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Original Article

A Comparative Study Of Different Factors On Caregiver Burden And Disability Of Patients In Bipolar Affective Disorder And Alcohol Dependency In Selected Study Areas Of Mumbai

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ABSTRACT:

Background: Bipolar Affective Disorder (BPAD), previously known as manic depression is an illness in which someone experiences highs and lows mood swings like ups and down and Alcohol Dependence (ACD) is the associated risk factor of BPAD. ACD is a chronic disease in which a person craves drinks that contain alcohol and is unable to control his or her drinking and ultimately it was transformed into burden such as violence, big quarrels etc. and disabilities. The burden of care concept has two distinct components. 1. Objective burden includes measurable effects in household disruptions, economic burden, loss of work and social activities, time spent negotiating mental health, medical and social welfare and some times criminal justice systems.2. Subjective burden is the caregiver's own perception of the impact of caring consisting of negative feelings of loss, anxiety, anger, sorrow, hatred, uncertainty, guilt, shame or embarrassment, which causes significant distress and suffering.

Aims: To compare the extent of burden and disabilities among the caregivers with the BPAD and ADS dependence in patients.

Results: Disabilities was majority seen among males, severe burden was more seen in females, especially the families unemployed, and it was observed more in families where domestic violence happens.

Conclusions: The high amount of burden experienced by the caregivers due to large number of dependence associated with disorders.

Keywords: Caregiver, Patients Disability, Caregiver Burden, Bipolar Affective Disorder and Alcohol Dependence

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INTRODUCTION:

Families of patients with mental illness face stigmatization, long-term economical and emotional burden of taking care of the patient. Illness in the patient has impact on the work, social relationship and leisure activities of family members. This evokes different feelings in the family members, which can have impact on the course and prognosis of the illness. [1]

The current prevalence of Bipolar Affective Disorder (BPAD) is 0.4-0.5%, 1-year prevalence is 0.5-1.4% and life time prevalence is 2.6 – 7.8 %.[4] In India the prevalence of affective disorder ranges from 0.51 per thousand population [5] to 20.78 per thousand population. [6] The 1-year prevalence of alcohol abuse and dependence is estimated to be 6% or more. [7] General population surveys in India have reported a prevalence of Alcohol use ranging from 1.15-to 50 %. [8,9]

Burden is defined as presence of problems, difficulties or adverse events which affect the life (lives) of the psychiatric patient's significant others.[10]

Over the past several decades,evidence has been accumulating that mood disorder imposes substantial societal burdens. [11]

In Alcohol dependent individuals the number of legal, interpersonal, familial and job related problems reported were higher than those who were not alcohol dependent.[17] Individuals who were alcohol dependent report high prevalence rates for becoming involved in arguments while drinking, job related and problems with spouse or someone they were living with when drinking.[18]

Aims:

To assess the severity of BPAD and ADS among the patients.

To assess the caregiver burden among the primary caregivers.

To compare the amount of burden among the caregivers with the BPAD and severity of alcohol dependence in patients.

Methodology:

This was a cross-sectional hospital-based study. The study was conducted in the Out-patient Department of Psychiatry where clinical services was provided, Sir J J Hospital and Grand Medical College, Mumbai. This is a tertiary care hospital, providing specialist clinical care to Byculla, Mumbai.

The present PhD study was conducted for 30 months, i.e., from August 2016 to December 2018. The study sample was collected from bipolar affective disorder patients and alcohol dependence syndrome and their caregivers. Patients were selected consecutively. The study sample consisted of sixty three patients diagnosed from group I and group II respectively to

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have bipolar affective disorder patients and alcohol dependence syndrome and their respective caregivers.

Patients and their caregivers fulfilling selection criteria were approached and informed consent was obtained. Interview was carried out after 2 weeks to rule out the possibility of the presence of withdrawal symptoms in bipolar affective disorder patients and alcohol-dependent patients.

Inclusion criteria for cases:

- Age: 18-60 years
- Both Male and Female.
- Duration of illness at least 2 years
- Patients who are willing to participate.

Exclusion criteria for cases:

- Concomitant mental retardation
- Concomitant physical illness
- Concomitant personality disorder.

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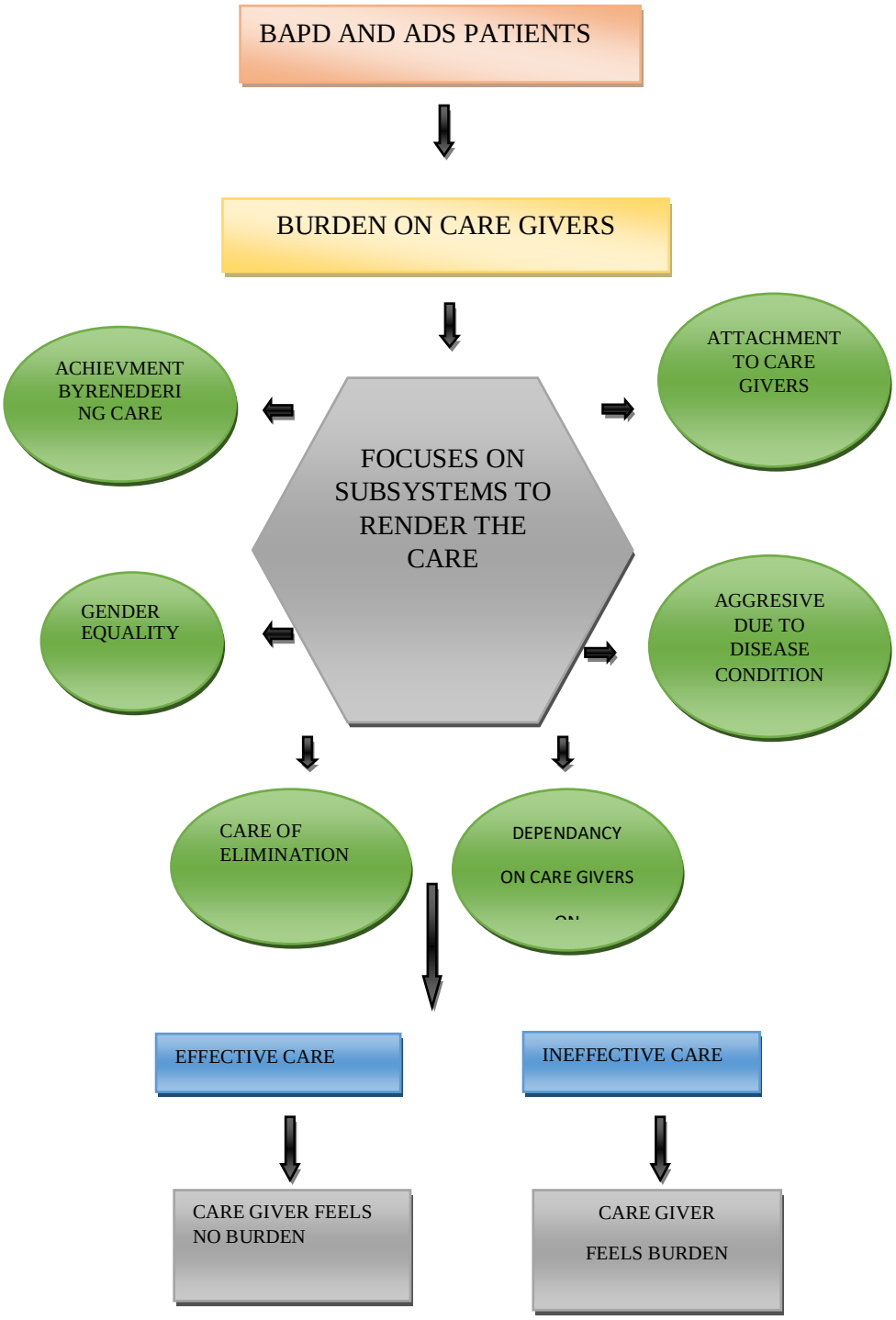
CONCEPTUAL FRAMEWORK



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Statistical Methods:

Data were collected, tabulated and analysed usingSPSS (Statistical Packages for Social Sciences) version 20.0 with regard toobjectives of thestudy using descriptive and Inferential Statistics.Descriptive Statistics namely frequency andpercentage was done. The t-test was used to check theassociation between selected demographicvariables and awareness of care givers of theBPAD and ADS.

Table1: Comparison of Burden in Different Domains in BPAD and ADS Groups.

Variable	BPAD n = 30	ADS n = 33	Statistical analysis df = 61	95%CI
Spouse related	9.77 ± 2.28	9.24 ± 2.28	t = 0.9 (NS)	-1.67 – 0.63
Physical and Mental health	14.4 ± 2.79	12.88 ± 3.88	t = 1.7 (S)	-3.23 – 0.19
External support	8.63 ± 3.12	8.79 ± 2.96	t = 0.20 (NS)	-1.38 – 1.67
Caregivers routine	12.43 ± 2.82	9.52 ± 2.76	t = 4.14 (S)	-4.32 – - 1.5
Support of Patient	8.13 ± 2.29	8 ± 2.32	t = 0.23 (NS)	-1.29 – 0.25
Taking responsibility	8.40 ± 2.13	7.64 ± 1.92	t = 1.5 (NS)	-1.78 – 0.25
Other relation	5.23 ± 2.13	5.58 ± 1.92	t = 0.26(NS)	-0.68 – 1.36
Patientsbehaviour	8.63 ± 1.99	8.09 ± 1.94	t = 0.98 (NS)	-1.53 – 0.45
Caregivers	8.43 ± 2.24	8.03 ± 2.31	t = 0.69 (NS)	-1.55 – 0.75
Total	83.83 ± 17.35	77.27 ± 16.46	t = 1.5(NS)	-15.08 – 1.95

S-significant when p<0.05, NS-Not significant

Caregivers' routine was affected more in the BPAD patients than in Alcohol dependence and this difference was statistically significant. The difference in all other domains between the groups was not statistically significant.

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Table 2: Comparison of Burden in Male BPAD and ADS Groups.

Variable	**BPAD N = 14**	**ADS n = 30**	**Statistical Analysis df = 42 p<0.05**	**CI 95%**
Spouse related	9.21 ± 2.19	9.3 ± 2.12	t = 0.12 (NS)	- 1.48 – 1.31
Physical and mental health	15.21 ± 2.69	13.27 ± 3.69	t = 1.77 (NS)	-.0.28 – 4.17
External support	8.64 ± 2.92	8.83 ± 3.00	t = 0.2 (NS)	-2.13 – 1.75
Caregivers routine	13.71 ± 2.23	9.73 ± 2.78	t = 4.69(S)	2.27 – 5.69
Support of patient	8.29 ± 2.27	8.17 ± 2.34	t = 0.16 (NS)	-1.39 – 1.63
Takingresponsibility	8.14 ± 2.57	7.67 ± 1.99	t = 0.67(NS)	-0.95 – 1.90
Other relation	5.71 ± 1.98	5.63 ± 1.96	t = 0.13(NS)	-1.20 – 1.36
Patients behaviour	9.07 ± 1.82	8.13 ± 2.0	t = 1.49 (NS)	-0.33 – 2.21
Caregivers Strategy	8.57 ± 2.38	8.17 ± 2.31	t = 0.54 (NS)	-1.12 – 1.93

S-significant when p<0.05, NS-Not significant

Caregivers' routine was affected more in the male BPAD patients than in male ADS patients and this difference was statistically significant. The difference in all other domains was not statistically significant. The total score of BAS in caregivers of BPAD appears to be more than in ADS patients, but this difference was not statistically significant.

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Table 3: Comparison of Burden in Female BPAD and ADS Groups.

Variable	**BPAD N=16**	**ADS N=3**		**Statistical analysis df=17 p<0.05**	**CI** 95%
Spouse related	10.25 ± 2.32	8.67	± 4.16	t = 0.97 (NS)	-1.88 – 5.05
Physical&mental health	13.69 ± 2.75	9.0 ± 4.36		t = 2.5(signi)	0.73 – 8.65
External support	8.63 ± 3.38	8.33	± 3.06	t = 0.14(NS)	-4.15 – 4.73
Caregivers Routine	11.31 ± 2.87	7.33	± 1.53	t = 2.30(Sig)	0.34 – 7.62
Support ofPatient	8.0 ± 2.37	6.33	± 1.53	t = 1.16(NS)	-1.36 – 4.7
TakingResponsibility	8.63 ± 1.71	7.33	± 1.15	t = 1.24	-0.90 – 3.49
Other relation	4.81 ± 2.23	5.0 ± 1.73		t = 0.14	-3.07 – 2.7
Patients behavior	8.25 ± 2.11	7.61	± 1.53	t = 0.45 (NS)	-2.14 – 3.31
Caregivers Strategy	8.31 ± 2.18	6.67	± 2.31	t = 1.19 (NS)	-1.27 – 4.56
Total	81.31 ± 18.14	66.33	± 14.64	t = 1.34(NS)	-8.6 – 38.56

S-significant when p<0.05, NS-Not significant

The physical and mental health and caregivers routine appears to be affected more in female BPAD patients than in female ADS patients and this difference was statistically significant. Even though the scores in all other domains were more in BPAD than in ADS, the difference was not statistically significant.

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Table 4: comparison of burden during-manic, mixed andDepressive episode.

Variable	Mania n = 21	Mixed n = 3	Depression n = 6	Statistical analysis df=2,27
Spouse related	9.95 ± 2.39	8.66 ± 1.52	9.66 ± 2.35	F = 0.41(NS)
Physical and mental health	14.71± 2.61	16.33 ± 1.52	12.33 ± 3.01	F = 2.82
External support	8.76 ± 2.28	12.66 ± 2.08	6.16 ± 2.04	F = 5.86(sig)
Caregivers routine	13.28± 2.12	13.66 ± 2.30	8.83 ± 2.56	F = 9.85(Sig)
Support of patient	8.38± 2.13	10.66 ± 1.15	6 ± 1.14	F = 2.0 (NS)
Taking responsibility	8.52± 2.18	10.66 ± 1.15	6.83 ± 0.75	F = 4.08(NS)
Other relation	5.23 ± 1.97	8 ±1.73	3.83 ± 1.60	F = 4.85(NS)
Patients behaviour	9.19± 1.43	10.33 ± 1.52	5.83 ± 1.16	F = 15.93(Sig)
Caregiversstrategy	8.52± 2.13	11 ± 1.73	6.83 ± 1.60	F = 4.33(NS)
Total	86.4 ± 14.58	103.33 ±12.01	65 ± 12.45	F = 8.65(Sig)

S-significant when p<0.05, NS-Not significant

The scores in mixed episode are more than in depressive episode and this difference was significant. The scores in manic episode are more than in depressive episode and this difference was significant. The scores in mixed episode are more than in manic episode and this difference was significant. The scores on all the domains in the mixed episode except for the spouse related domain were more than the manic episode and depressive episode and this difference in the three groups was statistically significant.When Bonferoni was applied (one – one difference) the external support and other relations were affected more in mixed episode than in manic episode and depressive episode, and this was statistically significant .Caregivers routine and total burden was affected more in mixed episode than depressive episode and this was statistically significant.

During manic episode 4.76% caregivers had mild burden, 19.04%-moderate burden, 66.6%-severe burden and 9.52%-very severe burden. During mixed episode 33.3% caregivers had severe burden and 66.6%- very severe burden. During depressive episode 33.3% caregivers had mild burden, 50%-moderate burden, and 16.6%- severe burden.

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Table 5: Comparison of Burden in Alcohol Dependence, Alcohol Induced Psychosis, and Delerium Tremens.

Variable	ADS N=23	Alcohol Induced Psychosis n=3	Delirium Tremens n=6	Statistical Analysis df=2,30 p<0.05
Spouse related	9.04 ± 2.23	10.33 ± 2.08	9.42 ±2.69	F = 0.44 NS
Physical and mental health	12.56 ± 3.77	15.66 ± 1.52	12.71 ± 4.78	F = 0.85
External support	8.73 ± 2.92	10.66 ± 4.04	8.14 ±2.73	F = 0.77
Caregivers routine	9.13 ± 2.63	12 ± 1.73	9.71 ±3.25	F = 1.5(NS)
Support of patient	8 ± 2.31	8 ± 4	8 ±1.9	F = 0 (NS)
Taking responsibility	7.34 ± 1.94	7.66 ± 2.51	8.57 ±1.51	F = 1.10
Other relation	5.43 ± 2	6.33 ± 3.05	5.71 ±1.25	F = 0.30 NS
Patients behaviour	7.82 ± 2.10	9.66 ± 0.57	8.42 ±2.62	F = 1.42 NS
Caregivers strategy	7.73 ± 2.2	9.66 ± 2.51	8.28 ±2.62	F = 0.78
Total	75.08 ± 15.9	9.0 ± 21.166	79 ± 16.28	F = 1.14 NS

S-significant when p<0.05, NS-Not significant

In all the domains the scores in alcohol induced psychosis was more than in alcohol dependence syndrome and in ADS having delirium tremens, but this difference was not statistically significant.

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Table 6: Comparison of Disability in BPAD and ADS.

Item	BPAD N=30	ADS N=33	Statistical Analysis df=61 p<0.05	CI 95%
Self-care	2.28 ± 1.04	1.15 ± 1.04	t = 4.71	-1.62 –-0.65
Interpersonal activities	2.56 ± 0.92	1.08 ±0.90	t = 6.4	-1.94 – -1
Communication & understanding	1.33 ± 1.25	0	-	-
Work	3.64 ± 0.90	2.45± 1.46	t = 3.8	-1.8 – -0.57
Duration ofillness score	2.93 ± 0.83	3.48± 0.48	t = 2.69	0.14 – -0.96
Globaldisability score	12.64 ± 3.24	8.15± 3.21	t = 4.12	1.6 –4.7

S-significant when p<0.05, NS-Not significant

The scores on all the domains of IDEAS appeared to be more in BPAD patients than in ADS patients except for the duration of illness which was more in ADS patients and these differences were statistically significant.

Table 7: Comparison of Disability in Male BPAD AND ADS Patients.

Item	BPAD N=14	ADS N=30	Statistical Analysis df=42 p<0.05	CI 95%
Self-care	2.33 ± 1.12	1.19 ± 0.88	t = 3.62	0.12 – 1.78
Interpersonal activities	2.79± 0.85	1.11 ± 0.93	t = 5.71	1.08 – 2.26
Communication and understanding	0.91± 1.08	0	-	-
Work	4.0 ± 0.0	2.4 ± 1.45	t = 4.10	0.81 – 2.39
Duration of illness	2.93± 0.92	3.47 ± 0.82	t = 1.95	- 1.09 – 1.78
Global disability	12.82± 2.83	8.15 ± 3.29	t = 4.57	2.61 – 6.73

S-significant when p<0.05, NS-Not significant

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The scores on all the domains of IDEAS appeared to be more in BPAD patients than in ADS patients except for the duration of illness which was more in ADS patients and these differences were statistically significant.

Table 8: comparison of disability in female BPAD and ADS patients.

Item	BPAD N=16	ADS N=3	Statistical Analysis df=17 p<0.05	CI 95%
Self-care	2.33 ± 1.0	0.73 ± 0.64	t = 2.46	0.21 – 2.78
Interpersonal activities	2.37± 0.96	0.77 ± 0.68	t = 2.7	0.36 – 2.84
Communicationand understanding	1.6± 1.31	0	-	-
Work	3.32 ± 1.15	3 ± 1.73	t = 0.42	-1.31 – 1.96
Duration of illness	2.74± 0.77	3.67 ± 0.58	t = 1.54	-1.73 – 0.27
Global disability	12.49± 3.66	8.17 ± 2.84	t = 1.92	-0.42 – 9.06

S-significant when p<0.05, NS-Not significant

Self-care and interpersonal activities were affected more in female BPAD patients than in female ADS patients and this difference was statistically significant. The difference on all other domains was not statistically significant.

Table 9: Correlation between Disability andBurden in BPAD.

Correlation	r	Statistical significance
		p< 0.05
IDEAS and BAS	0.51	Sig

S-significant when p<0.05, NS-Not significant

There was positive correlation between disability of patients and burden on care givers of patients having BPAD.

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Table 10: Correlation between Disability, Burden and Severity of Dependence in ADS.

Correlation	r	Statistical significance p<0.05
IDEAS and BAS	0.59	Sig
SADD and BAS	0.49	Sig
SADD and IDEAS	0.55	Sig

S-significant when p<0.05, NS-Not significant

There was positive correlation between disability of patients and burden on caregivers, Severity of Alcohol dependence and Burden on caregivers, Severity of Alcohol dependence and disability of patients.

Discussion:

Comparison of Burden in BPAD and ADS

In this study the total burden in BPAD group appeared to be more than in ADS group, but this difference was not statistically significant. Caregivers' routine was affected more in the caregivers of BPAD patients than in caregivers of Alcohol dependence and this difference was statistically significant. This could be due to the presence of more number of patients having manic episode in BPAD group during the assessment. When the burden in the male patients was compared similar results were found. The physical & mental health and caregivers routine appears to be affected more in caregivers of female BPAD patients than in female ADS patients and this difference is statistically significant.

There are no comparable studies available to evaluate these findings. However burden across BPAD and Schizophrenia has been assessed and it was reported that both objective and subjective burden was more in relatives of Schizophrenia than in BPAD. The pattern of burden in the two groups was similar, they had financial burden, disruption of family routine, family leisure and family interactions. In affective disorder, maximum burden was experienced in the area of family routine followed by disruption of family leisure, family burden and disruption of family interactions.[59] The relatives of patients with bipolar disorder rated manic symptoms as more burdensome than did relatives of patients with schizophrenia, but relatives of patients in the two groups did not differ in their ratings of burden associated with positive or negative symptoms.[60]

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Disability in BPAD and ADS

The disability in BPAD patients appeared to be more than in ADS patients and this difference was found to be statistically significant. This could be due to more disabling clinical symptoms in BPAD than in ADS patients.

Self-care, interpersonal activities, communication & understanding and work were affected more in BPAD group than in ADS group and this difference was found to be statistically significant. Communication and understanding were not affected in ADS group. Duration of illness was more in ADS patients and this difference was found to be statistically significant. When male BPAD patients and male ADS patients were compared similar results were obtained.

When female BPAD patients and female ADS patients were compared, self-care and interpersonal activities were affected more in female BPAD patients than in female ADS patients and this difference was statistically significant. There is paucity of literature in this area.

There are no comparable studies to evaluate these findings. However, Chaudhury et. al[16] used Indian Disability Evaluation and Assessment Scale for 228 psychiatric patients of whom 30 patients were diagnosed as bipolar disorder and 30 patients had alcohol use disorder. They found that in BPAD patients all the core areas of functioning i.e. self-care, interpersonal relations, communication and work were affected. In alcohol use the main area of functioning impaired was interpersonal relations. But no comparison was made between the two groups. There is paucity of literature in the area of comparing disability in BPAD and ADS.

CONCLUSION:

There was positive correlation between disability of patients and burden on care givers of patients having BPAD. There was positive correlation between disability of patients and burden on caregivers of ADS, severity of Alcohol dependence and burden on caregivers, severity of Alcohol dependence and disability of patients.

There was no difference in the burden experienced by the caregivers in BPAD and ADS. The disability was significantly more in BPAD than in ADS patients.

Burden and disability are not limited to only severe mental disorders like psychosis, but can also be seen in other mental disorders like Alcohol Dependence Syndrome.

The high amount of burden experienced by the caregivers due to large number of dependence associated with disorders.