Quality of Life in Patients of Bipolar Disorder under Remission in Relation to Clinical Variables and Psychosocial Factors

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Abstract

Background: Assessing the quality of life in of bipolar disorder remitted patients isrequired to devise suitable therapy for further improvement. That is why this study was conducted. **Materials and Methods:** One hundred and fifty patients and control were selected free from comorbid conditions. Cross sectional study design was used. Semi structured proforma, General health questionnaire, HAM-D, YMRS, WHO-QOL-Bref scale, PSLES, Daily Hassles scale and MSPSS were used. **Results:** There mean age was 46.5 and 32.5 years for male and female patients respectively. The socio-demographic data showed males were 62%, married 64% ,82% BPD were from joint family and 54% had 10th standard education with low income. The duration of illness was 11.9 in males and 10.1 years in females, while the age of onset of illness showed a significant difference of 26.9 and 22.8 years in males and females respectively. No difference was observed in number of episodes and life events scores between males and females. No gender variation in Hassles scale and YMRS score in BPD patients. There was a significant low score of 1.9 for females and 2.8 for males were recorded. In WHOQOL-Bref scale score, males and females differed significantly and the per cent reduction was 40,50,35 and 33 for the males and 50,61, 40 and 37 for females in physical, psychological, social and environmental domains. Regarding MSPSS score, females (24.2) had significantly less support than males (28.2). Hassles and HAM-D scores had significant negative correlation on all the four domains of QOL. **Conclusion:** The QOL of BPD patients still low and they may require additional therapy and support.

Key words: quality of life, bipolar disorder remitted patients

Introduction

Bipolar disorder (BPD) is classified as mood disorder affects persons of mostly young age groups and is prevalent in both males and females. The onset may be in late

adolescence or early adulthood and may persists throughout the life. In the course of the illness, the patient experiences mania, hypomania and depressive illness with occasional or rapid cyclical nature of depression or mania. Apart from severe form of depression and mania which are classical nature of description, milder form of disorder is seen many individuals recently[1]. Again, earlier studies from other countries have reported that there are dominant depressive episodes than the mania during the life time of patients[2]. On the contrary, studies from India have shown more manic episodes than depressive episodes [3]. Since, BPD is recurrent with sometimes incomplete remission could be attributed to the functional impairment particularly with regard to social adjustment and vocational functioning. Due to the cyclical nature of the disorder, it could have an impact on the social and mental wellbeing of the individual.

The concept of quality of life (QoL) is a general concern for all walks of life which has higher impact in psychiatry. Most of the BPD patient's quality of life needs to be understood and documented with scientific backgroundsince the treatment for both mania and depression is long course. Whatever form of episode of BPD, the aim of the therapy should focus on bring back the quality of life in patients[4]. Quality of life is low and negatively correlated even in remission periods[5] and there are also male and female differences in quality of life. People with BPD have exhibited a compromised quality of life in work place, interpersonal relationship and family[6].

Many factors have been attributed to alter the QoL which clinicians have to aware of them to design treatment not only for the BPD but for the improvement of QoL in patients. So therefore it is essential to know which variable is going to affect QoL It is also important to understand the comorbid conditions with BPD in order to choose which should be treated first.

Changes in the clinical variables and psychosocial factors in patients under BPD remission requires a through investigations that may enlighten us about the impact of BPD during the period of remission. Any improvements in the QoL would enhance the treatment adherence by the patients, improvement in the patient insight and learning about treatment interventions [7]. With these observations, a study was planned to investigate the QOL of BD patients under remission and its relation to certain clinical and psychosocial factors.

Materials and methods

1. **Study design**

Case control study design was used in this study. This study was an evaluation of quality of life of the one hundred fifty numbers of bipolar disorder patient under remission (cases) and fifty numbers of age / sex matched healthy persons (control) without any psychiatric illness were selected from individual visited the referral center for inquiring good will of the patients. Only people who are willing to participate in

the study were explained about the importance of the study and there would not be any immediate medical benefit out of this participation.

2. Inclusion and exclusion criteria

Patients with BD under remission who attended psychiatry outpatient unit for regular follow up aged between 20 and 60 years were chosen as inclusion criteria. Wherever the BPD patients mentioned in the write up refers to patients under remission.

Patients with comorbid mental illness, substance abuse, comorbid with medical or surgical illness, age less than 20 and more than 60 years are not included in the study. Consent for both the group were obtained as participation condition.

3. Tools used in the study

Semi structured proforma, General Health Questionnaire (CHQ), Hamilton Rating Scale for Depression (HAM-D), Young Mania Rating Scale (YMRS), World Health Organization Quality of Life Scale (WHOQOL-Bref Scale), Presumptive Stressful Life Events Scale (PSLES), Daily Hassles Scale and Multidimensional Scale of Perceived Social Support (MSPSS).

4. Statistical analysis

All the data collected were subjected to find out correlation and significance using SPSS software version 17. The results were analysed and discussed.

Results
1. Socio demographic profile

From the study, the mean age was 46.5 and 32.5 years for male and females in patients with BPD and it was 44.5 and 31.5 years for males and females restively for control group people. There were 62 and 38 percent for male and female BPD observed in this study. Married individuals constituted 64 per cent and widower formed the remaining 36 per cent. Interestingly 82 per cent BPD patients are from the joint family. Further, most of the patients belonged to Hindu religion and more than 50% of the patients had 10th standard as qualification and two-third of the patients under low income group (Rs. 2000-4000/month). Another interesting point is that 82% patients were from joint family. Patients were mainly from rural areas (82%), semi urban (12%) and urban (6%).

2. Clinical variables

The mean clinical variable of duration of illness in years for male remitted patients was 11.9 years and its was 10.1 years for female BPD remitted patients. There was a significant gender difference in the age of onset of the BPD was observed and the mean age was 26.9 and 22.8 years for males and females respectively. However, the

number of episodes did not show difference between male and females and a mean of 5.8 episodes was recorded for both sexes. Life events occurred past one year and life events score obtained for males and females dis not differ and the average number of life events for patients was 2.04 while it was 1.18 for normal persons.

3. Scores of different scales

There was no gender variation in the frequency, severity and intensity of Hassles scale score. However, females had numerical increase in the severity score (76.6) compared to males. While, the Hassles intensity score for BPD patients and control was 1.92 and 1.49 respectively. In HDRS score, female patients had significantly higher score (2.8) compared to male patients (1.9). Analysis of YMRS score did not show variation for male and female patients under remission.

In WHOQOL-Bref Scale score, all the four domain score between males and females differed significantly. The percent reduction of physical, psychological, social and environmental domain score was 40.07,50.67, 35.00, 33.13 and 50.48, 61.11, 40.74 and 37.50 for the males and females respectively. Among the domains, psychological score was lower (11.7) in case of females compared to males.Regarding MSPSS score, females (24.2) received significantly less support than males (28.2). The MSPSS between BPD patients (27.3) and control (9.5) was not significant.The overall mean QOL scores obtained from the bipolar remitted patients and control revealed that the QOL was significantly reduced by 23.03, 41.30, 24.84 and 18.83 per cent in physical, psychological, social and environmental domains respectively.

4. Correlation between independent variables on QOL domains

When data analyzed for life events occurred less than two and more than two in the preceding year, the average number of events was 1.20 and 3.93 respectively. It is understood from the results that QOL score did not influence significantly both at less than 2 and more than 2 events in the preceding year. Similarly, comparison between number of episodes occurring less than 10 or more than 10 did not vary in BPD remitted patients.

The regression analysis of MSPSS as independent variable and QOL scores as dependent variables showed a significant contribution on the QOL of BPD remitted patients. The per cent variance explained was 23.8,19.8,8.0 and 20.9 for the respective physical, psychological, social and environment domains in the QOL scale indicating that higher variance for the physical domain while it was least for the social domain. The HRDS score of BPD remitted patients was able to show variance significantly by 28.7,49.8, 21.4 and 21.2 per cent on the four domains of QOL. The hassles score as independent variable affected psychological domain of QOL significantly especially in Hassles frequency (16.6), severity(23.1) and intensity (15.8). However, the correlation between YMRS Score did not explain any significant contribution on the QOL.

Pearson correlation analysis carried out to estimate the extent of correlation between WHOQOL domain with age at onset, duration of illness and number of episodes were not correlated significantly but life events last one year were positively correlated in social (p< 0.01) and environmental (P<0.05) domains.

Among the scales, Hassles and HRDS scores had significant (P<0.01) negative correlation on all the QOL domains scores. Among the domains, the psychological domain had a higher level of significant correlation with Hassles and HRDS scores. Though there was a negative correlation on the physical, YMRS did not provide correlation significantly on the other domains. The MSPSS score had highly significant positive (p<0.01) correlation with all the domains of the QOL in the BPD remitted patients indicating that BPD patients had better social support.

4. Discussion

1. Socio demographic profile

The socio demographic profile of the BPD patients under remission in this study were with the mean age 46.5 and 43.5 years for male and females, 64% and 82% of them constituted for married and joint family. They mostly belonged to Hindu religion with low economic and academic status. This observation is in agreement with [8]that the mean age was 39.7 years with sex ratio of 1.33. They further noted that 61% patients were of low economic conditions. Similarly, Ramdurg and Kumar[9] found 39 years as the mean of the BPD with 64% males formed their study patients indicating more males are affected which is also a feature in our study (62%). On the contrary Reddy et al.[10] reported that majority of the patients were from upper middle class, educated and employed. But the mean age of the patients were 33.7 years in their study which is less when compared to the present study. Ajay Desmuch et al.[11] found mean age of 46 and 30 years for males and females receptively which is almost reflects the results observed in our study. Dhimanet al.[3] also observed the mean of age 42.3, 71% males, 76% patients belonged to middle class family and 73% married. This observation is very close to the respective parameters noted in our study.

2. Clinical variables

The mean duration of illness was 12.22 years for both the sexes and years for bipolar disorder remitted males (11.9) and female (10.1) patients did not vary in our study indicating that there is no gender difference in the course of BPD. This observation is in congruent with [12] who found 2-10 years as the duration of illness depending on the age groups.

The mean age of 27.2 and 23.8 years for the males and females recorded in the present study agrees with[12]who reported the age of onset for BPD was 19-29.However, Scorcha Bolton et al. [13]in their review indicated that 17.3 years as the mark for early onset of BPD with the range of 14-21 years. This age group has contributed about 45

per cent cases. Similarly, Grover et al. [1]recorded 28.23 years as age of onset for illness in both the sexes put together.

Regarding the number of episodes, no significant difference existed between gender and a mean of 5.8 episodes was observed for both the sexes taken together. However, number of episodes above 10 was strongly correlated with depression[14]and the outcome of the patients depended on the number of previous episodes[15].Ramdurg and Kumar[9] recorded mean episodes of 5 for the depression. Similarly,Dhimanet al. [3]found total number of episodes were 9.47 with mania outnumbering depression which the authors considered as an important finding in Indian studies compared to western studies. In a recent study, AmitabhSoni et al. [16] observed more number of episodes in an early age of patients (20-25 years) compared to later age groups. Considering all the above authors findings, the number episodes in our study was lower in the BPD remitted patients. Anyayo et al. [5]also reported number of episodes did not register any significant effect on quality of life in BPD remitted patients.

The average number of life events was 2.04 for patients and it was 1.08 for the control people. Gurmeet Singh et al. [17]and Chand et al. [18] recorded the higher number of life events in BPD patients with higher events in females compared to males. Similarly, life events score was higher (96.9) compared to normal healthy control (54.9). Higher life events score has been associated with recurrence of the disorder and reflected in HAM-D scores also [19]. The HAM-D score was higher in unemployed male patients with substance abuse[1].In another study, Akitosoko et al. [20]observed that BPD patients experienced severe form of depressive states compared to euthymic state and further they have concluded that stressful events were positively associated with BPD.A HAM-D scale score of 4.05 was observed in patients whereas it was 2.81 in control healthy individuals [21].

Nearly three fourth of Hassles intensity (1.49) of the control compared to patients (1.92) observed in the present study explains the intensity score did not statistically higher in BPD remitted patients. The same trend was seen between males and females respectively.A non-significant YMRS score of our study (0.58) which is much lower than the score of 2.46 observed by Grover et al. [1]in their study on BPD remitted patients.Hacımusalar and SezginDoğan[21]observed YMRS score of 3.76 in BPD patients compared to 2.25 in controls. In another study [22]noted poor insight as assessed on YMRS with short duration of remission and higher residual symptoms in BPD remitted patients.

3. Contribution of independent variables on QOL

Regression analysis of age at onset on QOL did not explain any significant variance in BPD patients. This finding of our study concurs with Sierra et al. [23]that age at onset had no influence on the QOL and differs with Rosa et. al.[24] who reported older age significantly affected the QOL on a regression model.

Regression analysis data of the present study for the duration of illness and number of episodes did not exhibit variation on QOL in BPD patients. Sierra et al. [23]andPeh and Tay[12]also found that duration of illness did not explain any variance on the QOL. But the number of episodes have been ascribed to the deterioration of QOL [25, 15].Anyayoet al. [5] stated that females have been linked with poor quality of life due to more depressive symptoms which could be reason for pow QOL than males. Similarly, Swain SP et al. [26]observed a negative correlation between duration of illness with BPD as the duration increases the patient's psychological domain activity is getting low and the same authors observed better psychological activity in remitted patients.

In the present study a significant correlation was observed between HAM-D scale scores with QOL of BPD patients. Many earlier studies have identified HRDS score was one of the strong predictor of QOL in BPD remitted patients Morton et al.[27] and Sierra et al. [23]observed a negative correlation of HRDS score with the QOL on the all the subscales of SF-36. Likewise, Dias et al. [28]in WHOQOL scales also noted negative correlation of HRDS score with QOL.Similarly, Ham-D score was 5.1, 21.7 and 0.5 for remitted patients, depressedand healthy individuals[29]. Omer Aydemir[6]also recorded lower QOL score in BPD remitted patientsand it could be understood from the score that remitted patients had still higher score compared to healthy persons. It can be inferred from the present study, BPD remitted patients QOL is still low in all domains of life.

A non-significant influence of life events on QOL was seen in the present body is contradict to the observation of negative life events had a significant effect on increase in depressive symptoms and influences the course of illness of BPD emitted patients [20]. The psychological domain score was significantly ($p<0.01$) affected by the Hassles frequency, severity and intensity. Our study coincides with the report of Chand et al. [18]who found 11-13 per cent variance explained by the Hassles score on the psychological and environmental scores of the WHOQOL scale.The MSPSS score had highly significant regression values on the domains of WHOQOL in BPD remitted patients, Basu et al.[19] and Gutierrez- Rojas etal.[30] found higher family support to the patients improved QOL. Aiko Sato et al. [20]demonstrated that stressful past events of the BPD patients affected the psychological domain especially with depressive symptoms rather than maniac symptoms.

A highly significant negative correlation on HRDS and Hassles scores on all the domains of WHOQOL observed in our study is similar to the earlier reports. Vojtaet al.[31]recorded less improvement in QoL of euthymic patients. In another study, Dias et al. (2008) found even in low intensity of depressive symptoms was sufficient to be strong predictor. Similarly, Brisso et al. [32]demonstrated significant lower score in BPD measured on WHOQOL and strongly correlated psychological deficit with lower scores. Atsushi Kuga et al.[33]estimated that depressive patients with HRDS score of 6 or equal to 6 were better in working capacity. In our study the HRDS score was 2.16

which is a good indicator for working. However, Grover et al. [1]found HRDS score was 2.39 in BPD patients and they observed subsyndromal symptoms exists in the remitted patients even with lower HDRS scale score and suggested the improvement in the treatment may be depended on the residual symptoms.

In conclusion, there was a significant negative correlation existed between the different rating scales scores with the QOL of remitted patients as the treatment protocol is being followed in these patients for long periods but still there is a need for special intervention therapy to make the BPD remitted patients to have a low QOL score during subsequent years of life.

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Table 1

Mean (±SE) clinical variables and rating scales score of bipolar remitted patients and control subjects

Subjects	Duration of illness in years	Age at onset	No. of episodes	PSLES		Hassles score			HAM-D	YMRS	WHOOOL - Bref scale				MSPSS
				LE in last 1 year	LE score	Frequency	severity	Intensity			Physical	Psychological	Social	Environment	
Patients	12.22 ±1.08	25.4 ±0.9	5.8 ±0.5	2.04 ±0.21	96.98 ±9.49	38.98 ±2.45	76.6 ±5.53	1.92 ±0.04	2.38 ±0.19	0.58 ±0.08	20.22 ±0.33	14.14 ±0.41	9.56 ±0.17	26.38 ±0.31	27.38 ±0.58
Control	--	--	-	1.18 ±0.22	54.95 ±10.5	22.50 ±1.60	32.18 ±2.20	1.49 ±0.08	--	--	26.27 ±0.57	24.09 ±0.47	12.73 ±0.27	32.50 ±0.58	29.50 ±1.31

Table 2

Mean (±SE) WHOQOL– Bref scale score between bipolar remitted patients and control subjects

Domain	Patients	Control	P value	% reduction of patients score over control subjects
Physical	20.22±0.33	26.27±0.57	0.01	23.03
Psychological	14.14±0.41	24.09±0.47	0.01	41.30
Social	09.56±0.17	12.72±0.27	0.02	24.84
Environment	26.38±0.31	32.50±0.58	0.03	18.83

Table 3

Correlation of the WHOQOL – Bref scale scores with clinical variables and rating scales scores in BPD remitted patients

S. No.	WHOQOL domain	Duration of illness	Age at onset	No. of episodes	Life events last one year	Life events score	Hassles			HRDS	MSPSS	YMRS
							Frequency	Sever	Intensity			
1	Physical	-0.243	0.224	-0.268	-0.209	-0.210	-0.111	-0.204	-0.231	-0.536**	0.488**	-0.037
2	Psychological	-0.140	0.167	-0.150	-0.347	0.363**	-0.408**	-0.481**	-0.396**	-0.706**	0.438**	0.138
3	Social	-0.176	0.193	-0.104	-0.462**	0.507**	-0.253	-0.352*	-0.464**	-0.464**	0.284*	0.074
4	Environment	-0.045	0.147	-0.052	-0.360*	-0.329*	-0.204	-0.258	-0.460	-0.460**	0.458*	0.029
Correlation is significant at the 0.05(*) and 0.01 (**) level (2 tailed).												