ORIGINAL RESEARCH

To study psychiatric comorbidities, quality of life in patients with alcohol dependence and caregiver burden among the family members

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ABSTRACT
Background: Alcoholism is a severe hazard to both individuals and society, and the family bears the brunt of the disease's burden.
Aims and objectives:
1. To study the sociodemographic profile of patient of alcohol dependence.
2. To study the psychiatric comorbidity in patients with alcohol dependence.
3. To study the quality of life in patients of alcohol dependence.
4. To study the caregiver's burden in family members of alcohol dependence.
Material and methods: The present study was conducted at Swami Vivekananda Drug De-addiction and Treatment Centre under Department of Psychiatry, Government Medical College, Amritsar with the primary purpose of determining the Psychiatric comorbidities, Quality of life in patients of Alcohol Dependence and Caregiver burden among their family members. For this purpose, minimum 100 patients of alcohol dependence syndrome who were admitted in Swami Vivekananda Drug De-addiction and Treatment Centre and their respective key caregivers during a period of 1 year from 2020 to 2021 will be selected and studied. The nature and purpose of the study was explained to the patients and their respective caregivers and an informed consent was taken from each of them. After Certain set of questions were asked from annexures and accompanying clinical assessment was done. Enrolled patients and their caregivers were assured of confidentiality of the information given by them and data assimilated was analyzed using standard methods.
Results: Age of the patient is positively correlated with duration of alcohol use, SADQ, age of caregiver, FBIS scores and WHOQOL and negatively correlated with caregiver income. Duration of alcohol use is positively correlated with SADQ, FBIS score and WHOQOL. There seems to be a positive association between monthly expenses on alcohol with SADQ, FBIS. SADQ scores are positively correlated with FBIS and subjective burden scores. GHQ scores are positively correlated with FBIS and negatively correlated with WHOQOL.
Conclusion: There is a high prevalence of psychiatric comorbidities in patients of Alcohol use disorder impairing their quality of life. Caregiver burden among primary caregivers of patients with alcohol use disorder was of moderate to severe degree.
Key words: Alcohol, FBIS, Psychiatric Comorbidities, SADQ, WHOQOL.

INTRODUCTION

Alcohol use disorder (AUD) refers to impaired control over alcohol use, leading to physiological dependence and tolerance, and detrimental psychological, social, and physical consequences.[1] These disorders are highly disabling, associated with many physical and psychiatric comorbidities.[2] It may also be defined as a "maladaptive pattern of alcohol use indicated by continued use, despite a persistent or recurrent social, occupational, psychological, or physical problem that was caused or exacerbated by alcohol use or by its recurrent use in physically hazardous situations.[3]

Family plays a key role in the care of patients with mental illnesses. This is especially very true in India because of various factors like the tradition of interdependence, the concern for the family, and the lack of sufficient mental health professionals. A substance dependent person in the family affects almost all aspects of family life like interpersonal and social relationships, leisure time activities, and finances. Substance dependence invariably increases conflicts, negatively affects family members, and burdens the families.[4] The psychological and behavioural impact on others is often far greater than on the substance dependent family member. The financial burden, one of the major burden areas, is likely to be experienced by the families due to loss of patient's income and use up of funds to procure substances they are dependent on. This leads to problems, difficulties or adverse events which impact the lives of family members and causes enormous burden on family caregivers. This adverse impact has been described as burden.[5]

A proper assessment of different psychiatric comorbidities in patients of alcohol use disorders is a need of the time in India. It has been estimated that more than sixty millions persons in India consume alcohol and that there has been a significant increase in the per capita consumption of alcohol in recent times.[6]

In order to address this pertinent issue, the aim of the present research is to study the Psychiatric comorbidities, Quality of life and caregiver burden in patients with alcohol dependence.

Material and methods: The study was carried out at Swami Vivekananda Drug De-addiction and Treatment Centre under department of Psychiatry, Government Medical College, Amritsar. Swami Vivekananda Centre for De-addiction is a 50 bedded drug deaddiction ward in Guru Nanak Dev Hospital fully equipped for De-addiction purposes with a laboratory of its own. The study was conducted after approval from Institutional Ethics Committee, Government Medical College, Amritsar. All the patients and their respective caregivers who agreed to participate were informed about the precise aim of the interview and a written informed consent was taken. The patients diagnosed with alcohol dependence using ICD 10 Criteria and their respective caregivers were interviewed. The diagnosis was confirmed by senior consultant psychiatrist to avoid any error in the choice of subjects for study. Minimum of 100 dyads of patients and their respective key caregivers were included in the study. The study didnot interfere in their treatment and management. Patients were reassured about the confidentiality of the information given. Data interpreted was analyzed through standard statistical methods

FOR PATIENTS
INCLUSION CRITERIA
1. All patients with alcohol use disorder aged 18-60 years who fulfilled the criteria of alcohol dependence as per ICD 10 classification.
2. Patients who gave informed consent.

EXCLUSION CRITERIA
1. Patients who had not given consent.
2. Uncooperative patients.
3. Patients who abused other substances except tobacco
4. Patients with severe physical impairment.
5. Patient with mental retardation.

FOR KEY CAREGIVERS
INCLUSION CRITERIA
1. Identified as current key caregivers of patients diagnosed alcohol dependence according to ICD-10 criteria
2. Aged more than 18 years
3. Caring and living with patient for more than 1 year
4. Having no chronic illness since last 1 year
5. Providing written informed consent

EXCLUSION CRITERIA
1. Caregivers who had a cognitive impairment or an intellectual disability
2. Children and young people <18 years
3. Caregivers not giving consent
4. Uncooperative caregiver

The study sample was assessed using following documents:

DAMS (drug abuse monitoring system) proforma – DAMS proforma provided by the project coordinating Centre (NDDTC, AIIMS, New Delhi). The DAMS proforma was used to collect data from de-addiction service providers all over India (mainly government service providers) and keeps track of the current drug abuse pattern and notes change in pattern of drug abuse over years. It contains service provider's identification, basic socio-demographic data of the patient, a checklist of drugs of abuse ever used and drugs currently being used in the last one month.

Clinical Institute Withdrawal Assessment of Alcohol Scale, Revised (CIWA-Ar):69 It is a 10-item scale widely used in the assessment and management of alcohol withdrawal. Patients will be taken for assessment only when their CIWA score will be less than 10 (no or mild withdrawal symptoms).

Severity of Alcohol Dependence Data (SADD):70It is a 15-item self-report used the measure the severity of dependence. Each question has four possible responses, scored as 0, 1, 2, and 3. The maximum score on the scale is 45 and dependence is categorized, based on scores, into low (0–9), moderate (10–19), and high (>19) dependence

Mini International Neuropsychiatric Interview (MINI):71 It is a short, structured diagnostic interview to diagnose ICD-10 psychiatric disorders. It was used to establish the diagnosis of alcohol dependence syndrome as well as other comorbid psychiatric disorders.

WHO Quality of Life (WHOQOL):72 It consists of 26 items: two benchmark items measuring overall quality of life and perception of health and 24 items measuring four domains of quality of life: physical, psychological, social, and environment. The instrument makes use of 5-point Likert scales with higher scores denoting a better quality of life. We will use the Hindi version which have been developed by Saxena et al51 and has been found to have satisfactory psychometric properties with the original version.

Family Burden Interview Schedule (FBIS):73 The FBIS is a semi structured interview schedule developed by Shaila Pai and Kapur in 1981. It has 24 items each rated on a three-point scale: 0, no burden; 1. moderate burden; and 2, severe burden. This scale has been

developed for the Indian setting, keeping in mind the socioeconomic and cultural conditions in India.

METHODOLOGY

The patients to be involved in the study were admitted for management of alcohol dependence syndrome. They were assessed only after completion of detoxification phase. Those meeting the inclusion criteria were assessed for residual withdrawal symptoms using CIWA-Ar and only those scoring less than 10 (no or mild withdrawal symptoms) were further evaluated. Sociodemographic details and drinking variables were assessed using special proforma, following which their dependence severity was assessed by SADD. Psychiatric comorbidity was assessed using MINI, following which they were assessed for their quality of life. The caregivers of the patients were assessed using FBIS.

Statistical analysis

At the end of the study, the data was collected and was analyzed using the statistical package for social science version 21.0 (SPSS, Chicago, IL, USA). Continuous variables were expressed as mean ± standard deviation (SD) and categorical variables as count and percentage. Comparisons between groups were performed using Student's t test for continuous variables and the chi-square test for categorical variables. The correlations between various variables were evaluated using Pearson's correlation. Statistical significance was taken <0.05.

RESULTS

Table 1: Mean age of patients

Mean age	35.68±4.15 years

Table 2: Gender distribution

	Patient	Caregiver
Males	100%	30%
Females	0%	70%

Table 3: Religion status

Religious status	%age
Sikhism	63%
Hinduism	32%
Other	5%
Total	100%

Table 4: Marital status

Marital status	Patient	Caregiver
Married	76%	78%
Unmarried	18%	13%
Separated	4%	9%
Divorced	2%	0%
Total	100%	100%

Table 5: Caregiver relation to patient

	Percentage
Parent	48%
Spouse	36%

brother/sister	13%
Child	3%
Total	100%

Table 6: Education

Education	Patient	Caregiver
Illiterate	19%	14%
Can read and write	14%	1%
Primary/upto 5th	23%	11%
Middle/upto 8th	26%	36%
Higher Sec 10/12	16%	27%
Graduate	2%	6%
Post graduate	0%	5%
Total	100%	100%

Table 7: Employment status

Employment status	Patient	Caregiver
Unemployed	27%	56%
Employed	40%	-
Self employed	33%	-
Professional	-	9%
Skilled	-	10%
Unskilled	-	16%
Farmers	-	5%
Students	-	4%
Total	100%	100%

Table 8: Duration of alcohol use in years

Duration (years)	Percentage
≤5	17%
6-10	32%
>10	51%
Total	100%

Table 9: History of patient

		Number of patients
Tobacco use	Yes	33%
Family history of alcohol use	Present	66%

Table 10: Severity of alcohol dependence

SADQ score		Percentage
Low dependence	1 – 9	16%
Medium dependence	10 – 19	34%
High dependence	≥20	50%
Total		100%

Table 11: Mini international neuropsychiatric interview

		Percentage
A	Major Depressive Episode	31%

B	Dysthymia	1%
C	Suicidality	10%
D	Manic Episode	10%
E	Panic Disorder	12%
F	Agoraphobia	1%
G	Social Phobia	9%
H	Obsessive-Compulsive Disorder	10%
I	Posttraumatic Stress Disorder	4%
J	Alcohol Dependence	100%
K	Substance Dependence	100%
L	Psychotic Disorders	8%
M	Anorexia Nervosa	0%
N	Bulimia Nervosa	0%
O	Generalized Anxiety Disorder	18%
P	Antisocial Personality Disorder	20%

Table 12: WHO quality of life

	(WHOQOL-Q1) Percentage	(WHOQOL-Q2) Percentage
1	35%	28%
2	49%	65%
3	16%	7%

Table 13: World health organization quality of life

	Mean	Std. Deviation	Minimum	Maximum
Domain-1	35.80	4.985	25	44
Domain-2	26.23	5.113	19	38
Domain-3	22.18	6.250	0	31
Domain-4	21.76	4.300	13	31
WHOQOL total	105.97	12.350	69	126

Table 14: Family burden interview schedule

	Percentage
Moderate Burden	15%
Severe Burden	85%
Total	100%

Table 15: Family burden interview schedule

	Mean	Std. Deviation	Minimum	Maximum
Financial burden	6.29	3.955	0	32
Disruption of routine family activities	6.20	2.609	0	10
Disruption of family leisure	4.25	2.012	0	8
Disruption of family interaction	4.59	2.712	0	10
Physical health	1.28	1.102	0	4
Mental health	1.57	1.148	0	4
FBIS total	46.79	20.056	6	92

Table 16: Correlations between various parameters

		Age of patient	Duration of alcohol use	SADQ score	caregiver Age	Caregiver income	Family Burden score	WHO QOL_ total
Age of patient	R	-	0.723	0.361	0.265	-2.14	0.190	0.065
	P value	-	0.000	0.013	0.002	0.000	0.011	0.067
Duration of alcohol use	R	-	-	-.142	-	-2.31	0.034	.051
	P value	-	-	.158	-	0.017	.738	0.613
SADQ score	R	-	--	-	0.095	-0.31	.282**	-.107
	P value	-	.--	-	0.34	0.238	.004	0.290
caregiver Age	R	-	-	-	-	-0.313	-0.282	0.071
	P value	-	-	-	-	0.000	0.364	0.266
Caregiver income	R	-	-	-	-	-	-0.521	-275
	P value	-	-	-	-	-	0.001	0.96
Family Burden score	R	-	-	-	-	-	-	-.075
	P value	-	-	-	-	-	-	.459
WHOQOL_t otal	R	-	-	-	-	-	-	-
	P value	-	-	-	-	-	-	-

DISCUSSION

In the present study the mean age of the patients was 35.68 years. The findings of our study are in concordance with the study done by Soundararajan S et al[7] who in their study. "Relation between age at first alcohol drink & adult life drinking patterns in alcohol-dependent" patients reported that the mean age of patients was 37 years.

The mean age of patients in our study is similar to the study conducted by Vaishnavi R et al[8] who in their study of Caregiver Burden in Alcohol Dependence Syndrome reported that the mean age of patients was 38.73 years.

In the present study 50% of the patients had High dependence, 35% had medium dependence and 16% had low dependence on alcohol. All the 100 patients included in the study were males. This is consistent with the finding from NMHS that males were 18 times more likely than females to drink alcohol.[9] Similar to our study Vaishnavi R et al[8] and Kadam KS et al[10] stated that all the patients of alcohol use disorder were males.

In our study 76% of the patients were married followed by unmarried (18%), separated (4%) and divorced (2%). Nair UR et al[11] in their study reported that 87.1% of the patients were married and 12.9% were unmarried. Soundararajan S et al[7] in their study reported that majority (79.79%) of the patients were married.

In the present study 26% were educated up to middle school followed by primary school (23%), illiterate (19%), higher secondary (16%), can read and write (14%) and graduates

(2%). In the study done by Vaishnavi R et al[8] 50% of the population was educated up to higher secondary level and 15% were graduates.

In our study 40% were employed, 33% were self employed and 27% were unemployed. Vaishnavi R et al[8] More than 3/4 of the patients were employed and only 23 were unemployed.

The sociodemographic profile obtained in this study emphasizes the fact that alcohol use is not a disorder affecting an isolated few but its patients come from all types of families with various socioeconomic standings and educational qualifications irrespective of their earning potential.

In our study 51% of the patients had history of alcohol drinking more than 10 years, 32% were drinking from 6 to 10 years and 17% were drinking ≤5 years. 33% of the patients also had history of tobacco use and 67% do not have any history of tobacco use because most of the patients belong to sikh faith and tobacco use is considered a societal taboo. 66% of the patients had family history of alcohol use. 100% of the patients had alcohol and substance dependence, 31% had major Depressive Episode, 20% had antisocial Personality Disorder followed by others, 18% had Generalized Anxiety Disorder, 12% had panic disorder, 10% had Suicidality, 10% had manic episode, 10% had Obsessive-Compulsive Disorder, 9% social phobia , 8% Psychotic Disorders, 4% had Posttraumatic Stress Disorder, 1% had Dysthymia and 1% had Agoraphobia.

Early onset of alcohol use and alcohol use disorder is associated with a family history of alcohol use disorder, aggression and problems with law, social role maladaptation and loss of behavioural control when drinking, childhood criminality, and tobacco use, thus substantiating the claim that this may be a distinctive subtype of alcoholism.[11]

In the present study of Female caregivers' predominance was seen. 70% of the caregivers were females and 30% were males. Indian traditions have demarcated females as the predominant caregivers of any family and a similar trend was seen among our study.

48% of the caregivers were parents followed by spouse (36%), brother/sister (13%) and 3% were children. In concordance with our study Vaishnavi R et al[8] stated that majority of the caregivers were females; but in their study they were predominantly spouses of the patient.

In a country like us, there is a cultural belief that men should be the breadwinner of the family and probably this would have shifted the responsibility of caring for the sick to the women.[12]

Although a similar pattern of higher number of female caregivers was also seen in a Western study.[10] Kumar P et al[13] in their study reported that most of the caregivers of substance abusers are females, related as either mother or spouse of the substance abuser.

36% of the caregivers were educated up to middle school, 27% were educated up to higher secondary, 14% were illiterates, 11% had primary education, 6% were graduates, 5% were post graduates and 1% can read and write. 56% of the caregiver were unemployed, 16% were unskilled, 10% were skilled, 9% were professionals, 5% were farmers and 4% were students. Kadam KS et al[10] in their study reported that 68% of the patients were educated and 12% were illiterate. Vaishnavi R et al[8] et al in their study stated that when compared to the patients, a large number of caregivers were illiterates (21.5%) and most of them were unemployed.

78% of the Caregiver were married,13% were unmarried and 9% were separated. Vaishnavi R et al[8] in their study reported that were 87.5% of the caregivers were married, 1.5% were unmarried and 11% were others.

65% of the Caregiver had income less than 5000, 24% had income more than 10000 and 11% had income between 5000-10000.

In family burden interview schedule mean financial burden is 6.29, Mean Disruption of routine family activities is 6.20, mean disruption of family leisure is 4.25, mean disruption of

family interaction is 4.59, mean physical health score is 1.28, mean mental health score is 1.57 and mean total FBIS is 46.79. Mean Domain-1 is 35.80, Mean Domain-2 is 26.23, Mean Domain-3 is 22.18, Mean Domain-4 is 21.76 and mean WHOQOL total is 105.97.

Kumar P et al[13] In their study stated that the overall QOL is affected in patients of substance abuser. All the 4 domains are affected, especially in multiple substance abusers. Research has shown that physical and psychological consequences of addiction lead to degradation in the quality of caregivers of substance abuser. According to research conducted about comparative aspects of family functioning and QOL, alcoholics and their caregivers had lower QOL.

85% of the Caregivers had severe burden and 15% had moderate burden. This is identical to the finding of 95%–100% caregiver burden seen in a study by Mattoo SK et al[14.] The findings of the study done by Kadam KS et al[10] indicate a 95% prevalence of caregiver burden with 43.75% severe, 35% moderate, and 16.25% mild burden in caregivers of patients with alcohol use disorder. The prevalence was lower than the finding of more than three-quarters of the sample experiencing severe burden in a study conducted by Shareef Net al[15] Studies conducted by Vaishnavi R et al[8], Shekhawat BS et al[54] and Swapna B et al[16] showed lower caregiver burden. Even in a western study conducted by Sattar SP et al[17] the finding of significantly higher caregiver burden was noted. This higher burden leads to significantly poorer quality of lives in caregivers of these patients, echoed in the findings of a study conducted by Jiang H et al.[18]

The higher burden is due to the direct effects of alcohol consumption of the patient and the added responsibilities that the caregiver needs to take on in light of the patient's behavior as recorded on the caregiver burden scale. These include helping the patient leading to feelings of discomfort, anger, strain, embarrassment, sense of the loss of privacy and social life. The caregivers subsequently reported on the caregiver burden scale that they cannot take care of their patients much longer, are afraid of the future and feel a sense of loss of control over life. The cost of treatment, the monthly alcohol expenditure by the patient, and additional income which may be lost due to the caregiver too investing his resources in the patient are all additional sources of burden to the caregiver as well as the society and nations at large, something which has been quantified in studies conducted by Jiang H et al[18], Salize HJ et al[19] and Rice DP et al[20] in terms of time.

In the present study 49% had WHOQOL-Q1 score 2 followed by score 1 (35%) and score 3 (16%). In the present study 65% had WHOQOL-Q2 score 2 followed by score 1 (28%) and score 3 (7%).

In the present study Age of the patient is positively correlated with duration of alcohol use, SADQ, age of caregiver, FBIS scores and WHOQOL and negatively correlated with caregiver income. Duration of alcohol use is positively correlated with SADQ, FBIS score and WHOQOL. There seems to be a positive association between monthly expenses on alcohol with SADQ , FBIS. SADQ scores are positively correlated with FBIS and subjective burden scores. GHQ scores are positively correlated with FBIS and negatively correlated with WHOQOL.

Evans J et al reported that there was a weak positive correlation between the quantity of alcohol consumed and caregiver burden.[21] This was in keeping with the finding of heavy drinking days leading to the caregiver experiencing more burden in a study by Hoertel N *et al*.[22] This accounts for the larger monthly expenditure which also led to a finding of enhanced caregiver burden.

Gohil JG et al[23] In their study had not found any significant correlation between age, relation with the patient, domicile, socioeconomic class, education, occupation of caregiver of alcohol dependent patients. Similar results were obtained by Mattoo SK et al[14], they found that it was

associated neither with age, education or duration of dependence of the patients, nor with family size, type of caregiver or caregiver's education and occupation.

It is evident that increased consumption and spending on alcohol leads to an enhanced perception of burden by the caregivers. Most of the caregivers of alcohol dependent patients had less knowledge about mental illness. So, there is need to improve the knowledge about mental illness among caregivers of alcoholics.

LIMITATIONS
➢ The sample size of the study was small, there is need for larger sample to assess prevalence of psychiatric morbidities, quality of life in patients of Alcohol use disorder and caregiver burden among their family members.
➢ We have studied the prevalence and pattern of psychiatric morbidity and quality of life in patients of alcohol dependent patients with no withdrawal/mild withdrawal. So we can't comment on the prevalence and pattern of psychiatric morbidity in patients of Alcohol dependence who are in remission as well as who have moderate to severe withdrawal.
➢ The present study conducted consists of only male patients. The female patients of society could not be brought to surface and included in the study due to an attached social stigma. So it's results cannot be generalized to the whole population.
➢ Our study was conducted on a small sample of caregivers of alcohol disorder which is not representative of the total population of alcohol disorder. This limits the generalization of the results.
➢ This study was studied as a cross-sectional study. So follow-ups of patients were not undertaken. This limits the results from generalization to the whole population contrary to the longitudinal study.
➢ The WHOQOL was self-reported and subjective rather than objective.

FUTURE DIRECTIONS
Studies in the future are required to overcome the limitations of this study. Future studies should be multicentric longitudinal with patient followup and be carried out in larger sample size. The studies should include female population. WHOQOL should extend to objective reports as well so that the results can be generalized into the population.

CONCLUSION
There is a high prevalence of psychiatric comorbidities in patients of Alcohol use disorder impairing their quality of life. Caregiver burden among primary caregivers of patients with alcohol use disorder was of moderate to severe degree. It was inferred that maximum impact was found on financial domain followed by disruption of routine family activities. There is a high treatment gap stemming from a lack of awareness about the availability of systematic deaddiction regimes among patients of alcohol use disorder. Alcohol use disorder and caregiver burden does not discriminate among its patients and is a universal problem requiring immediate permanent solutions.

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