

## Quality of Life among Patients with Bipolar Disorder

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Bipolar Disorder is a major psychiatric disorder, It has a chronic course of remitting and relapsing episodes of mania and depression and tends to deteriorate mental and cognitive functions of patients. This disorder affects deeply the function and feelings of subjects and impacts negatively on quality of life. We found out the quality of life in patients with Bipolar Disorder with that of general population and order of impairment among domain of physical health, psychological health, social relationship and environment domain. This was a descriptive, cross-sectional, comparative and analytical study. The study was conducted in the department of Psychiatry, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh from January 2015 to October 2016. Eighty (80) patients with Bipolar Disorder who fulfilled inclusion criteria were selected as sample from department of psychiatry in BSMMU and National Institute of Mental Health, Dhaka. Clinical diagnosis of patients was done by consultant psychiatrist with Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I CV). Then Bengali version of WHO Quality of Life Scale brief version (WHOQOL BREF 1998) was applied to evaluate quality of life in different domains including physical health, psychological health, social relationship and environment domain. Semi structural questionnaire were used for collecting sociodemographic information. In this process of study age and sex matched 80 healthy controls from hospital staff and patient's attendants without physical or psychiatric illness were recruited for comparison. Data were analyzed by Statistical Package for Social Science Version 16. The study revealed that mean score of overall quality of life of patients were 3.11 and healthy controls were 3.95, mean score of overall health of patients were 2.94 and healthy control were 3.88, mean score of physical health domain of patients were 3.14 and healthy control were 4.00, mean score of psychological domain of patients were 3.01 and healthy control were 3.87, mean score of social relationship domain of patients were 2.31 and healthy control were 3.72, mean score of environment domain of patients were 2.73 and healthy control were 3.35. Among patients quality of life showed impaired in low socio-economic condition. Result of this study may help to encourage further research.

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**Key words:** Quality of life, Bipolar Disorder, Social relationship, Cognitive functions, Remitting relapsing episodes

### Introduction

**B**ipolar Disorder is a major psychiatric disorder. Its nature has a chronic course of remitting and relapsing episodes of mania and depression and tends to deteriorate mental and cognitive functions of patients. This disorder affects deeply the function and feelings of subjects and in this way would have negative impacts on quality of life. Life time prevalence of Bipolar I Disorder is 0-2.4% and Bipolar Spectrum Disorder is 2.6-7.8 %. In USA it is 4.4%, in Japan is 0.7% and in India is 0.1%<sup>1</sup>, in Bangladesh it is 0.4%<sup>2</sup>.

Quality of life should take into account patient's subjective views of their life circumstances. This includes perception of social relationships, physical health, functioning of daily activities and work, economic status and overall sense of wellbeing<sup>3</sup>. While measures of functioning focus on objective, quantifiable impairment that exist, measure of quality of life assesses enjoyment and life satisfaction associated with various activities<sup>4</sup>.

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Quality of life is reflected in broadening of treatment goals towards prolongation of life. Clinician and policy makers are recognizing the importance of health related quality of life to patient management and policy decisions<sup>5</sup>.

There are several studies carried out in different countries about quality of life in patients with Bipolar Disorder. Those studies showed decreased quality of life in patients suffering from Bipolar Disorder and scores may vary in different domains. High social support was connected with better quality of life and quality of life was better in male than female. In Bangladesh some studies investigated quality of life among patients with chronic mental illness like schizophrenia and Depressive Disorder<sup>8,9</sup>. Quality of life was affected more in social relationship domain in schizophrenia but in Depressive Disorder it was affected more in physical health domain. Another study comparing quality of life between patients with Major Depressive Disorder and control group showed that, patients with Depressive Disorder have lower quality of life than healthy subjects (control) and quality of life of patients with Depressive Disorder is severely affected by a number of domains, highest score in social relationship domain followed by environment domain, then physical health domain and lowest score in psychological domain. In general population, highest score of quality of life was found in social relationship domain followed by psychological domain then physical health domain then environment domain<sup>10</sup>. There is no published data regarding quality of life among patients with Bipolar Disorder in Bangladesh. So this study has been designed to assess quality of life among patients with Bipolar Disorder and also to identify the order domain that is impaired according to severity in patients with Bipolar Disorder. Thus this study may help to take measure to improve of life in patients with Bipolar Disorder.

### **Methods**

This descriptive cross sectional comparative and analytical study was conducted in department of Psychiatry, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh. Sample was collected from outpatient and inpatient department of psychiatry, Bangabandhu Sheikh Mujib Medical University (BSMMU) and National Institute of Mental Health (NIMH), Dhaka, Bangladesh from January 2015 to October

2016. Considering inclusion and exclusion criteria, finally 80 Bipolar Disorder patients who fulfilled the enrolment criteria were included in the study. The participant's age was 18 years and above. All racial and ethnic groups were represented. 80 healthy controls were recruited in this study from hospital staff and patient's attendants without any psychiatric and physical illness. Semi structural questionnaire were used for collecting sociodemographic information. It included socio demographic variables such as age, educational level, residence, marital status, occupation, family type, monthly income etc. of the patient. The structured clinical interview for DSM-IV Axis I disorders (SCID-CV) was used. Diagnostic and Statistical Manual of Mental Disorder (DSM-IV) was used to diagnose the psychiatric disorders. Then Bengali version of WHO Quality of Life Scale brief version (WHOQOL BREF 1998) was applied to evaluate quality of life of different domains including physical health, psychological, social relationship and environment domain. The WHOQOL-100 quality assessment was developed originally by the WHOQOL-Group by fifteen international field centers simultaneously<sup>11</sup>. The researcher was careful about the ethical issues related to this study.

In this study precaution was taken to protect confidentiality of the participants. Permission from IRB (Institutional Review Board) of the institution was taken. Finally appropriate statistical analysis was done with SPSS version 16 to see the trends of the data. Unpaired Student's t test was used to compare 4 domains of quality of life including physical health, psychological, social relationship and environment. As test of significant ANOVA, unpaired t test, and Pearson correlation coefficient was used as applicable. All collected data were checked and verified thoroughly for consistency as well as for completeness. Level of significance was measured at 95% confidence interval. Frequency tables, summary tables and appropriate graphs were prepared to describe the population characteristics and study finding.

### **Results**

Out of 80 patients, male were 55 that is 68.8% and female were 25 that is 31.2%. Age range was 18-50 years. Mean age of that study was 33.8±1.47. Majority of the participants were businessman,

unemployed and married, and come from low and middle class families.

Table I: Distribution of respondents by sociodemographic characteristics (n=80)

Characteristics	Respondents	
	Case (n=80) No. (%)	Control (n=80) No. (%)
<i>Age (in years)</i>		
18-25	24(30.00)	08(10.00)
26-35	20(25.00)	44(55.0)
36-45	26(32.50)	20(25.00)
>45	10(12.50)	08(10.00)
<i>Sex</i>		
Male	55(68.75)	52(65.00)
Female	25(31.25)	28(35.00)
<i>Religions</i>		
Islam	71(88.75)	72(90.00)
Hindu	09(11.25)	07(08.75)
Christian	00(00.00)	01(01.25)
<i>Educational status</i>		
Illiterate	09(11.25)	00(00.00)
Primary	24(30.00)	08(10.00)
Secondary	20(25.00)	09(11.25)
SSC	06(07.50)	05(06.25)
HSC	08(10.00)	09(11.25)
Bachelor	11(13.75)	17(21.25)
Masters	02(02.50)	32(40.00)
<i>Occupations</i>		
Student	12(15.00)	16(20.00)
Service	09(11.25)	43(53.80)
Farmer	01(01.25)	09(11.25)
House wife	16(20.00)	07(08.75)
Business	22(27.50)	04(05.00)
Retired	01(01.25)	01(01.25)
Unemployed	19(23.75)	01(01.25)
<i>Marital status</i>		
Married	44(55.00)	53(66.25)
Unmarried	29(36.25)	25(31.25)
Others	07(08.75)	02(02.50)
<i>Famiy pattern</i>		
Nuclear	46(57.50)	42(52.50)
Joint	34(42.50)	38(47.50)
<i>Habitat</i>		
Rural	51(63.75)	62(77.50)
Urban	29(36.25)	18(22.50)
<i>Socioeconomical status</i>		
Low class	37(46.25)	04(05.00)
Middle class	28(35.00)	24(30.00)
High class	15(18.75)	52(65.00)

Table II: Mean±SD of item scores of WHOQOL-BREF domains by group

Characteristics	Respondents				P value*
	Case (n=80)		Control (n=80)		
	Mean±SD	Range	Mean±SD	Range	
Overall quality of life	3.11±0.99	1-5	3.95±0.64	2-5	0.001*
Overall health	2.94±0.93	1-5	3.88±0.58	2-5	0.001*
Physical health	3.14 ±0.66	1.43-4.86	4.00±0.41	3.14-4.71	0.001*
Pain and discomfort	4.02±1.18	1-5	4.26±1.02	1-5	0.190
Dependence on medical substances & medical aids	2.83±1.08	1-5	3.64±0.97	1-5	0.001*
Energy and fatigue	3.01±1.00	1-5	4.33±0.73	2-5	0.001*
Mobility	2.91±0.86	1-5	3.91±0.63	2-5	0.001*
Sleep and rest	3.11 ±0.98	1-5	3.94±0.61	2-5	0.001*
Activities of daily living	3.05±0.90	1-5	4.00±0.60	2-5	0.001*
Work capacity	3.07±0.99	1-5	3.92±0.70	2-5	0.001*
Psychological	3.01±0.66	1.50-4.50	3.87±0.48	2.33-4.83	0.001*
Life enjoyment (positive feeling)	2.78 ±1.08	1-5	3.69±0.69	2-5	0.001*
Meaningfulness of life (Spirituality)	2.65±1.02	1-5	3.85±0.74	2-5	0.001*
Thinking, learning, memory & concentration	2.99±0.92	1-5	3.97 ±0.76	2-5	0.001*
Bodily image and appearance	3.34±0.83	1-5	4.00±0.94	1-5	0.001*
Self esteem	2.95±1.09	1-5	3.96±0.63	2-5	0.001*
Negative feelings	3.37 ±0.85	1-5	3.72±0.75	2-5	0.008*
Social relationships	2.31±0.67	1.00-4.00	3.72±0.47	2.00-5.00	0.001*
Personal relationship	2.49 ±0.87	1-4	3.95 ±0.62	2-5	0.001*
Sexual activity	2.45±1.05	1-5	3.60±0.81	1-5	0.001*
Social support	1.99±0.79	1-4	3.62±0.74	2-5	0.001*
Environment	2.73±0.39	1.75-3.38	3.35 ±0.51	1.75-4.75	0.001*
Freedom, physical safety and security	2.52±0.78	1-4	3.27±0.88	1-5	0.001*
Physical environment (pollution, noise, traffic, climate)	2.79±0.67	1-4	3.27 ±0.77	1-5	0.001*
Financial resources	2.40±0.95	1-5	3.29 ±0.98	1-5	0.001*
Opportunities for acquiring new information & skills	2.40±0.73	1-4	3.50 ±0.82	2-5	0.001*
Participation in and opportunities for recreation	2.54±0.78	1-4	3.46 ±0.89	1-5	0.001*
Home environment	2.99±0.91	1-4	3.77±0.74	2-5	0.001*
Health and social care: accessibility and quality	3.53±0.71	1-5	3.50±0.91	1-5	0.847*
Transport	2.75±0.82	1-4	2.74±1.00	1-5	0.965*

Unpaired \*t test was done to measure significance of difference.

Table III: Mean±SD of item scores quality of life by age in patients group

Items	Age (in year)				P value*
	≤25	26-35	36-45	>45	
	Mean±SD	Mean±SD	Mean±SD	Mean±SD	
Overall quality of life	3.00±1.06	2.95±1.15	3.12±0.82	3.70±0.82	0.229
Overall health	3.04±0.86	2.90±1.02	2.81±0.94	3.10±0.99	0.774
Physical	3.16±0.66	3.06±0.76	3.08±0.59	3.43±0.64	0.501
Psychological	2.97±0.67	2.98±0.86	2.95±0.48	3.35±0.61	0.401
Social relationships	1.99±0.60	2.47±0.66	2.33±0.72	2.70±0.40	0.015
Environment	2.57±0.32	2.81±0.43	2.75±0.39	2.91±0.34	0.060

\*ANOVA test was done to measure the level of significance.

Table IV: Mean±SD of item scores quality of life by sex in patients group

Characteristics	Sexes		P value
	Male	Female	
	Mean±SD	Mean±SD	
Overall quality of life	3.16±0.98	3.00±1.04	0.498
Overall health	2.93±0.86	2.96±1.10	0.896
Physical	3.16±0.63	3.11±0.73	0.783
Psychological	3.03±0.61	2.98±0.77	0.770
Social relationships	2.19±0.65	2.57±0.65	0.016*
Environment	2.66±0.38	2.89±0.36	0.016*

Unpaired \*t test was done to measure the level of significance.

Table V: Mean±SD of item scores quality of life by residence in patients group

Characteristics	Residence		P value
	Urban	Rural	
	Mean±SD	Mean±SD	
Overall quality of life	3.03±0.98	3.16±1.01	0.600
Overall health	2.93±0.88	2.94±0.97	0.963
Physical	3.07±0.53	3.19±0.72	0.442
Psychological	3.00±0.53	3.02±0.73	0.900
Social relationships	2.14±0.58	2.41±0.70	0.087
Environment	2.68±0.38	2.76±0.39	0.346

\*t test was done to measure the level of significance.

Table VI: Mean±SD of item scores quality of life by family type in patients group

Characteristics	Family types		P value
	Single	Joint	
	Mean±SD	Mean±SD	
Overall quality of life	3.20±0.96	3.00±1.04	0.387
Overall health	2.96±0.94	2.91±0.93	0.833
Physical	3.11±0.58	3.18±0.76	0.642
Psychological	2.99±0.56	3.04±0.79	0.771
Social relationships	2.36±0.61	2.25±0.75	0.472
Environment	2.79±0.38	2.65±0.39	0.111

\*t test was done to measure the level of significance.

Table VII: Mean±SD of item scores quality of life by monthly family income in patient

Characteristics	Monthly incomes			P value
	<10000	10000-20000	>20000	
	Mean±SD	Mean±SD	Mean±SD	
Overall quality of life	2.86±1.00	3.32±0.94	3.33±0.98	0.117
Overall health	2.92±0.86	2.75±1.00	3.33±0.90	0.146
Physical	3.16±0.65	2.89±0.64	3.48±0.61	0.034
Psychological	2.98±0.58	2.89±0.71	3.31±0.71	0.133
Social relationships	1.94±0.53	2.50±0.56	2.87±0.68	0.001*
Environment	2.55±0.33	2.82±0.32	3.01±0.43	0.001*

\*ANOVA test was done to measure the level of significance.

Table VIII: Pearson correlation coefficient (r) of quality of life scale with selected parameters

Variables	Overall quality of life	Overall health	Physical health	Psychological	Social relationship	Environment	Age
	r	r	r	r	r	r	r
Overall quality of life	-						
Overall health	0.578**	-					
Physical	0.634**	0.597***	-				
Psychological	0.698**	0.652**	0.836**	-			
Social relationship	0.484**	0.558**	0.591**	0.602**	-		
Environment	0.529**	0.477**	0.538**	0.593**	0.707**	-	
Age in years	0.090	-0.094	-0.017	0.030	0.125	0.015	-

\*\*Correlation is significant at the 0.01 level. Data was expressed as Pearson correlation coefficient (r).

## Discussion

The World Health Organization estimates that Bipolar Disorder is the sixth leading cause of disability in the World. WHO-quality of life scale brief version was used for assessment of patient's

satisfaction with variety of life domains along with the importance the individual attaches to each of this circumstances<sup>6</sup>. In this study, physical domain was significantly lower than healthy controls. It is not surprising that physical

wellbeing of mentally ill patients was lower than healthy controls since this domain includes questions related to daily activities, discomfort, sleep, energy and this area fully affected by their mental illness. Similar result was found in the study<sup>7</sup>. Physical domain scores of that study were  $12.70 \pm 2.14$  in patients and scores were  $14.32 \pm 2.18$  in healthy controls that is scores were significantly lower in patients with Bipolar Disorder than healthy controls. It is interesting to note that the physical domain scores of patients with mental illness like schizophrenia and Bipolar Disorder were lower than patients with physical illness like diabetes<sup>7</sup>. In this study, psychological domain scores were significantly lower patients with Bipolar Disorder than healthy controls. The result of present study is similar the finding of a study<sup>7</sup>. Where scores were  $13.95 \pm 1.67$  in patients and  $14.57 \pm 2.10$  in healthy controls that is scores of psychological domain in patients were lower than healthy controls. In social relationship domain assesses personal relationship, social support and sexual activity. In this study, scores of social relationship domain of patients with Bipolar Disorder were significantly lower than healthy control.

Probable cause is stigmatization of mental disorder in society. The result of this study was similar with other study<sup>7</sup> who also found scores of patients were lower than healthy controls. In this study, in environment domain mean scores were significantly lower in patients than healthy control. This finding was similar with the result of study<sup>7</sup>. Where environment domain's scores were  $13.53 \pm 2.40$  in patients and  $13.75 \pm 2.23$  in healthy controls. That is scores of environment domain were lower in patients than healthy controls. From the result of the present study individual domains status revealed that highest scores of quality of life of patients were found in domains of physical health, followed by psychological domain, followed by environment domain and lowest scores were found social relationship domain. Regarding social relationship domain, possible explanation is that patients with Bipolar Disorder are mostly affected in social relationship item (social support, personal relationship and sexual activity). In this domain, the mean scores of social support facet were 1.99. It was the lowest score among all facets within 4 domains. Probable cause may be poor treatment facilities due to poverty, stigma about mental disorder and its treatment.

Some time they showed aggressive and violent behavior with family member and other member of society. For this reason family and society showed less supportive behavior with patients<sup>8</sup>.

Second lowest score was found in environment domain. In this domain group, financial resources (mean score 2.4) and safety security (mean score 2.52) were found comparatively poor than other facets. This may be due to poverty and our law and enforcements system are not so strong<sup>9</sup>. This study showed the gender based difference in quality of life among patients with Bipolar Disorder. The mean scores of overall quality of life, physical health and psychological domain were better in male patients than female patients. Overall quality of life, social relationship and environment domain were better in female patients than male patients. But it was significant only social relationships and environment domains ( $p=0.016$ ). This may be due to female patients stay in home and less interaction with other person in society but male patients are more interactive with other person of society. The result of this study differs from study<sup>12</sup>, where quality of life of male patients was better than female.

Inhabitant, the scores of all domains were found better in group rural than urban group though not statistically significant. This may be due to good inter personal and social relationship. In income group, high family income group were found better quality of life than low family income group<sup>13</sup>. Social relationship and environment domains scores were statistically significant with family income. Analysis of correlation with each and every variable revealed that all domains of WHOQOL-BREF scale were significantly correlated with each and others.

#### *Conclusion*

The results of the study concluded that the social relationship domain is most impaired among other three domains. In additions the quality of life showed significantly impaired in low socio-economic condition. Awareness program needed for society about the disease and psycho-education need to patients and family members. Result of this study may help to encourage further research.

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