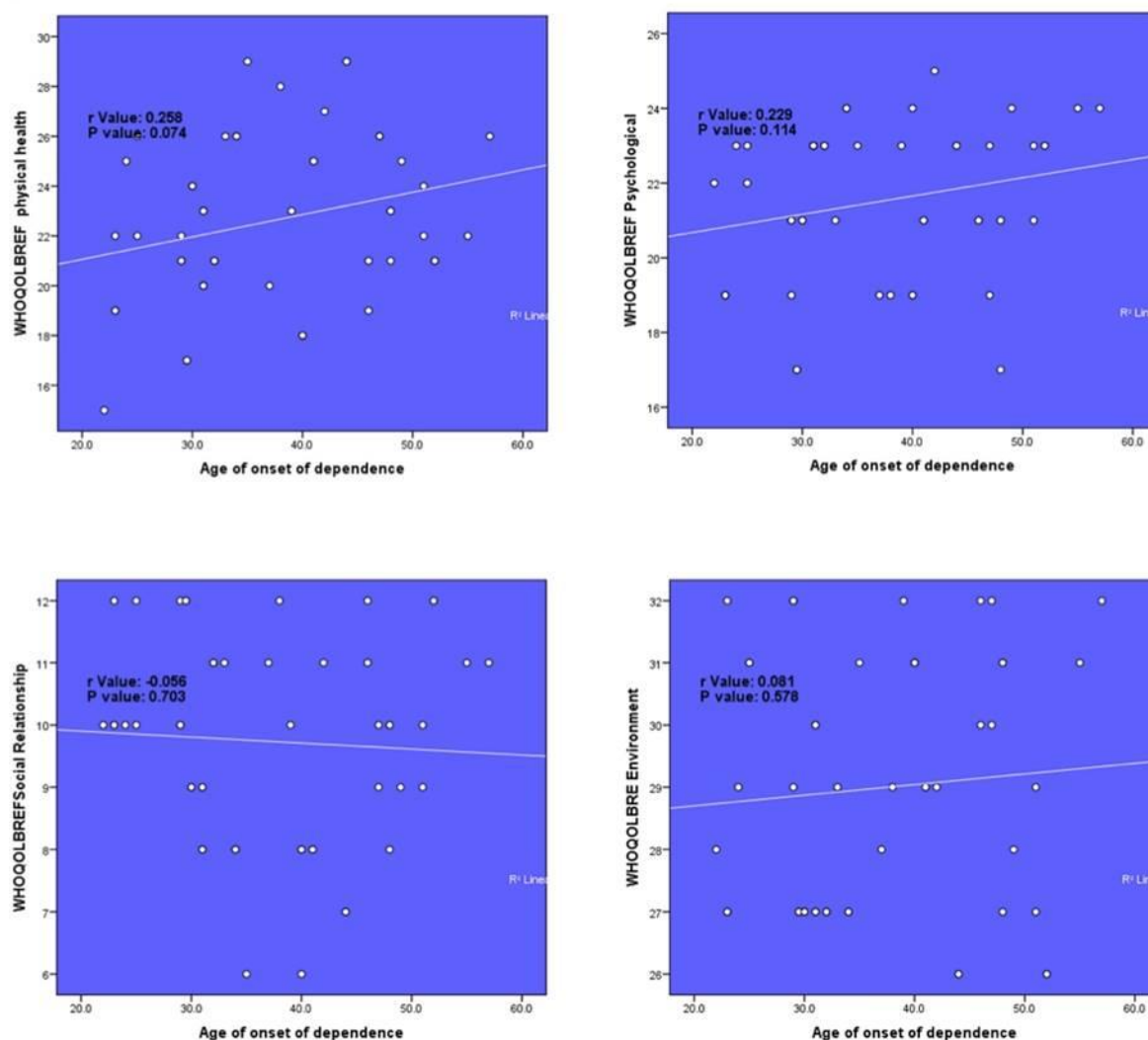
Discussion

Evidence suggests that the adverse impact of alcohol is reportedly higher in low income countries [2]. The consequences attributable to alcohol account for large costs to societies; they are not limited to health-care costs, but also include costs related to social harm. Nearly 47% of Indian population having some alcohol in some form [19].

Dutta R, et al. [20], in their study reported that the prevalence of alcoholism was 35.7% in Tamil Nadu. The mean age of the consumers at the initiation of consuming alcoholic beverages was considerably low (20.5±5.7 years), with an age range of 20-29 years. A WHO report states that the overall prevalence of alcohol consumption is higher in South India as compared to North

which is 33% to 50% and 25% to 40% respectively [21].

The mean age of the subjects in our study was 37.51 ± 9.7 years and majority of study subjects (36.73%) belonged to 30-39 year group. In their study in rural Tamil Nadu, Ganesh Kumar S, et al. [22] reported most of the subjects belonging to 15–44 year age group (497, 52.5%). They also observed that the mean age at initiation was 25.3 +9.0 years and that middle age (15–44 years) was associated with alcohol use (OR, 3.56). Dutta R, et al. [20] found the mean age the subjects in rural Tamil Nadu to be 37. 2 years.

Regarding the income status of the subjects, Ganesh Kumar, et al. found 21% of subjects belonging to lower economic class, while 16.9% were in middle income group. Contrastingly, most of our study population (71.43%) belonged to middle class and 28.57% participants were lower in class. Among the present study participants, majority of them either consumed 6 units of alcohol per day (38.78%) or 9 units per day (32.65%). Fein G, et al. [23] reported quite high amount of average alcohol use with176.3 drinks per month among males and 128.1 drinks per month among females.

Regarding the onset of getting into the habit of alcohol drinking, there is mounting evidence to suggest the age at which people start consuming alcohol has dramatically reduced over the past few decades in India [24]. Nair UR, et al. [24] in their longitudinal study in India observed that in 1950, the general age at which people first consumed alcohol was 24 years while it decreased to 17 years by 1985. In comparison, the mean age of onset of dependence was in the middle age (37.51 ± 9.7 years) and the subjects reported to have an average dependence for 3.88 ± 3.19 years in our study.

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 MS [6] 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).

There was a weak positive correlation between age of onset of dependence and WHOQOL-BREF physical health (r: 0.258, P: 0.074). There was a weak positive correlation between age of onset of dependence and WHOQOL-BREF Psychological (r: 0.229, P: 0.114). There was a weak negative correlation between age of onset of dependence and WHOQOL-BREF social Relationship (r: -0.056, P: 0.703). There was a weak positive correlation between age of onset of dependence and WHOQOL-BREF Environment (r: 0.081, P: 0.578). Similarly Faller S, et al. a noted a weak positive correlation between age and physical (r: 0.52, P<0.05), psychological (r: 0.37, P: 0.02), social relation (r: -0.27, P: 0.09) and environment (r: 0.38, P: 0.32) domains of WHOQOL-BREF. The present study findings reaffirm with existing evidence that the pattern of alcohol use is important both for the QOL 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 QoL of these subjects.

Conclusion

To conclude the findings of the study suggest poor quality of life in alcohol-dependent subjects with weak positive correlation between age of onset of the habit and physical, psychological and environmental domains of the subjects.

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