

## Research Article

# Relationship of Depression, Disability and Quality of Life in Depressive Patients-A Case Control Study

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Received: March 18, 2015; Accepted: May 15, 2015;

Published: May 18, 2015

## Abstract

**Aim:** To assess quality of life, disability and burden on spouse of depressed patients.

**Methods:** The sample size taken for the study is 151 married patients of the depression and similar number of healthy controls. Case group include first two patients registered on specific days aged 18-60 of each week in the adult general psychiatric OPD, King George's Medical University (K.G.M.U.), Lucknow and for the controls a geographically urban and rural area were identified with the help of NGO (samajdarshan) Lucknow who had close liasoning with the people of the community. The diagnosis was made using DSM-IV-TR criteria. Assessment of quality of life was done by WHO Quality Of Life Scale (WHOQOL), disability with WHO disability assessment schedule (WHODAS) and burden of care with burden assessment schedule (BAS).

**Results:** In the enrolled cases, 72 (47.68%) patients were male and 79 (52.31%) were female. Among the controls 70 (46.35%) were male and 81 (53.64%) were female. The mean age of cases and controls was 35.93±9.1 and 35.1±9.2 respectively. Depression was analyzed with Hamilton depression scale -21 in the cases and the mean HAM-D-21 score was 17.79±6.10. The domains of QOL was also significantly ( $P<0.0001$ ) different between cases and controls, representing poor physical health, psychological condition, social relations and poor environmental condition of depressed patients. As per WHO Disability assessment schedule disability was assessed in both cases and controls significantly ( $P<0.0001$ ) higher disability was observed in depressed patients group. The range is from 12-60. In addition to scales burden on the spouse of depressed patients was assessed and the mean of burden assessment schedule observed was 39.29±4.24.

**Conclusion:** The findings of this study suggest that quality of life deteriorated in patients of depression than controls. There was more disability found in case group than control and significant burden was also seen in spouses of patients of depression.

**Keywords:** Depression; Disability; Quality of life; Relation; India

## Introduction

Depression is recognized as one of the major health threats in the 21<sup>st</sup> century. Research suggests that unipolar depression is the most prevalent of all mental disorder. Depression is not only a common, often chronic and recurrent disorder, but it is cardinal associated with significant impairment in work and daily social and psychological well-being [1]. Major depressive disorder (MDD) is the fourth leading cause of disability worldwide [2] and is predicted to become the second leading cause by the year 2020 [3]. The Medical Outcomes Study [4] found that depressed individuals have comparable or worse physical, psychosocial, and role functioning than those who have chronic medical conditions. Similarly, the World Health Organization (WHO) Collaborative Study on Psychological Problems in General Health Care [5] reported increased functional disability, even after controlling for physical disease severity among patients with depression. Furthermore, the longer a patient remains symptomatic, the lower the chances of a complete recovery, [6] and thus greater dysfunction.

Quality of life is defined by the World Health Organization Quality of Life (WHOQOL) Group as individuals' perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. This definition reflects the view that quality of life refers to a subjective evaluation that is embedded in a cultural, social and environmental context. The Quality of Life in depression scale is a disease specific patient-reported outcome which assesses the impact that depression has on a patient's quality of life. Health-related quality of life (HRQOL) in depression involves at least 3 specific domains of health—physical, psychological, and social—and each can be measured by either objective assessment or subjective perception. Furthermore, there are many components within each domain (eg, symptoms, ability to function, and disability). Whereas disease-specific instruments focus on the domains most relevant to the disease or condition under study, both generic and disease-specific instruments of HRQOL have often been used in general populations to assess a wide range of domains applicable to health states, conditions, and diseases [7,8].

PATIENTS GROUP		SPOUSE GROUP		CONTROL GROUP	
INCLUSION CRITERIA	EXCLUSION CRITERIA	INCLUSION CRITERIA	EXCLUSION CRITERIA	INCLUSION CRITERIA	EXCLUSION CRITERIA
Married patients of age between 18 to 60 years.	Presence of any other co-morbid psychiatric illness.	Married persons should be between 18 to 60 years.	Presence of any psychiatric illness (GHQ<13).	Married persons should age between 18 to 60 years.	Presence of significant medical and surgical illness.
Should fulfill the criteria of Diagnostics of Statistical Manual for Mental disorders (DSM IV TR criteria) of major depressive disorder (MDD) (mild, moderate and severe without psychotic features)	Presence of Substance dependence except Nicotine.	Living with patient for at least a period of 1 year and available for assessment.	Presence of Substance dependence except Nicotine	Informed consent of the control and his/her spouse.	
Drug naive patients for the current episode.	Presence of significant medical or surgical illness.	Should be co-operative.	Presence of significant medical or surgical illness.	Spouse living with control for at least a period of 1 year and available for assessment.	Presence of Psychiatric illness (G.H.Q <13) like scoring
Informed consent by the patient.	Presence of Psychotic symptoms or the patients of MDD in partial or full remission.	Informed consent		Should have minimum education qualification up to class 8 or equivalent.	Immediate Family member of controls suffering from significant psychiatric and/or medical illness
Should be co-operative.	Immediate family member staying with patient having significant medical psychiatric and surgical illness.	Should have minimum education qualification up to class 8 or equivalent.			
Should have minimum education qualification up to class 8 or equivalent.					

Figure 1: Inclusion and exclusion criteria.

Studies comparing and contrasting the relative quality of-life dysfunction for major depressive disorder and anxiety disorders have yielded equivocal findings. Several studies report greater impairment in quality of life for major depressive disorder [9], whereas others report comparable deficits in quality of life for anxiety disorders and major depressive disorder [10]. The proposed study included the quality of life, disability and burden on spouse of depressed patients, the concerning domains of quality of life and its relation with severity of depression. There is extensive review on the family related variables but as cultural difference plays an important role we have thought to throw light on the Indian scenario comparing it with the healthy control.

The extensive and in-depth study will help in the treatment of the patient and formulating psychosocial management programs suitable for the Indian set up. It would also help in directing clinical intervention. Therefore, researches in these fields are required.

## Material and Methods

### Sample

The sample size taken for the study are 151 married patients of the depression and similar number of healthy controls meeting the inclusion exclusion criteria as shown in Figure 1. The procedure used in this study is shown in Figure 2.

**Cases:** For case group first two patients registered on specific days aged 18-60 of each week in the adult general psychiatric OPD, King George's Medical University (K.G.M.U.), fulfilling the selection criteria was included in this study.

**Controls:** For the controls urban and rural area were identified

with the help of NGO (samajdarshan) Lucknow who works on the areas of education, sanity, women empowerment etc as they had close liaising with residents there. The NGO had detailed demographic details of the residents. One to one matching was done for age, sex and domicile.

Informed consent was taken from both cases and controls.

### Tools used

**Hamilton depression scale:** To assess the symptoms of depression and severity of depression [11] (HAM-D-24) - The Hamilton Psychiatric rating scale is most widely used depression scale. It is a 24 item scale each item is rated in either 3 or 5 rating steps. Rating is based on clinical interview and observation made by the clinician.

**W.H.O. quality of life scale:** It is to measure the quality of life of the plan individual. The WHOQOL - BREF an abbreviated 26 item version of the WHOQOL-100 was developed using data from the field trial version of the WHOQOL-100. The items are distributed into 4 domains (physical, psychological, social and environmental health) and 25 facets. The WHOQOL instrument can be used in particular cultural settings, but the same time results are comparable across cultures. WHOQOL-BREF has shown to display good discriminant validity, content validity and test retest validity [12].

**The burden assessment schedule (B.A.S.)** [13]: The instrument is based on extensive ethnographic with affected families in an effort to gauge the meaning of giving care to a chronic psychotic person. The items are distributed into factorial configuration. (1) Impact on well being (2) marital relationship (3) Appreciation for caring (4) Impact on relation with others (5) Perceived severity of diseases.

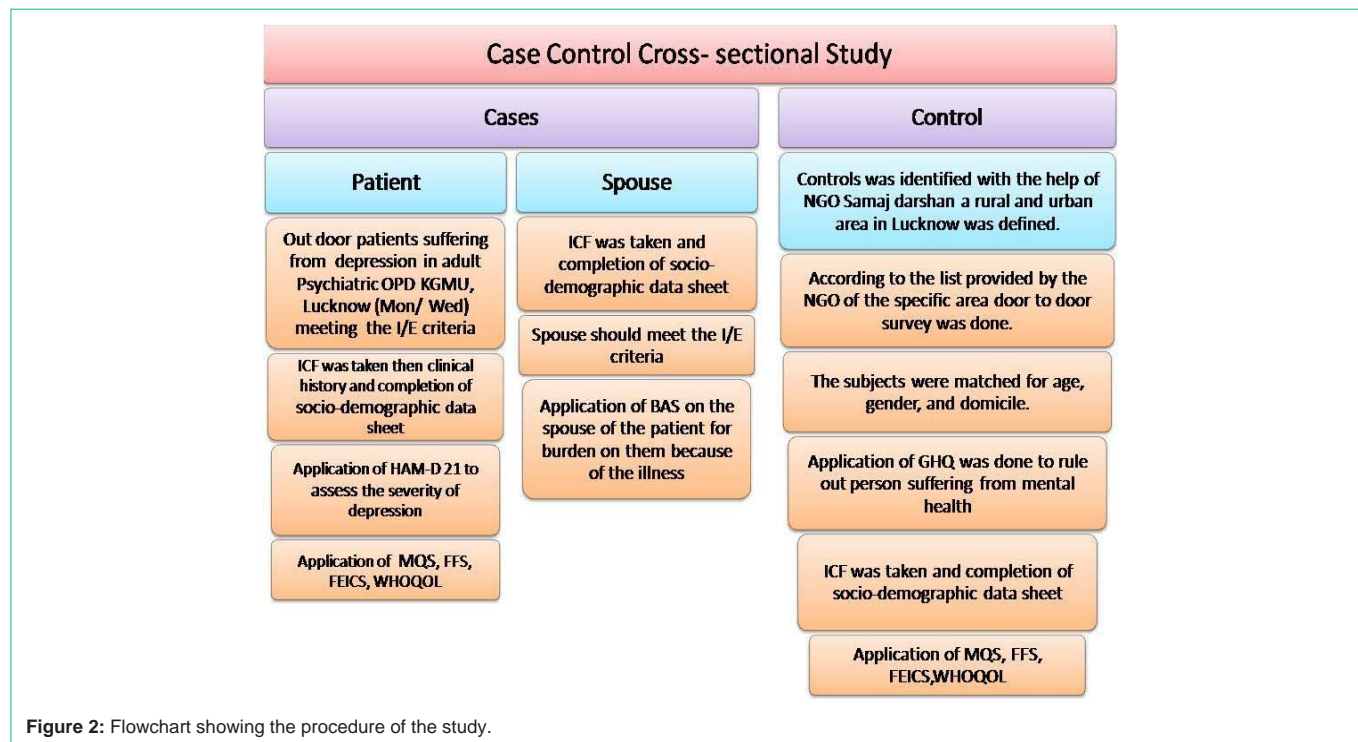


Figure 2: Flowchart showing the procedure of the study.

**W.H.O. disability assessment schedule [14]:** A series of systematic field studies was studied to determine the schedules cross cultural applicability reliability and validity as well as utility of health service research. WHODAS 2.0 of is a practical generic assessment instrument that can measure health and disability at population level or in clinical practice. WHO captures the level of functioning in six domains of life? 1-cognition-understanding and communicating. 2-Mobility - moving and getting around. 3-Self care-attending to ones hygiene, dressing, eating and staying at home. 4-Getting along - interaction with others. 5-Life activities - domestic responsibilities, leisure, work and school. 6-Participation - joining in community activities, participating in society. It provides a common metric of impact of health condition in terms of functioning. The range is from 12-60.

**Standardization of tools**

Three translators who were well versed in English and Hindi translated the original version into Hindi independently. They discussed and compared their versions and drafted a final version by consensus. This version was tested on 20 literate and 20 illiterate people from the community for simplicity, clarity, understanding and precision. Changes were made accordingly. Two bilingual experts translated back the Hindi version into English to establish meaning equivalence. The primary translators and the back translators discussed questionnaire item by item to ensure that the translations were approximate as closely as possible.

**Procedure**

The assessment was completed on the same day or after appointment on a mutually convenient day. Information regarding details of identification data, demographic details, history of present and past illness was recorded on a semi structured Performa.

The diagnosis was made by consensus between the investigator

and the chief supervisor or the co-supervisor. The diagnosis was made using DSM-IV-TR criteria. Assessment of functioning and expressed emotions of family of depressed patients was done by applying WHODAS, WHOQOL and BAS on spouse of depressed patients. For the control group a geographically defined area was identified, door to door survey was done. Control group was matched on age. Sex, educational and family income and those fulfilling the inclusion, exclusion criteria formed the sample of the study.

**Data management and analysis**

Data were expressed as proportion, % or mean + SD as appropriate. The test on the proportions between groups was performed using Chi-square test or Fisher’s exact test. For comparison between groups, Student unpaired t test and One-Way analysis of variance (ANOVA) was performed. Correlation analysis was performed using Pearson correlation test. P value less than 0.05 is considered as statistically significant.

**Results**

In the enrolled cases, 72 (47.68%) patients were male and 79 (52.31%) were female. Among the controls 70 (46.35%) were male and 81 (53.64%) were female. The mean age of cases and controls was 35.93±9.1 and 35.1±9.2 respectively.

Further cases and controls were compared in terms of education, number of married years, occupation, patient’s income, and family income, number of family members, domicile and type of family. It was found that there was no significant difference between cases and controls in the above mentioned parameters.

Depression was analyzed with Hamilton depression scale -21 in the cases and the mean HAM-D-21 score was 17.79±6.10. The range of score is from 0-84. The domains of QOL was also significantly (P<0.0001) different between cases and controls, representing poor

**Table 1:** Socio-demographic Characteristics of Case and Control.

	Cases (n=151)		Control (n=151)		$\chi^2/t$	d.f.	p-value
	No.	%	No.	%			
<b>Age in years</b>	35.93±9.18		35.12±9.28		0.76	300	0.44
<b>Gender</b>							
Male	72	47.7	72	47.7	0.99	300	1.00
Female	79	52.3	79	52.3			
<b>Education</b>							
Schooling (Middle /High /Intermediate)	81	53.6	84	55.6	0.12	1	0.72
College (UG/PG /Professional)	70	46.4	67	44.4			
<b>Occupation</b>							
Unemployed	50	33.1	48	31.8	2.36	6	0.88
Unskilled	20	13.2	20	13.2			
Semiskilled	8	5.3	14	9.3			
Skilled worker	38	25.2	37	24.5			
Clerk, farm owner, shop keeper	26	17.2	26	17.2			
Semi professional	7	4.6	5	3.3			
Professional	2	1.3	1	0.7			
<b>Religion</b>							
Hindu	133	88.1	135	89.4	1.06	2	0.59
Muslim	17	11.3	16	10.6			
Sikh	1	0.7	0	0.0			
<b>Type of family</b>							
Joint	73	48.3	84	55.6	1.60	1	0.20
Nuclear	78	51.7	60	44.4			
<b>Number of family members</b>							
Upto 5	66	43.7	59	39.1	0.67	1	0.41
Above 5	85	56.3	92	60.9			
Patient's income (in Rs.)	7017.8±9114.1		8035.09±10708.84		0.89	300	0.37
Family income (in Rs.)	12404.6±10898.41		11549.00±10634.33		0.69	300	0.49
<b>Family income categoral (in Rs.)</b>							
Less than 1520	4	2.6	4	2.6	5.11	6	0.53
1521-4555	31	20.5	38	25.2			
4556-7593	27	17.9	37	24.5			
7594-11361	30	19.9	25	16.6			
11362-15187	22	14.6	16	10.6			
15188-30374	21	13.9	14	9.3			
More than 30375	16	10.6	17	11.3			
<b>Domicile</b>							
Rural	73	48.3	80	53.0	0.65	1	0.42
Urban	78	51.7	71	47.0			
<b>Social economic status</b>							
Upper	9	6.0	1	0.7	8.34	4	0.08
Upper middle	47	31.1	44	29.1			
Lower middle	48	31.8	46	30.5			
Upper lower	35	23.2	47	31.1			
Lower	12	7.9	13	8.6			
<b>Years of Marriage</b>	14.6±10.4		15.6±10.6		0.82	300	0.41

physical health, psychological condition, social relations and poor environmental condition of depressed patients (Table 1). The range is 26-130.

## WHODAS (World Health Organization Disability Assessment Schedule)

As per WHO Disability assessment schedule disability was assessed in cases the mean score 32.38±73.3 (Table 2&3). The range is from 12-60. Thereby the patients of depression face moderate disability (24- mild, 36- moderate, 48-severe, 60-v.severe).

In addition to scales burden on the spouse of depressed patients was assessed and the mean of burden assessment schedule observed was 39.29±4.24. The range of score is from 20-60 (Table 4).

## Discussion

Depression is a mental disorder characterized by depressed, low, or "blue" mood that lasts more than a few days. Depressed people often lose interest in activities they formerly found pleasant, feel hopeless and sad, and suffer from low self-esteem.



**Table 2:** Quality of life and their domains.

QOL (QUALITY OF LIFE) & Their domains)	Mean $\pm$ SD in cases group	Mean &SD in Normal healthy control	p-value	95 % CI
TOTAL QOL	68.33 $\pm$ 13.51	101.4 $\pm$ 12.11	< 0.0001*	-36.05 to -30.23
PHYSICAL HEALTH	18.11 $\pm$ 5.58	28.14 $\pm$ 3.09	< 0.0001*	-11.09 to -9.03
PSYCHOLOGICAL	15.69 $\pm$ 3.9	24.21 $\pm$ 3.9	< 0.0001*	-9.51 to -7.76
SOCIAL RELATIONSHIP	8.5 $\pm$ 2.57	12.94 $\pm$ 2.35	< 0.0001*	-4.98 to 3.87
ENVIRONMENT	21.94 $\pm$ 4.6	28.19 $\pm$ 4.8	< 0.0001*	-7.31 to -5.18

Values are given as mean  $\pm$  SD. Differences were tested by the Student t test for mean  $\pm$  SD. (\*, p value <0.05 considered statistically significant; SD, Standard Deviation).

**Table 3:** WHODAS.

WHODAS & Their domains	Mean & SD in cases group	Range of scale	Subjective range
WHODAS TOTAL	32.38 $\pm$ 73.3	12-60	13-42

Values are given as mean  $\pm$  SD. Differences were tested by the Student t test for mean  $\pm$  SD. (\*, p value <0.05 considered statistically significant; SD, Standard Deviation).

**Table 4:** Burden assessment schedule and its domains.

BAS components	Mean $\pm$ SD
Appreciation for caring	7.17 $\pm$ 1.42
Impact on relation with others	8.13 $\pm$ 1.59
Marital relationship	7.94 $\pm$ 1.42
Impact on well being	7.62 $\pm$ 1.66
Perceived severity of depression	7.40 $\pm$ 1.94
Total	38.25 $\pm$ 4.27

The term quality of life (QoL) is used by various segments of society. It covers subjective and objective aspects and denotes the need for humans to seek internal and external equilibrium. According to the World Health Organization (WHO), QoL is the "individual's perception of their position in life, in the context of the culture and value systems in which they live in relation to their goals, expectations, standards and concerns. The domains of QOL were also significantly different between cases and controls, representing poor physical health, psychological condition, social relations and poor environmental condition of depressed patients. Angermeyer MC et al. Had been reported based on the objective assessment of quality of life, namely that depression implies a persisting impairment of social functioning and living conditions, can be replicated to some extent from the point of view of the patients themselves [15]. Similarly Lehman reported females found to have lower QOL than males [16]. In addition Jho [17] discovered a negative relationship between depression and QOL in a Korean study. Health problems interfered negatively in all domains of QoL [18].

Information on disability is an important component of health information, as it shows how well an individual is able to function in general areas of life. Depression plays an important role in determining the disability and quality of life. As per WHO Disability assessment schedule disability was assessed in both cases and controls significantly (P<0.0001) higher disability was observed in depressed patients group.

The depressed spouse will experience less happiness, satisfaction and contentment in the marriage. At the same time, the partner will struggle with handling the increased isolation and social withdrawal of the depressed spouse, the loss of emotional intimacy (and often sexual intimacy as well), and the prevalent negativity in the

relationship. When one spouse is depressed, the depression colors everything in the relationship. The depressed spouse sees the world through a darkened lens that limits his or her perspective. Any negative events are interpreted even more negatively; neutral events are also interpreted negatively, and the positive happenings are often overlooked. The depressed spouse often loses interest in activities that used to bring pleasure and may experience fatigue and listlessness. In addition to scales burden on the spouse of depressed patients was assessed and the mean of burden assessment schedule observed was 39.29 $\pm$ 4.24. Lessening the burden of spouses of depression may help the improvement of depressed patients [19]. In general, the spouses living with depressed patients encounter enormous emotional burden when their spouses suffer from depression. Some research has shown the quality of life for the family members and caregivers was influenced by mental disorders such as depression and schizophrenia [19] and the quality of life for the partner could play a significant role in the prognosis of depression [19]. Considerable research has demonstrated there was strong association between depression and marital relationship. When one family member suffers from depression, the quality of life for the spouses was influenced. Our results showed the quality of life and social support for the spouses of depressed patients were poorer than the married community controls, consistent with previous study in mood disorders [20]. Obviously, when one family member suffered from depression, the spouse of depressed patients needed to take care of the patient and bear more emotional and economic burden, less social support especially from the family. Additionally, women reported better quality of life than men [21] which suggests when wife in the family suffered from depression; their husbands were exposed to higher burden and showed lower quality of life. One possible explanation could be women tend to seek more support and more social networks.

The study is important as we can clearly predict which variable of quality of life is an important predictor of depression and thereby when we formulate programs to help patients of depression the study finding can play an important role.

## Limitations of the Study

Rural and urban matching was difficult in a larger sample would give better understanding about all the psychological aspects involved in the study.

## Ethical Approval

The King George's Medical University ethics committee specifically approved this study, via the university ethics committee wide letter no-4070/R-Cell-12. Ref. code: 60<sup>th</sup> E.C.M.II B/P1.

## References

1. Kessler RC, Berglund P, Demler O, Jin R, Koretz D, Merikangas KR, et al. The epidemiology of major depressive disorder: results from the National Comorbidity Survey Replication (NCS-R). *JAMA*. 2003; 289: 3095-3105.
2. Ustün TB, Ayuso-Mateos JL, Chatterji S, Mathers C, Murray CJ. Global burden of depressive disorders in the year 2000. *Br J Psychiatry*. 2004; 184: 386-392.
3. Murray CJL, Lopez AD. The global burden of disease. Boston, MA: Harvard University Press; 1996.
4. Wells KB, Stewart A, Hays RD, Burnam MA, Rogers W, Daniels M, et al. The functioning and well-being of depressed patients. Results from the Medical Outcomes Study. *JAMA*. 1989; 262: 914-919.
5. Ormel J, VonKorff M, Ustun TB, et al. Common mental disorders and disability across cultures. Results from the WHO Collaborative Study on Psychological Problems in General Health Care. *JAMA* 1994; 272: 1741-1748.
6. Keller MB, Lavori PW, Mueller TI, Endicott J, Coryell W, Hirschfeld RM, et al. Time to recovery, chronicity, and levels of psychopathology in major depression. A 5-year prospective follow-up of 431 subjects. *Arch Gen Psychiatry*. 1992; 49: 809-816.
7. Bergner M, Bobbitt RA, Carter WB, et al. The Sickness Impact Profile: development and final revision of a health-status measure. *Med Care* 1981; 19: 787-805.
8. Ware JE Jr, Sherbourne CD. The MOS 36-item short-form health survey (SF-36). I. Conceptual framework and item selection. *Med Care*. 1992; 30: 473-483.
9. Sherbourne CD, Wells KB, Judd LL. Functioning and well-being of patients with panic disorder. *Am J Psychiatry*. 1996; 153: 213-218.
10. Candilis PJ, McLean RY, Otto MW, Manfro GG, Worthington JJ, Penava SJ, et al. Quality of life in patients with panic disorder. *J Nerv Ment Dis*. 1999; 187: 429-434.
11. HAMILTON M. A rating scale for depression. *J Neurol Neurosurg Psychiatry*. 1960; 23: 56-62.
12. Saxena S, Chandiramani K, Bhargava R. WHOQOL-Hindi: a questionnaire for assessing quality of life in health care settings in India. *World Health Organization Quality of Life. Natl Med J India*. 1998; 11: 160-165.
13. Sell H, Tara R, Padmavathi R, Kumar S. Series, 27, WHO-ROSA, New Delhi: 1998. Burden Assessment Scale.
14. II, WHODAS. "Disability Assessment Schedule." (2000).
15. Angermeyer MC, Holzinger A, Matschinger H, Stengler-Wenzke K. Depression and quality of life: results of a follow-up study. *Int J Soc Psychiatry*. 2002; 48: 189-199.
16. Marianne Goodman, MD, Thomas E, Smith MD. Measuring Quality of Life in Schizophrenia. *Medscape Psychiatry & Mental Health e Journal*. 1997; 2: 267-274.
17. Jho MY. Study on the correlation between depression and quality of life for Korean women. *Nurs Health Sci*. 2001; 3: 131-137.
18. Rios KA, Barbosa DA, Belasco AG. Evaluation of quality of life and depression in nursing technicians and nursing assistants. *Rev Lat Am Enfermagem*. 2010; 18: 413-420.
19. Lua PL, Bakar ZA. Health-related quality of life profiles among family caregivers of patients with schizophrenia. *Fam Community Health*. 2011; 34: 331-339.
20. Heru AM, Ryan CE, Vlastos K. Quality of life and family functioning in caregivers of relatives with mood disorders. *Psychiatr Rehabil J*. 2004; 28: 67-71.
21. Pinquart M, Sörensen S. Gender differences in caregiver stressors, social resources, and health: an updated meta-analysis. *J Gerontol B Psychol Sci Soc Sci*. 2006; 61: P33-45.