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A Comparative Study of Quality of Life Among Patients with Schizophrenia and Bipolar Disorders with Assessment of Burden Among their Care Givers

[1]Devi Dhanapalan, [2]K.S. AshokKumar, [3]K.N. Karthik, [4]G.T. Harsha and [5]R. Rashmi

[1]Nottinghamshire Health Trust, United Kingdom
[2]Department of Psychiatry, Mandya Institute of Medical Sciences, Mandya, India
[3,4]Department of Psychiatry, BGS Global Institute of Medical Sciences, Bengaluru, India
[5]Department of Community Medicine, BGS Global Institute of Medical Sciences, Bengaluru, India

ABSTRACT

Mental and behavioral disorders account for 12% of the global burden of the disease, of which schizophrenia and mood disorders are the most disabling disorders in the category. Quality of life is essentially understood as a wholesome concept, encompassing all the spheres of life such as physical, emotional, material, social well-being, development and activity and not merely an absence of disease or infirmity. QOL can help the clinical care in the assessment impact of the illness and its treatment, functioning and well-being. To assess the quality of life in persons with schizophrenia in comparison with bipolar disorder. To describe the burden of care among the care givers of persons with schizophrenia in comparison with bipolar disorder. A comparative cross-sectional study assessing and evaluating some key behavioral characteristics between persons with schizophrenia in comparison with bipolar disorder attending a tertiary psychiatric facility attached to a teaching hospital in south India, for the study period of one year. Quality of life was certainly found to be better among the patients with bipolar disorders with mean score ranging from 68-77, where as in Schizophrenia, the mean score was found to be in the range of 57-63. Our study showed weak positive correlation between the duration of illness and perceived burden among the care givers of schizophrenia. Quality of life among schizophrenic patients showed significant decline compared to patients with bipolar affective disorder. The domains of physical health and environment were most affected among patients of schizophrenia. BPAD patients showed significant decline in the domain of psychological health and social relationships. When the quality of life is being affected in the physical and environmental domains, the burden perceived by the family members was found to be essentially high.

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Key Words
Bipolar affective disorder, care givers, schizophrenia, quality of life

Corresponding Author
R. Rashmi,
Department of Community Medicine, BGS Global Institute of Medical Sciences, Bengaluru, India

Author Designation
[1]Speciality Doctor
[2-4]Associate Professor
[5]Assistant Professor

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INTRODUCTION

Mental disorders are health conditions that are characterized by alterations in thinking, mood or behavior associated with distress. Mental and behavioral disorders account for 12% of the global burden of the disease. In India, the prevalence of mental illnesses have estimated to be about 65/10001[1]. Of which schizophrenia and mood disorders are the most disabling disorders in the category. Schizophrenia is a clinical syndrome of variable but profoundly disruptive psychopathology that involves cognition, emotion, perception and other aspects of behavior[2].The prevalence of Schizophrenia is reported to be 2.3-3/1000[1,2]. Bipolar affective disorder is an episodic illness in which episodes of depression/mania/mixed/hypomania occur. BPAD s are dimensional illnesses in which patients experience during long term course of illness, fluctuating levels of severity if manic and depressive symptoms interspersed with symptom free periods[3]. The current prevalence of BPAD is 0.4-0.5%, 1 year prevalence is 0.5-1.4% and lifetime prevalence is 2.6-7.8%[1,3]. In India, the prevalence of affective disorder ranges from 0.51/thousand population[4]. Quality of life is essentially understood as a wholesome concept, encompassing all the spheres of life such as physical, emotional, material, socialwell-being, development and activity and not merely an absence of disease or infirmity[5]. QOL can help the clinical care in the assessment impact of the illness and its treatment, functioning andwell-being. Quality of life is essentially understood in terms of psychosocial wellbeing and the perception of one's own life situations[5]. In his work, on the quality of life by Sullivan G, he noted the severe psychosocial deficits experienced by the people with mental illnesses and their vulnerability to stress. Decline in the quality of life, especially in the domains of environment, social relationships and employment were reported among the people with psychiatric disorders[6]. Burden is defined as presence of problems, difficulties or adverse events which affect the (lives) of the psychiatric patient[7].

The concept of Quality of life and burden are interrelated. These concepts have received more attention with the advent of newer drugs and better therapeutic outcome among the patients[7,8]. Thus it is more prudent to concentrate on these factors to help the patients, make a constructive living[8]. Families of patients with mental illness face stigmatization, long term economical and emotional burden taking care of the patient[9,10]. Illness in the patient has impact on work, social relationship and leisure activities of the family members. This evokes different feelings in the family members, which can have an impact on the course and prognosis of the illness[11,12].

Objectives:

- To assess the quality of life in persons with schizophrenia in comparison with bipolar disorder
- To describe the burden of care among the caregivers of persons with schizophrenia in comparison with bipolar disorder

MATERIALS AND METHODS

This is a comparative cross sectional study assessing and evaluating some key behavioral characteristics between persons with schizophrenia in comparison with bipolar disorder attending a tertiary psychiatric facility attached to a teaching hospital (South India), for the study period of one year. (June2021-June2022). Ethical clearance was obtained from Institutional ethics committee.

Sample Size: Based on the study by Dr. Naga Pavan Kumar K.S.V.R. *et al.*, the mean quality of life of schizophrenia patients was 185.3±26.60 and that of Bipolar Affective Disorder patients was 239.73±17.93 and the difference was statistically significant. At 95% confidence level, 80% power with an allocation ratio of 1:1. The estimated sample size was 4 per group, hence to keep sufficiently larger and include non-response, the minimum of 30 per group is fixed. The sample size is estimated using G Power 3.1.9.7 software.

Sampling Technique: The samples are recruited in the OPD of a hospital, based on the convenience sampling method.

Inclusion Criteria: Male and female patients attending the outpatient psychiatry department who satisfy the criteria for WHO ICD 10 -F20 Schizophrenia and those satisfying the criteria for bipolar disorder(WHO ICD-10) , participants between 20-50 years of age, those willing to provide informed consent for the interview and those willing to allow a caregiver to be assessed.

Exclusion Criteria: Un-cooperative patients, refusal to participate in the research.

Care-givers: Inclusion Criteria: Male and female individuals providing care for persons with schizophrenia and bipolar disorder.

Exclusion Criteria: Refusal to participate in the research and refusal to provide informed consent for assessment.

Study Tools: a) Clinical diagnostic interview. b) Semi-structured proforma to elicit socio-economic and other information-history, family history, personal history, and premorbid personality details.Materials

used include: a) World health organization quality of life (WHO QOL) BRFF and b) Burden assessment schedule.

World Health Organization Quality of Life (WHO QOL) BREF[7,8]: WHO quality of life scale is a highly validated instrument, purports to measure the individuals perception of their life in terms of their goals, achievements and satisfaction in their social cultural and economic background. WHO QOL is a 100 item scale measuring about 24 facets of life, with 4 questions in each. WHO QOL BREF is an abbreviated version with about 26 items measuring the quality of life across four domains viz, physical, psychological, social relationship and environmental domains. The responses range from 1 (very dissatisfied) to 5 (very satisfied). High internal consistency with cronbach's alpha values were ranging from, .71-.86 were established in many studies[7,8].

Burden Assessment Schedule (BAS):[17] This is an instrument to assess burden on caregivers of chronic mentally ill. It was developed by Thara et al. to assess subjective burden in Indian population. This schedule has 20 items, focusing on the domains of spouse related issues, physical and mental health, external support, caregiver routine, support of patient, taking responsibility, other relations, patient's behavior and caregivers strategy. Each of these 20 items was rated on a 3 point scale marked 1-3. The responses were not at all, to some extent ,to some extent and very much.

Statistical Analysis: The data were entered in excel and analyzed using statistical software SPSS20. The socio-demographic and clinical qualitative variables were expressed in frequency with percentage, and quantitative variables in mean with standard deviation. To compare the quality of life scores between the schizophrenia and bipolar disorder was compared using t-test. Pearson's correlation was applied to assess the correlation between variables. $p<0.05$ was considered statistically significant.

RESULTS AND DISCUSSIONS

Quality of life (Table 2) : Was certainly found to be better among the patients with bipolar disorders with mean score ranging from 68-77. Where as in Schizophrenia, the mean score was found to be in the range of 57-63. In both the groups, the scores were highest in the physical domain and least in the psychological domain and social relationships. The difference in the quality of life in both the groups was found statistically significant in all the domains.

Domain 1, (Physical Health): Of all the four domains, the score in the domain of physical health was higher. The mean score of Bipolar disorder patients was 76.68±9.64compared to 63.05±11.13in Schizophrenic patients. The difference was found to be statistically significant to the level of 0.00.

Domain 2 (Psychological Domain): The scores in this domain was consistently low, compared to the other domains, in both the groups. The mean score in the group of schizophrenic patients was 57.17±9.44and in the bipolar group, it was found to be 68.95 ±11.04and the difference was statistically significant.

Domain 3 (Social Relationships): Social relationships were also seemed to be consistently affected in both the groups. The mean score was 57.52 ±9.81 and 68.04±12.50 among schizophrenic group and patients with affective disorders respectively and the difference was statistically significant.

Domain 4 (Environment): In the environmental domain the mean scores were 59.85±9.82 and 70.43±10.48 in the schizophrenia and BPAD groups respectively. The difference between the two groups was statistically significant (0.00).

Burden: (Table 2) shows, 66.7 percent of the care givers were the parents and 30% were spouses in schizophrenic patients whereas among BPAD patients about 56.7% of them had spouses as their caregivers. The perception of the burden among their caregivers in each of the groups also varies. The mean burden assessment score among the care-givers of schizophrenic patients was found to be 44.72±4.3 which was higher compared to BPAD patients 37.23±3.401 and the difference was statistically significant. Moving to the functioning capacity of the individuals, the mean score in BPAD was higher compared schizophrenia, which showed significant difference between the two groups with $p<0.05$.

Quality of Life Score vs Duration of Illness: In our study duration of illness (Table 2) had no major impact on the quality of patients with schizophrenia, where as it had significant negative correlation among patients with bipolar affective disorders in all the four domains. Duration of illness has high correlation, in bipolar affective disorder mainly in the physical domain and also in the psychological and environmental domains. Duration of the illness correlated least with the domain of social relationship. Quality of life has significant negative correlation with the perceived burden among the care givers, in all the four domains among the patients with affective disorders, whereas in the schizophrenic group, psychological domain, environmental domain and the domain of social relationships were most affected. It was observed that

Table 1: Socio-demographic characteristicsand clinical profile of study participants.

Socio-Demographic variables	Schizophrenia no. of percentage	Bipolar Disorder of percentage	Clinical Variables	Schizophrenia no. of percentage	Bipolar Disorder no. of percentage
Age (Mean±SD)	33.53±8.756	33.27±11.157	Number of Episodes		
Gender			2	-	4 (13.3)
Male	19 (63.3)	15 (50)	3	-	13 (43.4)
Female	11 (36.7)	15 (50)	4	-	12 (40)
Occupation			5	-	1 (3.3)
Professional	1 (3.3)	1 (3.3)	Types of Episodes		
Clerk/Farmer	2 (6.7)	1 (3.3)	Mostly Depressive Episodes	-	6 (20)
Skilled Worker	6 (20)	6 (20)	Mostly Manic Episodes	-	17 (56.7)
Semi-skilled Worker	8 (26.7)	12 (40.1)	Both Depressive and Manic Episodes of Equal Frequency	-	7 (23.3)
Unemployed	13 (43.3)	9 (30)	Admissions		
Semi-professional	-	1 (3.3)	1	7 (23.4)	6 (20)
Locality			2	15 (50)	21 (70)
Urban	4 (13.4)	4 (13.3)	3	6 (20)	3 (10)
Semi-Urban	10 (33.3)	8 (26.7)	4	1 (3.3)	-
Suburban	5 (16.7)	5 (16.7)	5	1 (3.3)	-
Semi-Rural	1 (3.3)	1 (3.3)	Adherence to Rx		
Rural	10 (33.3)	12 (40)	Good	3 (10)	4 (13.3)
Education			Fair	22 (73.3)	22 (73.4)
Illiterate	2 (6.7)	3 (10)	Poor	5 (16.7)	4 (13.3)
Primary	6 (20)	6 (20)	Co Morbid Medical Illnesses		
Secondary	13 (43.3)	16 (53.4)	Hypothyroidism	-	1 (3.3)
HSC	2 (6.7)	3 (10)	Hyperthyroidism	1 (3.3)	-
UG	6 (20)	1 (3.3)	Diabetes mellitus	4 (13.35)	3 (10)
PG	1 (3.3)	1 (3.3)	Hypertension	4 (13.35)	4 (13.4)
Per Capita Income			Bronchial asthma	-	1 (3.3)
<1000	-	1 (3.3)	None	21 (70)	21 (70)
1000 - 5000	11 (36.7)	8 (26.7)	Substance use		
5000 - 10000	12 (40)	12 (40)	Alcohol	2 (6.7)	6 (20)
>10000	7 (23.3)	9 (30)	Cannabis	4 (13.3)	2 (6.7)
Family Type			None	24 (80)	22 (73.3)
Nuclear	14 (46.7)	16 (53.3)	Sexual Practices		
Joint	16 (53.3)	14 (46.7)	Premarital	1 (3.3)	4 (13.3)
Marital Status			Conjugal	8 (26.7)	13 (43.4)
Married	9 (30)	17 (56.7)	Extramarital	-	3 (10)
Unmarried	14 (46.7)	12 (40)	None	21 (70)	10 (33.3)
Widowed	-	1 (3.3)	Family History		
Divorced	3 (10)	-	Present	15 (50)	14 (46.7)
Separated	4 (13.3)	-	Absent	15 (50)	16 (53.3)
Care Giver					
Self	1 (3.3)	-	Suicide Attempts		
Spouse	9 (30)	17 (56.6)	Present	16 (53.3)	20 (66.7)
Parents	20 (66.7)	11 (36.7)	Absent	14 (46.7)	10 (33.3)
Siblings	-	2 (6.7)	Number of Suicide Attempts	n=16	n=20
			Single	8 (50)	14 (70)
Duration of illness (Mean±SD)	2.73±0.828	2.43±0.728	Multiple	8 (50)	6 (30)

SD-standard deviation

Table 2: Quality of life and burden of care among the caregivers of study participants

Variables	Schizophrenia	Bipolar Disorder		
Quality of Life Scores	**Mean±SD**	**Mean**±SD	**test-statistic**	**p-value**
QOL1 (Physical Health)	63.05±11.13	76.68±9.64	5.072	0.000
QOL2 (Psychological)	57.17±9.44	68.95±11.04	4.444	0.000
QOL3 (Social)	57.52±9.81	68.04±12.50	3.625	0.001
QOL4 (Environment)	59.85±9.82	70.43±10.48	4.037	0.000
Burden				
Perception of Burden Score	44.72±4.32	37.23±3.40	7.46	0.0001
Functioning Capacity	49.47±11.52	62.67±9.54	4.83	0.0001
Correlation Analysis				
Quality of Life Scores and Duration of illness	**Schizophrenia**	**Bipolar Disorder**		
	Pearson Correlation	**p-value**	**Pearson Correlation**	**p-value**
QOL1 (Physical Health)	-0.328	0.077	-0.655	0.000
QOL2 (Psychological)	-0.232	0.216	-0.533	0.002
QOL3 (Social)	-0.131	0.490	-0.370	0.044
QOL4 (Environment)	-0.289	0.122	-0.592	0.001
Quality of Life Scores and Burden among their care givers				
QOL1 (Physical Health)	-0.546	0.002	-0.343	0.064
QOL2 (Psychological)	-0.458	0.011	-0.598	0.000
QOL3 (Social)	-0.447	0.013	-0.412	0.024
QOL4 (Environment)	-0.683	0.000	-0.384	0.036
Duration of the illness and Perception of Burden Among Their Caregivers	0.296	0.112	0.362	0.05
Functioning Capacity and Perception of the Burden Among Their Caregivers	-0.51	0.004	-0.451	0.012

*QOL-Quality of life, p<0.05, Statistically Significant.

lower the quality of life of the patients, severe is the burden perceived by their care givers. Duration of the illness and burden among their caregivers has a positive correlation in both the group of the patients, however in the BPAD patients there appears to a statistically significant correlation to score of 0.362 and p value (0.05).

Socio Demographic Variables: In our study socio demographic variables, such as marital status, care giver and the sexual practices demonstrated statistically significant differences between the two groups. The other socio demographic variables like socio economic status, education, occupation did not differ much from one another since the sample was drawn from the same population. Age and Gender showed minor variations amongst, the groups but the difference was not statistically significant. In Schizophrenia group, most of the patients were unemployed, whereas in BPAD there was more number of semiskilled workers. This concurred with the results of the previous studies conducted on the employment issues and socio psychological deficits in schizophrenia[13]. Rosemarie mallet, Dinesh Bhughra *et al*. in 2002 studied the social environment and ethnic factors in schizophrenia and observed that unemployment is associated with schizophrenia, at first contact with services regardless of the ethnicity[13]. He also proposed that increased risk of unemployment, as a consequence of altered behavior, prior to the development of frank psychosis. The increased incidence of unemployment leads to increased loss of quality of life scores and impaired functioning capacity of the individual, which is also the case in our study[13]. In our study, about 30% of the people were unemployed, the results of which were also similar to the findings in the previous literature. The observations of Dion *et al*. was that, six-month follow-up of a group of patients hospitalized for a manic episode showed that only 43% of patients were employed, although 80% were symptom free or mildly symptomatic[14]. Harrow *et al*. findings showed that another group of patients hospitalized for mania were evaluated 1.7 years later and 42% of the patients reported having steady employment throughout the follow-up period. Moreover, 23% had been unemployed for the entire period[14]. In view of the family type, most of the schizophrenic patients belonged to the joint family subtype, whereas among the bipolar disorder patients, it was predominantly the nuclear family sub-type. One of the plausible explanations that could attributed be, most of the patients in the schizophrenic subgroup are unmarried, separated and divorced, who are cared mostly by the parents and siblings. Thus joint family system provides the much needed security and care for these individuals with such severe psychosocial deficits.

Marital Status: In our study, social and clinical comparison between schizophrenia and bipolar disorder type I with psychosis in Costa Rica by Adriana Pacheco *et al*. in 2010 concluded that there were more number of individuals with singleton status among the schizophrenic population.in comparison to the patients with bipolar disorder[16]. Findings in our study are also consistent with the previous studies that the singleton status was predominant among the schizophrenic population[16]. Nambi *et al*. on his study in marriage, mental illness and legislation asserted that Patients with schizophrenia are more likely to remain single and unmarried than patients in other diagnostic groups[15]. This is particularly true of male patients and can probably be explained by the fact that women tend to be younger than men when first married and are less likely to have experienced an initial psychotic episode. Marriage is essentially a social process, in which two individuals relate on a personal and intimate basis. Marriage being a social process may depend on the ability to relate socially for its success. Schizophrenia, a chronic illness characterized by severe psychosocial deficits, is often associated with poor outcome. Patients without regular employment and compromised socio economic status are most often unmarried and they end up being cared by the other family members. One plausible explanation regarding the difference in the marital status among the two groups, schizophrenia is perceived as a continuous illness most often, and the patient is virtually never free of symptoms, evenduring the periods of remission. Whereas in the case of affective disorders the patient is able to return to his pre morbid level of functioning, although Bipolar disorder is often regarded as disease of uncertainty. Thus, marital outcome is better among patients with bipolar disorder compared to patients with schizophrenia.

Care Givers: In our study among the case of schizophrenics, the caregivers are largely parents and siblings. Whereasmore than half of the patients are being cared by the spouses. Thus the two groups differ significantly based on the type of caregivers. In an extension to this finding, the type of family also differs largely among the groups. Since Parents and siblings are more common caregivers among schizophrenics, Joint Family system is more common among this group, whereas more common caregivers for Bipolar disorder are married, hence we come across nuclear family system in the group more often.

In our study, there were statistically significant differences among the patients with schizophrenia and

Bipolar disorder. Among the Schizophrenics, about 70% of the patients are not engaged in sexual relationship where as in BPAD, most of them preferred conjugal relationships and about 13.3% premarital relationships and about 10% indulged in extramarital contacts .Presence of negative symptoms, peripheral disturbances, severe social deficits could lead to the lack of sexual relationships and intimacy in most of the patients. Premarital and Extramarital contacts can be explained on the basis of pleasure seeking behavior/increased sexual desire during the manic episodes in Bipolar affective disorder.

Co Morbid Medical Illnesses: In our study in consistent with the established studies, both Schizophrenia and BPAD had higher incidence of diabetes mellitus and hypertension compared to other chronic medical illnesses. Ryan, Thakore *et al*., in his study on the physical consequences of Schizophrenia and its treatment discussed about metabolic syndrome, causative factors such as life style, poor diet and lack of exercise. Over activity of the hypothalamic pituitary adrenal axis, leading to hypercortisolemia can also result in excessive unusual fat accumulation and the effects of antipsychotic drugs also cause impaired glucose tolerance, by an effect on the leptin, which regulates the appetite and thus monitoring of lipid and glucose levels during the treatment is indicated. Co-morbidities in bipolar disorders studied by Ranga Rama Krishnan et al., discussed about obesity, diabetes mellitus(Type2),hypothyroidism and polycystic ovarian syndrome as the common co morbid conditions.18 Genetic Relationship, hypercortisolemia induced changes, effects of psychotropic medications are the possible causative factors[18]. Incidence of hypertension was high in Schizophrenia and diabetes mellitus, hypothyroidism in Bipolar disorders in our studies. The patients included in our study had mean illness duration 5 years duration, various factors such as poor diet, sedentary life style, genetic factors and psychotropic medication use need to be considered.

Substance Use in Chronic Medical Illnesses: Our study revealed the findings of increased alcohol consumption about 20% in BPAD group and 6.7% in Schizophrenia whereas the consumption of cannabis was high among the Schizophrenic patients. This is in conjunction with the studies conducted by Rigen, Lagerberg *et al*., on differences in prevalence and patterns of substance use is Schizophrenia and Bipolar disorder which reported that bipolar disorder patients had higher rates of alcohol consumption and Schizophrenic patients more often use non-alcoholic drugs[19]. Loberg *et al*., in 2009, postulated the relationship between cannabis use and Schizophrenia based on the endogenous cannabinoid system involved in the development of the effects of cannabis on symptoms of psychosis and cognition. Our study also demonstrated the higher prevalence of cannabis in the schizophrenic population[20].

Our study also demonstrated higher incidence of suicide attempts among patients with Bipolar affective disorder compared to Schizophrenic patients. However, Schizophrenic patients had many attempts compared to BPAD patients and the suicide intent was also high. This is in tandem with the studies conducted by Nakagawa, Kawanish *et al*. in 2011, on the comparison of characteristics of suicide attempters with schizophrenic disorders and those with mood disorders concluded that patients with schizophrenia spectrum disorders showed a lower incidence of deliberate self-harm and a higher incidence of a subsequent suicide attempt as well as a higher lethality of index suicide attempt compared to patient with mood disorders[21].

Quality of Life: Our study measured the quality of life, among the patients with schizophrenia and bipolar disorders using WHO quality of life (BREF) version 26 item scale on four domains. Viz, physical domain, psychological domain, social domain, environmental domains. Of all the four domains,both the groups scored highest in the physical domain and least in the psychological domain and the difference between the two groups was statistically significant in all the four domains. The results of the study is in agreement with the findings from the study of Anna Gulappi *et al*. (Gulappi) Anna Gulappi et al. observed that quality of life is not extremely negative,though schizophrenia is often an impairing chronic illness is results coincided with our results in the fact that patients scored better on environment and physical domains[22]. Prabhat chand *et al*. studied the quality of life of fifty bipolar patients in remission and compared it with that of clinically stable patients with schizophrenia using QOL-BREF and Q-LES-Q scales[23]. It was found that compared to schizophrenia group the bipolar group had significantly better quality of life in domains of physical and psychological health (WHOQOL) and all domains (Q-LES-Q)[23]. The quality of life in the bipolar group was better in the patients who were younger and had a lesser severity of daily hassle[24]. Brissios *et al*. reported lower quality of life scores in patients with bipolar disorder in the physical and environmental domain and schizophrenic patients in the psychological domain but the difference between the groups was not statistically significant . Our study results differed from the observation made by Yen *et al*. in 2008 on quality of life and its association with insight in patients with bipolar disorder and

schizophrenia in remission[25]. He reported that both bipolar disorder and schizophrenia patients had poor quality of life in all four domains[26].

Quality of Life and the Duration of Illness: Quality of life was correlated with the duration of the illness in both the groups. The quality of life declined with the increase in duration of illness in both the group, however the correlation was significant among patients with bipolar affective disorder, an understandable reason can be explained in this regard would be schizophrenia is essentially a continuous illness punctuated by exacerbations whereas bipolar illness is relatively an episodic illness marked by symptom free periods in between marked by symptom free period in between. Thus patients with bipolar affective disorders are relatively symptom free and even remission criteria for schizophrenia is different from other psychotic disorder and those patients are virtually never free of symptoms. The neuro cognitive functioning is impaired within few years of duration of illness in case of schizophrenia which is also associated with severe psychosocial deficits. In the bipolar disorder category if illness is of longer duration the episodes are relatively many in number leading to a poor social outcome. These findings concur with at the findings of Anna et al. who observed that the duration has only a minor influence on the quality of life among the patients with schizophrenia[27]. his is possibly due to the increased knowledge about the illness and the treatment possibilities with better coping strategies as the duration of illness increases. The quality of life in the bipolar group was better in the patients who were younger and in those whom the numbers of episodes were few according to Prabhat *et al*[23].

Perception of burden among the caregivers of schizophrenics and patients with bipolar disorders; Our study evaluated the burden perceived by the caregivers of the schizophrenic patients and bipolar affective disorders; by the burden assessment schedule by Thara et al. Burden among the caregivers of schizophrenic patients was comparatively high, when compared with, perceived patients with bipolar affective disorders. This is in accordance with the results concluded by Chakraborti et al., based on the comparison of the extent and pattern of family burden among patients with schizophrenia and affective disorders[31]. Our study concluded that financial difficulties and physical health of the family was the most affected among the patients with schizophrenia, whereas family leisure activities and family routine was the most disturbed in bipolar affective disorders. Emotional health, family interactions was affected among both the groups. Study on caregiver coping in Bipolar disorder and Schizophrenia in 2005 by Ritu Nehra *et al*. revealed that burden experienced by the caregivers of both BPAD and Schizophrenia and their coping strategies are the same, whereas our study demonstrated the results of perception of increased burden among the caregivers of schizophrenics[31,32]. Chakraborti *et al*. concluded that the extent of both objective and subjective burden in relatives of schizophrenia was however significantly more than that in families with affective disorders. The reason for the perception of the increased burden among the caregivers of the schizophrenics could be attributed to the chronic nature of the illness in contrast to discrete nature of the affective disorders. Giel *et al*.(1983) has pointed out that a chronic illness with severe loss of insight would significantly increase the burden. Brown *et al*. (1966) also concluded that chronic course of schizophrenia comparatively imposes more burden than the schizophrenic type with episodic course. Faden *et al*. explained this finding on the basis of discrete nature of the episodes in BPAD, the ability of the spouse to identify a forthcoming episode early during the course in BPAD and the expectation that in between the episodes the patent will return to the normal level of functioning[28].

Correlation between the Duration of Illness and Perceived Burden Among their Caregivers: Our study results showed weak positive correlation between the duration of illness and perceived burden among the caregivers of schizophrenia. This is in tandem with the observations made in the following studies (Srivasta et al., Nirmala et al., Trivedi et al.) caregivers of patients with BPAD showed a strong positive correlation between the burden perceived by them and the duration of illness of their patients. This can be understood on the basis that schizophrenia is associated with severe disturbances of thought and psychosocial deficits right from the onset of the illness and it is essentially an illness with chronic course. Among patients with BPAD, those with a history of longer duration of illness experienced number of episodes, severe financial difficulties, disturbances in the interpersonal milieu, disruption in the family environment in course of time. Thus the duration of illness has a major impact on patients with BPAD compared to schizophrenic patients[29,30].

Correlation between the quality of life of the patients and the burden perceived by the caregivers: In our study there was significant negative correlation between the quality of life of the patients and the burden perceived by their care givers in both the groups. Significant negative correlation is appreciated in the physical and environmental domains

predominantly among the schizophrenics. Whereas the domains of psychological health and social relationships are the most correlated ones with the burden perceived among the BPAD patients. This is explained with reference to the difference in the pattern of burden in these 2 groups of patients. In concurrence with Chakraborti *et al*. the burden experienced among the patients with schizophrenia was mainly financial difficulties and emotional indifference[28]. But in case of BPAD, disruption in the family routine and disturbance in the interpersonal relationships were perceived as most troublesome factors by their key relatives. Thus when the quality of life is being affected in the physical and environmental domains, the burden perceived by the family members is essentially high. This explains the high perceived burden among the caregivers of schizophrenics.

CONCLUSION

In the era of shift in focus from the treatment and management strategies towards the improvement in quality of life and functioning capacity of the individual, this study emphasizes the need for the assessment of such variables among the patients with mental illnesses even after the prolonged periods of remission. Both schizophrenia and bipolar disorder being chronic mental illnesses, with the persistent need for perpetual treatment, attention towards these factors on the improvement of quality of life and lowering the burden on the care givers would expedite the process of integration of these individuals in to the community and make an effective living.

Limitations: Our study had a small sample size and was the cross sectional study, hence the results cannot be generalized for the whole disease population. Other possible limitation was Recall bias. Follow up studies would give a better picture and wholesome view of the patient's quality of life and also about the burden perceived among their care givers.

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