

Quality of life among caregivers of patients with mental disorders attending a tertiary care hospital

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Summary

Caregivers of individuals with mental disorders often experience substantial physical, psychological, social, and environmental strain, leading to impaired quality of life (QOL). Evidence from Bangladesh remains limited. This study aimed to assess QOL among caregivers of patients with mental disorders and compare their WHOQOL-BREF scores with those of a hospital-based healthy reference group, while examining selected sociodemographic and clinical correlates of caregiver well-being. This cross-sectional comparative study was conducted at Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka. A total of 50 caregivers of patients diagnosed with mental disorders according to DSM-5 criteria and 50 healthy hospital-based participants were interviewed using a structured sociodemographic questionnaire and the WHOQOL-BREF. Descriptive statistics, independent-sample t-tests, one-way ANOVA, and Pearson correlation were used for analysis; because WHOQOL-BREF domain scores are continuous summary measures, parametric analyses were applied and interpreted cautiously, particularly in small subgroups. Caregivers had significantly lower overall QOL and overall health scores than the reference group, along with significantly lower physical, psychological, social relationship, and environmental domain scores. Within the caregiver group, older age was associated with lower physical, psychological, and environmental scores, while female caregivers had lower physical, psychological, and environmental scores than males. Education showed a significant association only with the environmental domain; illness duration was significant only for physical health, and hospitalisation frequency only for psychological health. Caregivers who reported societal support had significantly better scores across all four WHOQOL-BREF domains. Caregivers of patients with mental disorders experience marked multidimensional QOL impairment. Social support appears to be an important protective factor. However, comparative findings should be interpreted cautiously because the hospital-based reference group was not fully comparable to caregivers on several sociodemographic characteristics.

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Introduction

Mental disorders represent a major public health challenge worldwide, contributing substantially to the global burden of disease. According to the Global Burden of Disease Study, mental, neurological, and substance use disorders account for a major share of disability worldwide.¹ In South Asia, including Bangladesh, the burden of mental disorders has increased over time, while treatment gaps remain large because of resource

constraints.² According to the initial findings of the National Mental Health Survey of Bangladesh, 2019, the prevalence of mental disorders was 16.8% among adults and 13.6% among children, highlighting an urgent need for improved mental health care services.³ Despite the growing burden of psychiatric illness, mental health care remains under-resourced in Bangladesh, and formal caregiver support systems are largely absent.⁴ As a result, the responsibility for long-term care often falls on family

members, who provide supervision, emotional support, financial support, and assistance with treatment adherence and daily functioning.^{5,6} The burden of caregiving extends beyond practical responsibilities and may lead to psychological distress, social isolation, stigma, sleep disturbance, and financial hardship.^{7,8} Previous research has shown that caregivers of people with severe mental disorders frequently report poorer well-being and lower WHOQOL-BREF scores than the general population, particularly in psychological and social domains.^{9,10} Caregiver quality of life is also influenced by sociodemographic and contextual factors, including age, sex, socioeconomic status, and social support.^{11,12} In Bangladesh, where psychiatric services remain limited, and caregiving is predominantly family-based, understanding caregiver well-being is important for both patient care and public mental health planning. Despite this, evidence on caregiver QOL in the Bangladeshi context remains limited. This study therefore aimed to assess the quality of life of caregivers of patients with mental disorders attending a tertiary care hospital in Bangladesh, compare their WHOQOL-BREF scores with those of a hospital-based healthy reference group, and examine whether caregiver age, sex, education, monthly family income, habitat, relationship with the patient, patient diagnosis, duration of illness, hospitalization frequency, daily caregiving hours, and societal support were associated with caregiver quality of life.

Materials and methods

This cross-sectional comparative study was conducted at the outpatient and inpatient departments of Psychiatry at Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka. The study population included two groups: caregivers of patients diagnosed with mental disorders (study group) and a hospital-based healthy reference group. Caregivers were identified on the basis of DSM-5 diagnosis in the corresponding patient, and when more than one caregiver was available, the most actively involved caregiver was selected. The reference group consisted of hospital staff, including resident physicians, nurses, and other medical personnel, who had no personal or family history of mental illness. This group served as a healthy hospital-based comparison group rather than a matched control group. Inclusion criteria required participants to be 18-65 years old, to live in a household with only one mentally ill family member, and to provide at least six months of continuous care. Caregivers were required to be involved in daily supervision, emotional and financial support, medical management, and personal care. Individuals with physical illness or cognitive impairment severe enough to interfere with interview participation were excluded. Participants in the reference group had no known physical or mental illness and no mentally ill family member. A convenience sampling method was used, and 50 caregivers and 50 healthy reference

participants were enrolled between October 2019 and September 2021. Data were collected through face-to-face interviews using a structured sociodemographic questionnaire covering age, sex, education, occupation, marital status, residence, family type, and income. Quality of life was assessed with the World Health Organisation Quality of Life Scale, Brief Version (WHOQOL-BREF), which measures physical health, psychological health, social relationships, and environment and has been validated in Bangla.¹³ Ethical approval was obtained from the Institutional Review Board of BSMMU, and written informed consent was obtained from all participants. Each interview lasted approximately 40-45 minutes. Data were entered and analysed using SPSS version 25. Descriptive statistics were used to summarise the data. Because WHOQOL-BREF domain scores are continuous summary measures and the primary comparison groups were of equal size, parametric tests were used for the main analyses; subgroup findings involving very small cell sizes were interpreted cautiously. Independent-sample t-tests were used to compare WHOQOL-BREF scores between caregivers and the reference group and to assess selected two-group differences. One-way ANOVA was used for categorical variables with more than two groups, and Pearson's correlation coefficient was used to assess relationships between WHOQOL-BREF domain scores and age, income, illness duration, hospitalisation frequency, and caregiving hours. A p-value of <0.05 was considered statistically significant. Results were presented in text, tables, and charts.

Results

Table 1 shows marked sociodemographic differences between caregivers and the hospital-based reference group. Caregivers were older on average than controls, with a mean age of 43.50 ± 13.63 years compared with 30.46 ± 3.21 years, and nearly half of caregivers were aged 46 years or above, whereas almost all controls were concentrated in the 26–35-year group. The caregiver group was also more predominantly female, more rural, and substantially less educated; only 12.0% of caregivers had graduate or postgraduate education compared with 100.0% of controls. Occupationally, most caregivers were housewives (62.0%), while most controls were service holders (64.0%).

Table 2 summarises the clinical and caregiving context of the 50 patients receiving care. The patients had a mean age of 30.44 ± 12.85 years, and most were young adults, with 40.0% aged 18-25 years and 30.0% aged 26-35 years; males accounted for 58.0% of cases. Schizophrenia (30.0%) and Bipolar I Disorder (28.0%) were the most common diagnoses, together accounting for more than half of all patients, while Major Depressive Disorder contributed another 12.0%. Illness duration was most often 1-5 years (52.0%), and 64.0% of patients had been admitted to the hospital 1-3 times. Caregiving burden appeared substantial:

Table 1: Baseline characteristics distribution of the study population (n=100)

Variable	Caregiver (n=50)		Control (n=50)	
	n	%	n	%
Age (in years)				
18-25	8	16.00%	1	2.00%
26-35	6	12.00%	46	92.00%
36-45	13	26.00%	3	6.00%
46-55	15	30.00%	0	0.00%
56-65	8	16.00%	0	0.00%
Mean±SD	43.50 ± 13.63		30.46 ± 3.21	
Sex				
Male	13	26.00%	20	40.00%
Female	37	74.00%	30	60.00%
Habitat				
Urban	28	56.00%	45	90.00%
Rural	22	44.00%	5	10.00%
Education				
Illiterate	1	2.00%	0	0.00%
Primary	10	20.00%	0	0.00%
Secondary	14	28.00%	0	0.00%
SSC	8	16.00%	0	0.00%
HSC	11	22.00%	0	0.00%
Graduate	5	10.00%	27	54.00%
Postgraduate	1	2.00%	23	46.00%
Marital status				
Married	39	78.00%	36	72.00%
Unmarried	5	10.00%	13	26.00%
Others	6	12.00%	1	2.00%
Occupation				
Student	4	8.00%	11	22.00%
Businessman	3	6.00%	0	0.00%
Housewife	31	62.00%	2	4.00%
Service holder	6	12.00%	32	64.00%
Retired	3	6.00%	0	0.00%
Unemployed	0	0.00%	1	2.00%
Farmer	1	2.00%	0	0.00%
Others	2	4.00%	4	8.00%

Table 2: Distribution of characteristics of the patients receiving care (n=50)

Characteristics of patients receiving care	n	%
Age of the patient (in years)		
<18	4	8.00%
18-25	20	40.00%
26-35	15	30.00%
36-45	3	6.00%
46-55	4	8.00%
56-65	4	8.00%
Mean ± SD	30.44 ± 12.85	
Sex of the patient		
Male	29	58.00%
Female	21	42.00%
Diagnosis of the patient*		
Intellectual disability	1	2.00%
Schizophreniform disorder	1	2.00%
Schizophrenia	15	30.00%
Bipolar I disorder	14	28.00%
Substance-induced bipolar and related disorder	1	2.00%
Major depressive disorder	6	12.00%
Panic disorder	1	2.00%
Agoraphobia	1	2.00%
Generalised anxiety disorder	2	4.00%
Obsessive-compulsive disorder	3	6.00%
Conversion disorder	3	6.00%
Somatic symptom disorder	1	2.00%
Conduct disorder	2	4.00%
Borderline personality disorder	3	6.00%
Dual diagnosis	4	8.00%
Total duration of illness (in years)		
<1	4	8.00%
1-5	26	52.00%
6-10	10	20.00%
11-15	4	8.00%
16-20	4	8.00%
>20	2	4.00%
Number of hospital admissions		
1-3	32	64.00%
4-6	8	16.00%
7-10	1	2.00%
No hospitalization	9	18.00%
Daily caregiving hours		
<6	18	36.00%
6-11	9	18.00%
12-17	2	4.00%
18-24	21	42.00%
Relationship with the patient		
Parents	32	64.00%
Child	5	10.00%
Siblings	4	8.00%
Spouse	9	18.00%
Support from society		
Yes	10	20.00%
No	40	80.00%

Table 3: Mean $\pm$ SD of item scores of WHOQOL-BREF domains by respondents

Characteristics	Caregivers (n=50) Mean $\pm$ SD	Control (n=50) Mean $\pm$ SD	p value
Overall QOL	2.44 $\pm$ 0.84	3.96 $\pm$ 0.45	<0.001*
Overall health	2.80 $\pm$ 0.99	3.92 $\pm$ 0.53	<0.001*
Domain 1: Physical health			
Pain and discomfort	2.98 $\pm$ 1.04	1.56 $\pm$ 0.79	<0.001*
Dependence on medicinal substances and medical aids	2.98 $\pm$ 1.04	1.68 $\pm$ 0.79	<0.001*
Energy and fatigue	2.88 $\pm$ 1.00	3.94 $\pm$ 0.93	<0.001*
Mobility	2.82 $\pm$ 0.59	3.78 $\pm$ 0.76	<0.001*
Sleep and rest	2.36 $\pm$ 0.94	3.84 $\pm$ 0.79	<0.001*
Activities of daily living	2.88 $\pm$ 0.82	3.88 $\pm$ 0.72	<0.001*
Work capacity	2.72 $\pm$ 0.86	3.86 $\pm$ 0.73	<0.001*
Domain 2: Psychological			
Positive feelings	2.60 $\pm$ 0.78	3.48 $\pm$ 0.71	<0.001*
Spirituality/Religion/Personal beliefs	2.56 $\pm$ 0.79	3.78 $\pm$ 0.76	<0.001*
Thinking, learning, memory and concentration	2.72 $\pm$ 0.78	3.46 $\pm$ 0.71	<0.001*
Bodily image and appearance	2.86 $\pm$ 0.97	3.84 $\pm$ 0.91	<0.001*
Self-esteem	2.84 $\pm$ 0.93	3.86 $\pm$ 0.73	<0.001*
Negative feelings	3.72 $\pm$ 0.95	2.56 $\pm$ 0.84	<0.001*
Domain 3: Social relationships			
Personal relationships	3.12 $\pm$ 0.80	3.66 $\pm$ 0.74	0.001*
Sexual activity	2.72 $\pm$ 1.05	3.86 $\pm$ 0.57	<0.001*
Social support	1.92 $\pm$ 1.03	3.64 $\pm$ 0.69	<0.001*
Domain 4: Environment			
Freedom, physical safety and security	2.92 $\pm$ 0.78	3.50 $\pm$ 0.71	<0.001*
Physical environment (pollution/noise/traffic/climate)	3.02 $\pm$ 0.65	3.32 $\pm$ 0.68	0.027*
Financial resources	2.02 $\pm$ 0.98	3.34 $\pm$ 0.98	<0.001*
Opportunities for acquiring new information and skills	2.42 $\pm$ 0.91	3.78 $\pm$ 0.81	<0.001*
Opportunities for recreation/leisure activities	2.00 $\pm$ 0.76	3.24 $\pm$ 0.92	<0.001*
Home environment	2.88 $\pm$ 0.85	4.00 $\pm$ 0.67	<0.001*
Health and social care: accessibility and quality	2.90 $\pm$ 0.86	3.52 $\pm$ 1.01	0.001*
Transport	2.76 $\pm$ 0.80	3.14 $\pm$ 1.09	0.049*

42.0% of caregivers provided care for 18-24 hours daily, 64.0% were parents of the patient, and 80.0% reported receiving no societal support.

Table 3 presents item-level WHOQOL-BREF scores and shows a consistent pattern of poorer perceived well-being among caregivers across nearly all items. Caregivers reported lower overall QOL (2.44 $\pm$ 0.84 vs. 3.96 $\pm$ 0.45) and lower overall health (2.80 $\pm$ 0.99 vs. 3.92 $\pm$ 0.53), both with $p < 0.001$. In the physical domain, some of the largest gaps were seen in sleep

and rest (2.36 $\pm$ 0.94 vs. 3.84 $\pm$ 0.79), work capacity (2.72 $\pm$ 0.86 vs. 3.86 $\pm$ 0.73), and energy and fatigue (2.88 $\pm$ 1.00 vs. 3.94 $\pm$ 0.93). In the psychological domain, caregivers had lower positive feelings, self-esteem, and concentration, while negative feelings were higher among caregivers (3.72 $\pm$ 0.95 vs. 2.56 $\pm$ 0.84). In the social and environmental domains, the most pronounced differences were seen for social support (1.92 $\pm$ 1.03 vs. 3.64 $\pm$ 0.69), financial resources (2.02 $\pm$ 0.98 vs. 3.34 $\pm$ 0.98), recreation/leisure opportunities (2.00 $\pm$ 0.76 vs. 3.24 $\pm$ 0.92), and home environment (2.88 $\pm$ 0.85 vs. 4.00 $\pm$ 0.67).

Table 4: Mean $\pm$ SD scores of WHOQOL-BREF domains by respondents

Domains	Caregivers (n=50) Mean $\pm$ SD	Control (n=50) Mean $\pm$ SD	p value
Physical health	11.21 $\pm$ 2.58	16.03 $\pm$ 1.97	<0.001*
Psychological	10.57 $\pm$ 2.38	14.57 $\pm$ 1.98	<0.001*
Social relationship	10.35 $\pm$ 3.00	14.88 $\pm$ 1.75	<0.001*
Environment	10.46 $\pm$ 2.04	13.92 $\pm$ 2.25	<0.001*

Table 5: Differences of the WHOQOL-BREF mean scores in four domains with socio-demographic characteristics of the caregivers (n=50)

Characteristics	Domains			
	Physical health Mean $\pm$ SD	Psychological Mean $\pm$ SD	Social relationship Mean $\pm$ SD	Environment Mean $\pm$ SD
Age (years)				
18-25	13.28 $\pm$ 2.42	12.42 $\pm$ 1.98	10.17 $\pm$ 3.41	11.94 $\pm$ 1.72
26-35	13.05 $\pm$ 2.24	12.00 $\pm$ 2.56	10.67 $\pm$ 3.48	11.25 $\pm$ 2.50
36-45	10.59 $\pm$ 2.43	10.56 $\pm$ 2.14	11.08 $\pm$ 2.40	10.23 $\pm$ 1.76
46-55	10.28 $\pm$ 2.45	9.15 $\pm$ 2.29	10.22 $\pm$ 3.21	9.80 $\pm$ 2.05
56-65	10.50 $\pm$ 1.98	10.33 $\pm$ 1.63	9.33 $\pm$ 3.19	10.00 $\pm$ 1.91
p value	0.015*	0.010*	0.787	0.119
Sex				
Male	13.10 $\pm$ 2.10	11.74 $\pm$ 1.50	11.08 $\pm$ 3.10	11.81 $\pm$ 1.63
Female	10.55 $\pm$ 2.41	10.16 $\pm$ 2.51	10.09 $\pm$ 2.97	9.99 $\pm$ 1.97
p value	0.001*	0.038*	0.314	0.004*
Education				
Illiterate	8.57 $\pm$ 1.34	10.67 $\pm$ 2.14	6.67 $\pm$ 0.82	8 $\pm$ 1.17
Primary	10.86 $\pm$ 2.38	10.53 $\pm$ 2.22	9.20 $\pm$ 3.04	9.75 $\pm$ 1.87
Secondary	10.33 $\pm$ 2.62	10.05 $\pm$ 2.71	10.86 $\pm$ 2.61	9.50 $\pm$ 1.74
SSC	11.21 $\pm$ 1.83	10.17 $\pm$ 2.27	10.33 $\pm$ 3.47	11.12 $\pm$ 2.15
HSC	11.79 $\pm$ 2.79	10.36 $\pm$ 2.28	9.82 $\pm$ 2.99	11.14 $\pm$ 1.70
Graduate	13.60 $\pm$ 2.84	12.93 $\pm$ 1.86	12.80 $\pm$ 2.76	12.30 $\pm$ 2.28
Postgraduate	11.43 $\pm$ 2.4	12 $\pm$ 1.54	12 $\pm$ 1.32	11.5 $\pm$ 1.70
p value	0.257	0.404	0.296	0.046*
Marital status				
Married	11.00 $\pm$ 2.54	10.49 $\pm$ 2.53	10.56 $\pm$ 2.91	10.40 $\pm$ 2.02
Unmarried	13.03 $\pm$ 2.37	11.87 $\pm$ 1.79	9.33 $\pm$ 3.65	12.00 $\pm$ 1.97
Others	11.05 $\pm$ 2.77	10.00 $\pm$ 1.46	9.78 $\pm$ 3.44	9.58 $\pm$ 1.83
p value	0.255	0.401	0.62	0.136
Occupation				
Student	14.00 $\pm$ 1.09	12.33 $\pm$ 1.68	10.33 $\pm$ 3.33	12.75 $\pm$ 1.19
Businessman	12.38 $\pm$ 2.01	10.22 $\pm$ 2.69	11.55 $\pm$ 2.04	9.83 $\pm$ 2.89
Housewife	10.32 $\pm$ 2.31	10.00 $\pm$ 2.53	9.93 $\pm$ 2.94	9.97 $\pm$ 1.81
Service holder	13.52 $\pm$ 3.10	12.11 $\pm$ 1.99	12.67 $\pm$ 2.19	11.33 $\pm$ 2.62
Retired	12.19 $\pm$ 0.87	11.33 $\pm$ 0.67	11.55 $\pm$ 3.08	12.00 $\pm$ 1.32
Farmer	9.14 $\pm$ 1.04	10 $\pm$ 0.85	5.33 $\pm$ 1.39	9 $\pm$ 1.52
Others	10.28 $\pm$ 1.62	11.00 $\pm$ 1.41	8.67 $\pm$ 4.71	10.25 $\pm$ 1.77
p value	0.011*	0.329	0.198	0.095
Habitat				
Urban	10.88 $\pm$ 2.82	10.59 $\pm$ 2.56	11.14 $\pm$ 3.04	10.48 $\pm$ 2.40
Rural	11.64 $\pm$ 2.22	10.54 $\pm$ 2.18	9.33 $\pm$ 2.70	10.43 $\pm$ 1.52
p value	0.306	0.942	0.033*	0.928

Table 6: Mean $\pm$ SD scores of WHOQOL-BREF scale domains in the caregivers by diagnosis of the patient (n=50)

Diagnosis of the patient**	Domains			
	Physical health	Psychological	Social relationship	Environment
	Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD	Mean $\pm$ SD
Neurodevelopmental disorders	10.28 $\pm$ 1.51	7.33 $\pm$ 0.82	13.33 $\pm$ 3.08	6.5 $\pm$ 0.64
Schizophrenia spectrum and other psychotic disorders	10.57 $\pm$ 2.70	10.50 $\pm$ 2.63	10.25 $\pm$ 2.99	10.19 $\pm$ 1.87
Bipolar and related disorders	11.89 $\pm$ 2.70	10.83 $\pm$ 1.88	9.92 $\pm$ 2.96	10.72 $\pm$ 1.93
Depressive disorders	12.19 $\pm$ 2.88	11.78 $\pm$ 2.52	8.89 $\pm$ 5.05	11.50 $\pm$ 2.50
Anxiety disorders	11.24 $\pm$ 2.38	11.55 $\pm$ 2.04	11.55 $\pm$ 2.04	9.50 $\pm$ 1.32
Obsessive-compulsive and related disorder	12.00 $\pm$ 3.23	10.00 $\pm$ 3.77	11.33 $\pm$ 0.94	10.00 $\pm$ 2.12
Somatic symptom and related disorder	13.71 $\pm$ 2.75	12 $\pm$ 2.53	9.33 $\pm$ 1.22	13.5 $\pm$ 1.75
Disruptive, impulse-control, and conduct Disorders	8.00 $\pm$ 3.23	8.33 $\pm$ 4.24	12.00 $\pm$ 1.88	9.75 $\pm$ 1.77
Personality disorders	11.71 $\pm$ 0.40	9.00 $\pm$ 0.47	9.33 $\pm$ 3.77	10.75 $\pm$ 1.06
Dual diagnosis	10.86 $\pm$ 1.87	10.83 $\pm$ 3.19	11.33 $\pm$ 4.55	11.12 $\pm$ 3.37
p value*	0.663	0.721	0.924	0.478

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

**Diagnosis according to DSM-5

Table 4 shows that caregivers had significantly lower WHOQOL-BREF domain scores than the hospital-based reference group in every domain, with all comparisons reaching $p < 0.001$. The largest absolute difference was observed in physical health, where caregivers scored 11.21 ± 2.58 compared with 16.03 ± 1.97 in controls, indicating poorer energy, mobility, sleep, and work capacity. Psychological well-being was also notably lower among caregivers (10.57 ± 2.38 vs. 14.57 ± 1.98), suggesting greater emotional strain and poorer self-perception. Similarly, caregivers had lower social relationship scores (10.35 ± 3.00 vs. 14.88 ± 1.75) and environmental scores (10.46 ± 2.04 vs. 13.92 ± 2.25), reflecting weaker social support, financial strain, and less favourable living conditions.

Table 5 shows that associations between sociodemographic characteristics and caregiver QOL were selective rather than universal across all domains. Younger caregivers had better physical and psychological scores than older caregivers, with significant age-related differences in physical health ($p = 0.015$) and psychological health ($p = 0.010$); for example, caregivers aged 18–25 years scored 13.28 ± 2.42 in physical health and 12.42 ± 1.98 in psychological health, whereas those aged 46–55 years scored 10.28 ± 2.45 and 9.15 ± 2.29 , respectively. Male caregivers had higher physical, psychological, and environmental scores than females, with significant differences in physical health (13.10 ± 2.10 vs. 10.55 ± 2.41 , $p = 0.001$), psychological health (11.74 ± 1.50 vs. 10.16 ± 2.51 , $p = 0.038$), and environment (11.81 ± 1.63 vs. 9.99 ± 1.97 , $p = 0.004$). Education was significantly associated only with the environmental domain ($p = 0.046$), with graduates showing the highest environmental score (12.30 ± 2.28). Occupational differences were significant only for physical health ($p = 0.011$),

and habitat was associated only with social relationship scores (urban 11.14 ± 3.04 vs. rural 9.33 ± 2.70 , $p = 0.033$).

Table 6 shows that caregiver QOL scores varied across diagnostic categories, although the overall pattern did not reach statistical significance in any of the four WHOQOL-BREF domains. Descriptively, caregivers of patients with Somatic Symptom and Related Disorder had the highest physical health score (13.71 ± 2.75) and one of the highest environmental scores (13.50 ± 1.75), while caregivers of patients with Disruptive, Impulse-Control, and Conduct Disorders had the lowest physical health (8.00 ± 3.23) and low psychological scores (8.33 ± 4.24). Psychological well-being appeared lowest among caregivers of patients with Neurodevelopmental Disorders (7.33 ± 0.82), whereas social relationship scores were relatively higher in Neurodevelopmental Disorders (13.33 ± 3.08) and lower in Depressive Disorders (8.89 ± 5.05). Even though these descriptive differences are noticeable, the p-values for physical health (0.663), psychological health (0.721), social relationships (0.924), and environment (0.478) indicate that no statistically significant domain-wise variation was demonstrated across diagnoses in this sample.

Table 7 presents that caregiver quality of life differed significantly across several patient-related factors. Children of patients had the highest scores in physical (14.51 ± 1.65), psychological (13.60 ± 1.74), and environmental (13.40 ± 1.19) domains, while parents showed lower scores, with significant differences in physical ($p = 0.003$), psychological ($p = 0.002$), and environmental ($p = 0.001$) domains. Caregivers of patients with illness duration < 1 year had the highest physical score (14.28 ± 1.81), whereas those with 16–20 years had the lowest (8.86 ± 2.16), indicating physical burden over time ($p = 0.049$). Psychological scores

Table 7: Mean $\pm$ SD scores of WHOQOL-BREF scale domains in caregivers by patient-related characteristics and support from society (n=50)

Characteristics	Category	Physical health Mean $\pm$ SD	Psychological	Social relationship	Environment
Relationship with the patient	Parents	10.39 $\pm$ 2.14	9.77 $\pm$ 2.14	10.25 $\pm$ 2.96	9.89 $\pm$ 1.86
	Child	14.51 $\pm$ 1.65	13.60 $\pm$ 1.74	12.27 $\pm$ 3.70	13.40 $\pm$ 1.19
	Siblings	12.28 $\pm$ 2.53	11.50 $\pm$ 1.00	9.33 $\pm$ 2.88	11.50 $\pm$ 1.87
	Spouse	11.81 $\pm$ 2.93	11.33 $\pm$ 2.38	10.07 $\pm$ 2.91	10.39 $\pm$ 1.65
p value	0.003*	0.002*	0.469	0.001*	
Total duration of illness, years	<1	14.28 $\pm$ 1.81	12.67 $\pm$ 1.72	11.67 $\pm$ 2.00	12.37 $\pm$ 1.03
	1-5	10.77 $\pm$ 2.12	10.41 $\pm$ 2.30	10.56 $\pm$ 2.79	10.11 $\pm$ 1.76
	6-10	11.60 $\pm$ 3.53	10.53 $\pm$ 2.89	9.73 $\pm$ 3.88	10.80 $\pm$ 2.52
	11-15	11.86 $\pm$ 1.18	9.33 $\pm$ 1.72	10.67 $\pm$ 3.26	9.62 $\pm$ 2.69
	16-20	8.86 $\pm$ 2.16	9.50 $\pm$ 1.14	8.33 $\pm$ 3.51	9.62 $\pm$ 1.49
	>20	12.28 $\pm$ 1.21	13.33 $\pm$ 1.88	11.33 $\pm$ 0.94	12.75 $\pm$ 1.77
p value	0.049*	0.162	0.662	0.128	
Total number of hospital admissions	1-3	11.53 $\pm$ 2.61	11.10 $\pm$ 2.26	10.71 $\pm$ 3.11	10.69 $\pm$ 2.21
	4-6	10.78 $\pm$ 2.58	9.33 $\pm$ 2.34	10.67 $\pm$ 2.67	11.06 $\pm$ 1.68
	7-10	6.28 $\pm$ 0.54	5.33 $\pm$ 0.19	5.33 $\pm$ 0.72	7.5 $\pm$ 1.05
	No hospitalization	10.98 $\pm$ 2.19	10.37 $\pm$ 2.00	9.33 $\pm$ 2.58	9.44 $\pm$ 1.16
p value	0.219	0.028*	0.228	0.141	
Daily caregiving hours	<6	11.05 $\pm$ 2.38	10.41 $\pm$ 2.55	10.59 $\pm$ 2.35	10.47 $\pm$ 1.85
	6-11	12.06 $\pm$ 3.17	10.89 $\pm$ 2.38	9.33 $\pm$ 3.71	10.89 $\pm$ 2.59
	12-17	11.71 $\pm$ 0.40	11.33 $\pm$ 0.94	9.33 $\pm$ 3.77	11.00 $\pm$ 0.71
	18-24	10.94 $\pm$ 2.63	10.51 $\pm$ 2.43	10.67 $\pm$ 3.24	10.21 $\pm$ 2.09
p value	0.725	0.931	0.67	0.848	
Support from society	Support from society	13.60 $\pm$ 3.13	12.07 $\pm$ 2.80	12.27 $\pm$ 3.00	12.20 $\pm$ 2.08
	No support from society	10.61 $\pm$ 2.06	10.20 $\pm$ 2.14	9.87 $\pm$ 2.84	10.02 $\pm$ 1.80
p value	0.001*	0.025*	0.022*	0.002*	

*The ANOVA test was done to see the level of significance

were markedly lower in caregivers of patients admitted 7–10 times (5.33 ± 0.19 ; $p = 0.028$). Importantly, caregivers receiving societal support had consistently higher scores in physical (13.60 ± 3.13 vs. 10.61 ± 2.06), psychological (12.07 ± 2.80 vs. 10.20 ± 2.14), social (12.27 ± 3.00 vs. 9.87 ± 2.84), and environmental (12.20 ± 2.08 vs. 10.02 ± 1.80) domains, all statistically significant.

Table 8 shows that caregiver age and family income were the variables most clearly related to caregiver QOL. Older caregiver age was associated with lower physical health ($r = -0.432$, $p < 0.01$), lower psychological health ($r = -0.394$, $p < 0.01$), and lower environmental well-being ($r = -0.329$, $p < 0.05$), indicating a pattern of declining QOL with increasing caregiver age. In contrast, higher monthly family income was positively associated

with psychological health ($r = 0.326$, $p < 0.05$), social relationships ($r = 0.335$, $p < 0.05$), and environment ($r = 0.437$, $p < 0.01$), suggesting that better financial resources may buffer several dimensions of caregiving burden. Age of the patient, illness duration, hospitalization frequency, and daily caregiving hours did not show strong direct correlations with most domains, which implies that their influence may be less linear or more context dependent. The table also shows strong positive interrelationships among the WHOQOL-BREF domains themselves, particularly between physical and psychological health ($r = 0.769$, $p < 0.01$), physical health and environment ($r = 0.776$, $p < 0.01$), and psychological health and environment ($r = 0.738$, $p < 0.01$).

Table 8: Pearson correlation coefficient (r) of the WHOQOL-BREF scale with selected parameters in the caregivers

Variables	Age of the caregiver	Monthly family income	Age of the patients	Total duration of illness	Total number of hospital admissions	Daily care-giving hours	Physical health	Psycho-logical	Social relationship	Environment
Age of the caregivers	1									
Monthly family income	-0.246	1								
Age of the patients	-0.11	0.169	1							
Total duration of illness	0.091	0.101	.588**	1						
Total number of hospital admissions	0.056	-.299*	-0.081	-0.046	1					
Daily care-giving hours	-0.188	0.051	0.032	-0.142	-0.098	1				
Physical health	-.432**	0.243	0.112	-0.147	-0.112	-0.044	1			
Psychological	-.394**	.326*	0.242	-0.066	-0.156	0.011	.769**	1		
Social relationship	-0.102	.335*	-0.002	-0.138	-0.196	0.035	.384**	.371**	1	
Environment	-.329*	.437**	0.221	-0.021	-0.247	-0.07	.776**	.738**	.519**	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Data was expressed as a Pearson correlation coefficient.

Discussion

The present study assessed the quality of life of caregivers of patients with mental disorders using the WHOQOL-BREF and found that caregivers had substantially poorer physical, psychological, social, and environmental well-being than a hospital-based healthy reference group. This overall pattern is consistent with previous literature showing that caregiving for persons with mental disorders is associated with multidimensional burden and reduced quality of life.^{12,15} At the same time, the comparative findings in this study must be interpreted cautiously because the reference group differed markedly from caregivers in age, education, residence, and occupation, and therefore, the between-group differences cannot be attributed solely to caregiving status. Within the caregiver group, older age and female sex were associated with lower scores in several domains, which is consistent with the broader literature suggesting that cumulative caregiving demands, gendered care roles, and socioeconomic vulnerability may intensify caregiver burden.^{14,15} Higher monthly family income was associated with better psychological, social, and environmental well-being, supporting the view that financial stability may buffer the stresses of long-term caregiving. The finding that urban caregivers reported better social relationship scores than rural caregivers may reflect wider social networks and better access to services in urban settings.¹⁶ Diagnosis-specific comparisons did not show statistically significant differences across WHOQOL-BREF domains; however, this should not be interpreted as evidence that diagnosis does not influence caregiver quality of life. Rather, the absence of significant associations likely reflects inadequate statistical power, as the 50 caregivers were distributed across numerous diagnostic categories, several of which included only one to four participants. Relationship with the patient, duration of illness, and hospitalization history were associated with selected

domains, but these effects were domain-specific rather than global. In particular, longer illness duration was associated only with physical health, and hospitalization frequency only with psychological health, so these variables should not be generalized as uniform determinants of all aspects of caregiver QOL. One of the most important findings was the consistent association between societal support and better scores across all four WHOQOL-BREF domains. This finding is in keeping with previous evidence that social support improves caregiver resilience, reduces distress, and may moderate the negative impact of chronic caregiving demands.¹⁷ The strong positive correlations among physical, psychological, social, and environmental domains further suggest that caregiver well-being is interconnected and may benefit most from integrated interventions rather than isolated responses. Overall, the study highlights a clinically important caregiver burden signal in a tertiary psychiatric setting in Bangladesh and supports the need for caregiver-focused mental health services, social support mechanisms, and further methodologically stronger research.

Conclusion

This study highlights caregiver quality-of-life burden in Bangladesh tertiary care mental disorder patients compared with hospital-based reference group. Caregivers showed lower WHOQOL-BREF scores across physical, psychological, social, environmental domains. Age, sex, income, illness-related factors and social support influenced outcomes. Findings suggest need for psychoeducation, social support, financial aid and improved service linkage. Limitations include non-equivalent controls, small subgroup analyses, and need larger longitudinal studies for future research and policy development.

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