RESEARCH

Quality of life and functional impairment among depressive patients in a psychiatric outpatient setting in India

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Abstract

Background: Major depression is an important public health problem associated with high levels of disability, impairment of quality of life and decreased work performance. Depressive disorder negatively impacts different aspects of an individual's life leading to grave impairments in quality of life (QOL). This study analyses the interaction between depressive symptom severity, functional impairment and QOL in outpatients with depressive disorder.

Materials and methods: This cross-sectional study was conducted with 100 consecutive outpatients seeking treatment for depressive disorder at an urban hospital-based outpatient clinic from January to August 2010. This study utilises the following measures: (a) Depressive symptom severity: Beck Depression Inventory II (BDI II); (b) Functional impairment: Work and Social Adjustment Scale (WSAS); (c) QOL measure: World Health Organization QOL BREF instrument (WHO QOL BREF).

Results: QOL is significantly impaired in severely depressed patients. Depression is negatively correlated with QOL and positively correlated with functional impairment.

Conclusion: The results suggest the need to utilise not only symptom severity scales, but also functional impairment and QOL measures in the assessment and treatment of depressive patients.

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Introduction

In a study of 160 patients diagnosed with organic mental disorders, seizure disorder represented maximum number of cases.[1] Among 70% patients with epilepsy, causative factors are head trauma, malformation of brain, brain tumours, stroke, cerebral haemorrhage, lack of oxygen during birth, encephalitis, post encephalitic sequelae, or other physical and chemical insult.[2] High proportions of post encephalitis sequelae are resistant to medical treatment. The possible underlying causes can be (i) decrease numbers of gamma aminobutyric acid (GABA)-ergic neurons, (ii) increase secretion of glutamate in degenerative area of brain, (ii) changes in intrinsic properties of aberrant neurons, and (iv) aberrant connection of degenerative neurons have high propensity to develops epilepsy. Higher metabolism of diseased area in brain is related to continuous epileptic activity.[3] About 30% of patients do not become seizure free with antiepileptic drug (AED) therapy and are considered refractory or drug resistant patients.

Major depressive disorder (MDD) is the fourth leading disease causing functional impairment, disability and workforce loss worldwide.[1] Considering that the life-long prevalence of depression is between 16 and 20%,[2] MDD is expected to be the most frequent cause of work absenteeism[3] among psychiatric diseases. Moreover, predicting the further increase in this ratio, the World Health Organization (WHO) has reported that in 2020 MDD will be the second after ischaemic heart diseases among diseases that lead to disability.[4,5]

Psychiatric illnesses are strongly associated with impairment in quality of life (QOL), frequently at levels that are equal to or exceed those of medical illnesses.[6] MDD negatively impacts a myriad of facets of an individual's life including functioning, satisfaction with work, relationships, leisure, physical health, sexual functioning, sleep patterns, future outlook and overall sense of fulfillment or contentment with one's life.[7] Studies have demonstrated that patients with MDD have significant impairments in QOL.[6-9] An analysis from the Sequenced Treatment Alternatives to Relieve Depression (STAR*D) study revealed that severity of depressive symptoms was significantly associated with poor health-related QOL.[10] Rapaport *et al*.[11] demonstrated significant impairments in QOL in subjects with a broad array of different depressive and anxiety disorders entering clinical trials.

Depression, a common and debilitating condition, is negatively influencing QOL of patients such as functioning by affecting psychological, physical and social areas of life and has been the object of intense research over the last few years.[7] Several studies have investigated these aspects in recent years. A large study of 25 916 primary care patients from several countries revealed that patients with major depression reported higher levels of disability than those without depression.[12] In a different study carried out in Europe, Lepine *et al*.[13] found that the degree of disability was related to severity of depression in patients with MDD.

Despite the extensive literature investigating QOL in psychiatric disorders, a detailed examination is needed for the interaction between depressive symptom severity, functional impairment and QOL in treatment seeking outpatients with depressive disorder. The aim of this study is to investigate the relationship between symptom severity, functional impairment and QOL among depressive patients.

Material and methods

Subjects

The sample comprised of 100 depressive patients, who were recruited from the outpatient department of psychiatry at Sri Narasimha Raja (SNR) District Hospital, Kolar, Karnataka, India. Inclusion criteria were: (a) diagnosed with depressive disorder according to International Classification of Diseases, Tenth Revision (ICD-10); (b) aged between 20 to 40 years; (c) recommended antidepressant treatment by the treating psychiatrist. Subjects with psychotic symptoms, severe life threatening illnesses, or current drug or alcohol related disorders were excluded.

Assessment

Data was collected on the basis of a single cross-sectional interview of the subjects who fulfilled the inclusion, exclusion criteria and provided written informed consent. Subjects were free to withdraw from the study at any time for any reason. All consenting adults who fulfilled the inclusion criteria were administered the sociodemographic proforma, Beck Depression Inventory II (BDI II), Work and Social Adjustment Scale (WSAS) and WHO QOL BREF scale.

Sociodemographic proforma: It includes questions on their age, gender, marital status, occupation, religion, type of family, area of residence, mean monthly income, suicidal attempts, previous depressive episodes and mean duration of present illness.

BDI II: This scale was developed by Aaron T Beck, a self-administered four point Likert scale containing 21-items, designed to assess the severity of the symptoms of depression. Statement denotes symptom severity along with an ordinal continuum from absent (scored as zero) or mild (scored as one) to severe (scored as three). The responses are summed to determine possible scores ranging from zero to 63, with higher scores indicating a greater level of symptoms. The total scores of the BDI II classify as four levels of depression: zero to 13=minimal depression; 14–19=mild; 20–28=moderate; 29–63=severe depression. In Indian studies, the BDI indicated high internal consistency (Cronbach's alpha 0.96).[14]

WSAS: It is a self-report scale of functional impairment. It was developed by James C Mundt, Isaac M Marks, M Katherine Shear, John M Greist. It comprises five questions on a zero to eight scale. Cronbach's measure of internal scale consistency ranged from 0.70 to 0.94. Test-retest correlation was 0.73. The range of the total score is zero to 40, with lower scores indicating higher functioning. A WSAS score >20 suggests at least moderately severe functional impairment. Scores between ten and 20 indicate measurable functional impairment but less severe clinical symptomatology.[15]

WHO QOL BREF: QOL assessment was done with WHO QOL BREF Kannada version. This scale was chosen because it is a generic scale, developed simultaneously in 15 field centres around the world (India was one of the participating countries). It is a subjective assessment for adults with a reading age of eight years and above and can be completed with interviewer assistance. This 26-item self-administered scale measures four domains of QOL. They are physical health (item nos. 3, 4, 10, 15-18) psychological health (item nos. 5-7, 11, 19, 26), environment (item nos. 8, 9, 12-14, 23-25) and social relationships (item nos. 20-22). Item numbers 1 (QOL) and 2 (QOL) reflect a general factor named 'general wellbeing' which is not considered a specific domain. The items are scored from one to five with total scores ranging from 26 to 130, higher scores indicating better QOL in each domain and in total score. The psychometric properties of WHO QOL BREF have been found to be comparable with those of the full version of WHO QOL 100. High correlation of domain scores (0.89 or above) for the two scales has been obtained using a four domain structure. This scale has shown good discriminant validity, content validity, internal consistency and test-retest reliability.[16]

Statistical analysis

Statistical Product and Service Solutions (SPSS) software (version 15) was used to analyse the data. Descriptive statistics were used for all variables. Pearson's analysis was used for the correlation between depressive scores, functional impairment and QOL scores. QOL and functional impairment score of mild, moderate and severe patients were compared using analysis of variance (ANOVA) test. Quantitative data are represented as the

mean±standard deviation (SD) and the level of significance was accepted as $p<0.05$.

Results

Demographic and clinical characteristics of the study sample

The demographic and clinical characteristics of the study population are presented in Table 1. Mean age of the sample was 30.21±7.49 years. Subjects were predominantly women (60%). Sixty two percent of the subjects were married, majority (78%) belonged to Hindu religion. The largest proportion (85%) of participants belonged to nuclear family. More than half of the subjects (64%) were residing in rural area. Half of the sample was employed. Mean monthly income of the sample was Rs. 6120±4077.80. Eleven per cent of the sample had a history of suicidal attempts. A quarter (25%) of the population suffered with at least one previous episode of depression. Mean duration of present illness was 11.88±8.45 months. Mean depressive scores of the subjects was 29.58±11.71 indicating moderate to severe level of depression, nearly half of the sample (48%) was suffering with severe depressive symptoms. The mean functional impairment was 30.33±8.88 suggestive of major functional impairment. The mean QOL scores were 64.83±12.06.

[a]Severity of depression level is determined by Beck Depression Inventory II (BDI II) scale cutoff points according to Beck *et al*.[13] as follows: zero to 13=minimal depression; 14–19=mild; 20–28=moderate; 29–63=severe depression.

[b]Level of functional impairment is determined by Work and Social Adjustment Scale (WSAS). WSAS score >20 suggests at least moderately severe functional impairment. Scores between ten and 20 indicate measurable functional impairment but less severe clinical symptomatology.[15]

Table 1. Demographic and clinical characteristics of the study population (total n=100)

Characteristics	Nos./ Mean±SD/n
Age in years	30.21±7.49
Women	60
Marital status	
- Single/Separated/Widow	38
- Married	62
Religion	
- Hindu	78
- Muslim	22
Type of family	
- Nuclear	85
- Joint	15
Area of residence	
- Urban	36
- Rural	64
Occupation	
- Employed	50
- Unemployed	50
Monthly income in rupees	6 120.00±4
Suicidal attempts	077.80
- Yes	
- No	11
Previous depressive episodes	89
- Yes	
- No	25
Duration of present illness in months	75
Depressive scores	11.88±8.45
Level of depression[a]	29.58±11.71
- Minimum to mild	
- Moderate	23
- Severe	29
Functional impairment score	48
Level of functional impairment[b]	30.33±8.88
- Major functional impairment	
- Significant functional impairment	80
Quality of life score	20
	64.83±12.06

SD=standard deviation.

Impact of demographic factors on functional impairment and QOL among depressive patients

Table 2 describes impact of demographic factors on depression, functional impairment and QOL scores. Twenty to 30 years age group subjects have significantly higher depressive scores and lower QOL scores compared to 31-40 years age group depressive subjects ($p<0.05$). Subjects residing in rural area had significantly higher depressive scores compared to subjects residing in urban area ($p<0.05$). Subjects with no previous history of depressive episode have significantly lower depressive scores than who had previous depressive episode ($p<0.001$). Results showed no statistically significant differences in mean outcome measures among sex, categories of marital status, religion, occupation, history of suicidal attempts and type of family measures.

Impact of depressive symptom severity on QOL and functional impairment

There were statistically significant differences in mean QOL scores between all of the various groups of depression severity (Table 3). The mean QOL score for patients in minimum to mild depression was 77.26 (SD=67.62) as compared to 57.19 (SD=11.06) in moderate and 9.64 (SD=7.32) in severe depression. QOL scores decreased as severity of depression increased. There were statistically significant differences in mean functional impairment scores between all of the various groups of depression severity. The mean functional impairment scores for patients in minimum to mild depression was 26.30 (SD=9.33) as compared to 27.45 (SD=8.55) in moderate depression and 34.00 (SD=7.40) in

Table 2. Impact of demographic factors on depression, functional impairment and quality of life scores among depressive patients (total n=100)

Characteristic	Depression scores			Functional impairment scores			Quality of life scores		
	Mean±*SD*	*t*	*p*	Mean±*SD*	*t*	*p*	Mean±*SD*	*t*	*p*
Age 20 - 30 (51) 31 - 40 (49)	31.86±10.99 27.20±12.07	2.02	.046*	31.25±8.93 29.37±8.81	1.06	.290	62.04±11.41 67.73±12.14	-2.42	.017*
Gender Males (40) Females (60)	28.60±9.95 30.23±12.79	-.716	.476	30.35±8.62 30.32±9.12	.018	.985	64.08±11.70 65.33±12.37	-.509	.612
Marital status Single/Separated/ Widow (38) Married (62)	28.35±9.15 30.48±13.02	-.954	.343	29.78±8.90 30.79±8.92	-.544	.588	65.38±12.59 64.34±11.84	.413	.681
Religion Hindu (78) Muslim (22)	29.99±11.76 28.14±11.67	.653	.515	29.71±9.41 32.55±6.31	-1.655	.104	64.85±12.43 64.77±10.91	.025	.980
Type of family Nuclear (85) Joint (15)	29.95±11.78 27.47±11.44	.757	.451	30.00±9.04 32.20±7.90	-.884	.379	64.75±11.54 65.27±15.14	-.151	.880
Area of residence Urban (36) Rural (64)	26.50±12.22 31.31±11.14	-2.00	.048*	30.54±8.90 30.20±8.92	.190	.850	67.00±13.34 63.61±11.20	1.355	.178
Occupation Employed (50) Unemployed (50)	28.48±11.86 30.68±11.57	.939	.350	29.12±9.05 31.54±8.62	1.369	.174	65.72±11.76 63.94±12.40	-.736	.463
Suicidal attempts - Yes (11) - No (89)	35.80±11.80 29.30±11.50	-1.79	.077	34.36±7.00 29.83±8.99	-1.61	.110	59.70±9.13 65.50±12.30	1.50	.138
Previous depressive episodes - Yes (25) - No (75)	36.84±10.99 27.69±10.96	-3.61	.001**	33.00±7.40 29.44±9.19	-1.76	.082	62.92±11.58 65.47±12.22	.914	.363

SD=standard deviation.
*Significant at 0.05 level, **Significant at 0.001 level.

severe depression. Functional impairment scores increased as severity of depression increased.

The relationship between depression, functional impairment and QOL in depressive disorder patients

Pearson's correlation was calculated to examine the relationships between the depressive scores, functional impairment scores and QOL scores (Table 4). The depressive scores and functional impairment scores were positively correlated (r=.417), indicating that as the depressive scores increased functional impairment scores also increased. QOL scores were negatively correlated with depressive scores and functional impairment scores (r=-.688 and -.528), indicating that as severity of depression increased QOL decreased; and also as the functional impairment increased QOL decreased.

Discussion

The present study carried out among 100 treatment seeking depressive patients in psychiatric outpatient department. Subjects were assessed by using BDI II, WSAS and QOL scales. In general, the patients were moderately depressed and had major functional impairment and poor QOL scores. QOL is significantly impaired in severely depressed patients. Depression is negatively correlated with QOL and positively correlated with functional impairment. The present study indicates that depressive patients experience a poorer QOL and major functional impairment.

Goldney *et al*.,[17] studying a large sample of the Australian population, found that all the dimensions of QOL, as measured by the 36-item Medical Outcome Short-Form Health Survey (SF-36), were poorer among patients with depression with respect to the non-depressed general population, with the poorest level reached by patients with major depression. Data indicating that the severity of

Table 3. Relationship between level of depression with functional impairment and quality of life among depressive patients (total n=100)

Variable	Level of depression						F	'p'
	Min-Mild (n=23)		Moderate (n=29)		Severe (n=48)			
	Mean	SD	Mean	SD	Mean	SD		
Quality of life	77.26	67.62	57.19	11.06	9.64	7.32	40.86	.001
Functional impairment	26.30	9.33	27.45	8.55	34.00	7.40	9.35	.001

SD=standard deviation.

Table 4. Correlation between depression, quality of life, and functional impairment among depressive patients (total n=100)

Variables	Depression	Functional impairment	Quality of life
Depression	1		
Functional impairment	.417*	1	
Quality of life	-.688*	-.528*	1

*Correlation is significant at the .001 level (2-tailed).

depression was significant in negatively influencing QOL of patients has been confirmed by Trompenaars *et al*.,[18] who showed lower levels of QOL among patients with major depression with respect to those with dysthymia and adjustment disorders.

The present study findings are consistent with other studies showing significant impairment of QOL in MDD patients such as STAR*D trial,[10] the European Factors Influencing Depression Endpoints Research (FINDER) study[19] and another International six country study.[20] The literature investigating potential sex differences in MDD are quite extensive, but the literature investigating differences in QOL is sparse.[21] In the present study no differences in the measurement of QOL or functional impairment are based on sex.

Limitations

There are several limitations in this study. First, the sample size is small. In addition, QOL and functional impairment measures were self-reported. This study did not include a control group, for example a group of general population to compare QOL and functional impairment. This study observed that patients had poor QOL and severe functional impairment; a long observation period might be needed to assess whether these patients may reach to general population norms after treatment with antidepressants. Finally, this study used a sample of convenience of individuals who had consented to participate in the study. However, in spite of these limitations, the main results seem to be clear and relevant.

Conclusion

Patients who are suffering with severe depression will have poor QOL and severe functional impairment. However, replication of the findings of this study in larger and cross-cultural samples is required. The results suggested the need to consider not only symptom severity, but also functional impairment and QOL measures in the assessment and treatment of depressive patients.

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