

## ORIGINAL PAPER

## Health-Related Quality of Life of Patients with Chronic Depression in Malaysia

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### Abstract

**Objective:** To evaluate the health-related quality of life (HRQOL) of patients with chronic depression. **Methods:** The study involved patients with chronic depression being followed-up at an outpatient clinic at a local hospital in Malaysia. HRQOL was assessed using the Sheehan Disability Scale (SDS); while symptom severity was assessed using the Montgomery-Asberg Depression Rating Scale (MADRS). **Results:** 104 patients of Malay, Chinese and Indian ethnic groups met the selection criteria. Mean total SDS and MADRS scores was  $9.36 \pm 7.92$  and  $13.99 \pm 11.58$  respectively. There were no significant differences of HRQOL scores between the different ethnicities and between males and females. Symptom severity significantly influenced total and component HRQOL scores. **Conclusions:** The HRQOL of patients with chronic depression was found to be significantly influenced by symptom severity. Data obtained in this study can be used in the design and implementation of therapeutic and preventive interventions.

**Keywords:** Health-Related Quality of Life, Chronic Depression, Predictors

### Introduction

Traditional outcome measures such as symptom reduction, while important, seem to exaggerate therapeutic goals; while other equally important outcomes such as patients' needs and concerns, which include material living conditions, negative physical, psychological and social side effects; have been relegated to the background or completely ignored. Health-related quality of life (HRQOL) has been viewed as the

patient's perspective on what they have (such as access to resources and opportunities), how they are doing and how they feel about their life circumstances<sup>1</sup>. Hence HRQOL research introduces a more humanitarian approach and offers a more comprehensive evaluation as to how the patient is actually responding to the drugs, as well as the impact of the disease<sup>2-6</sup>. This approach then helps improve the quality of care provided to these patients<sup>7</sup>.

Patients with depression are associated with a high level of functional disability, increased disability days, and amplified utilization of outpatient medical services<sup>3,4,6,8-19</sup>. Thus far, the majority of studies on the HRQOL of patients with depression have focused on Western populations<sup>20</sup>. However given that differences in economic status, ethnicity, culture and the social psychology of patients could influence their HRQOL, it would seem that these findings would have limited generalizability to the Asian population. In Malaysia, not many trials have sought to investigate the effect of depression on HRQOL. To our knowledge, only one such study was conducted 10 years ago among patients with schizophrenia, bipolar and depressive disorders in remission<sup>21</sup>. There has been no study so far that focused on chronic patients with unipolar depression. Thus the aim of this study was to obtain and present data regarding the HRQOL of patients with chronic unipolar depression in Malaysia.

## Methods

This study is part of the Pharmacy-Managed Adherence Program (PAPD) study, a 6-month randomized prospective study designed to investigate the effect of the program on adherence levels. The study involved patients with chronic depression being followed-up at the outpatient clinic of the psychiatric department of a hospital in Malaysia. Results reported here represent baseline data from the study.

All patients who were diagnosed with major depressive disorder (MDD) according to the DSM-IV or ICD-10, regardless of severity, and who had been on antidepressants for a minimum of 6 months were included in the study. A sample size of 160 was required, calculated using the formula suggested by

Dawson and Trap<sup>22</sup>. The following patients were excluded from the study: patients with a comorbid diagnosis of schizophrenia or bipolar disorder during the study period; patients less than 18 years of age; patients who were pregnant or breast-feeding; patients with current suicidal ideation or with a terminal illness; patients with dementia, cognitive disabilities, mental retardation, Alzheimer's or Parkinson's; patients who did not understand, speak or read English or Bahasa Malaysia (BM); and patients who were unable to complete the self-administered questionnaire with minimal assistance from the psychiatric staff.

Patients who agreed to participate and who signed informed consent forms were asked to complete the Sheehan Disability Scale (SDS) which was used to measure patient's HRQOL. Patients rated the extent to which the 3 domains, namely 'Work', 'Family' and 'Social' were impaired by his/her symptoms on a 10-point visual analogue scale, which ranged from 'Not at all (0)' through 'Mildly (1-3)', 'Moderately (4-6)' and 'Markedly (7-9)' to 'Extremely (10)'. The 3 items were summed into a single dimensional measure of global functional impairment from 0 to 30, where 0 indicated the patient was unimpaired and had good HRQOL; and 30 indicated the patient was highly impaired or had poorest HRQOL<sup>23</sup>. Symptom severity was assessed using the Montgomery-Asberg Depression Rating Scale (MADRS). Demographic data as well as medical and psychiatric history was also obtained. This study was approved by the Medical Research Ethics Committee of the Ministry of Health, Malaysia.

In analysing the differences between gender and ethnicities, independent t-test or its corresponding Mann Whitney test was used to analyse continuous data, while the Chi-

squared goodness-of-fit test was used for categorical data. Multiple linear regression was employed to examine predictors of HRQOL. Variance Inflation Factor (VIF) values were inspected for the possibility of multicollinearity, with results higher than 10 being considered as indicative of this problem; and independent variables found to be significant predictors were checked for interactions. The a priori level of significance was 0.05, and all analyses were performed using the SPSS 18.0 statistical software.

## Results

104 patients, who fulfilled the inclusion

criteria, participated in the study. The majority were female, married, of Malay ethnicity; and were between 40-49 years of age (29.8%). Most patients had been receiving psychiatric care for a period of 10 years or more (17.3%). The maximum amount of time that a patient had been in psychiatric care was approximately 21 years, while the minimum amount of time was 7 months (3 patients). Mean total MADRS score was  $13.99 \pm 11.58$ . Of the total unemployed patients, 75.5% were women. All patients were on only one antidepressant except for two patients who were on two antidepressants. All patients were on once daily dosing [Table 1].

**Table 1.** Demographic characteristics of study participants

Characteristics	Number (%) of patients*			
	Malay (n=44)	Chinese (n=26)	Indian (n=34)	Total (n=104)
Gender				
Male	18 (17.3)	8 (7.7)	12 (11.5)	38 (36.5)
Female	26 (25.0)	18 (17.3)	22 (21.2)	66 (63.5)
Marital status				
Single	9 (8.7)	4 (3.8)	8 (7.7)	21 (20.2)
Married	31 (29.8)	22 (21.2)	21 (20.2)	74 (71.2)
Divorced	4 (3.8)	0 (0.0)	1 (1.0)	5 (4.8)
Widowed	0 (0.0)	0 (0.0)	4 (3.8)	4 (3.8)
Education				
Primary	6 (5.8)	6 (5.8)	4 (3.8)	16 (15.4)
Secondary	24 (23.1)	16 (15.4)	24 (23.1)	64 (61.5)
Tertiary	14 (13.5)	4 (3.8)	6 (5.8)	24 (23.1)
MADRS symptom severity				
Recovery (0-6)	16 (15.4)	9 (8.7)	14 (13.5)	38 (36.5)
Mild (7-19)	16 (15.4)	10 (9.6)	8 (7.7)	35 (33.7)
Moderate (20-34)	10 (9.6)	7 (6.7)	7 (6.7)	24 (23.1)
Severe ( $\geq 35$ )	2 (1.9)	0 (0.0)	5 (4.8)	7 (6.7)
Number of suicide attempts				
0	35 (33.7)	22 (21.2)	26 (25.0)	83 (79.8)
1	7 (6.7)	2 (1.9)	3 (2.9)	12 (11.3)
2	2 (1.9)	1 (1.0)	5 (4.8)	8 (7.7)
3	0 (0.0)	1 (1.0)	0 (0.0)	1 (1.0)
Number of emergency room visits				
0	40 (38.5)	25 (24.0)	27 (26.0)	92 (88.5)
1	3 (2.9)	1 (1.0)	7 (6.7)	11 (10.6)
2	1 (1.0)	0 (0.0)	0 (0.0)	1 (1.0)

Number of psychiatric hospitalization	36 (34.6)	21 (20.2)	24 (23.1)	81 (77.9)
0	7 (6.7)	5 (4.8)	8 (7.7)	20 (19.2)
1	1 (1.0)	0 (0.0)	2 (1.9)	3 (2.9)
2				
Attending counselling sessions				
Yes	10 (9.6)	2 (1.9)	5 (4.8)	17 (16.3)
No	34 (32.7)	24 (23.1)	29 (27.9)	87 (83.7)
Employed				
Yes	27 (26.0)	12 (11.5)	16 (15.4)	55 (52.9)
No	17 (16.3)	14 (13.5)	18 (17.3)	49 (47.1)
Comorbid psychiatric disorders				
Anxiety	16 (15.4)	7 (6.7)	5 (4.8)	28 (26.9)
Obsessive compulsive	1 (1.0)	0 (0.0)	1 (1.0)	2 (1.92)
Panic	1 (1.0)	0 (0.0)	0 (0.0)	1 (0.96)
Phobia	1 (1.0)	0 (0.0)	0 (0.0)	1 (0.96)
PTSD <sup>†</sup>	0 (0.0)	1 (1.0)	0 (0.0)	1 (0.96)
Prescribed antidepressant				
Fluvoxamine	17 (16.3)	2 (1.9)	17 (16.3)	36 (34.6)
Sertraline	9 (8.7)	8 (7.7)	7 (6.7)	24 (23.1)
Escitalopram	6 (5.8)	6 (5.8)	6 (5.8)	18 (17.3)
Venlafaxine	6 (5.8)	2 (1.9)	1 (1.0)	9 (8.7)
Mirtazapine	1 (1.0)	6 (5.8)	1 (1.0)	8 (7.7)
Fluoxetine	3 (2.9)	2 (1.9)	1 (1.0)	6 (5.8)
Duloxetine	0 (0.0)	2 (1.9)	0 (0.0)	2 (1.9)
Dothiepin	1 (1.0)	0 (0.0)	1 (1.0)	2 (1.9)
Amitriptyline	1 (1.0)	0 (0.0)	0 (0.0)	1 (0.0)

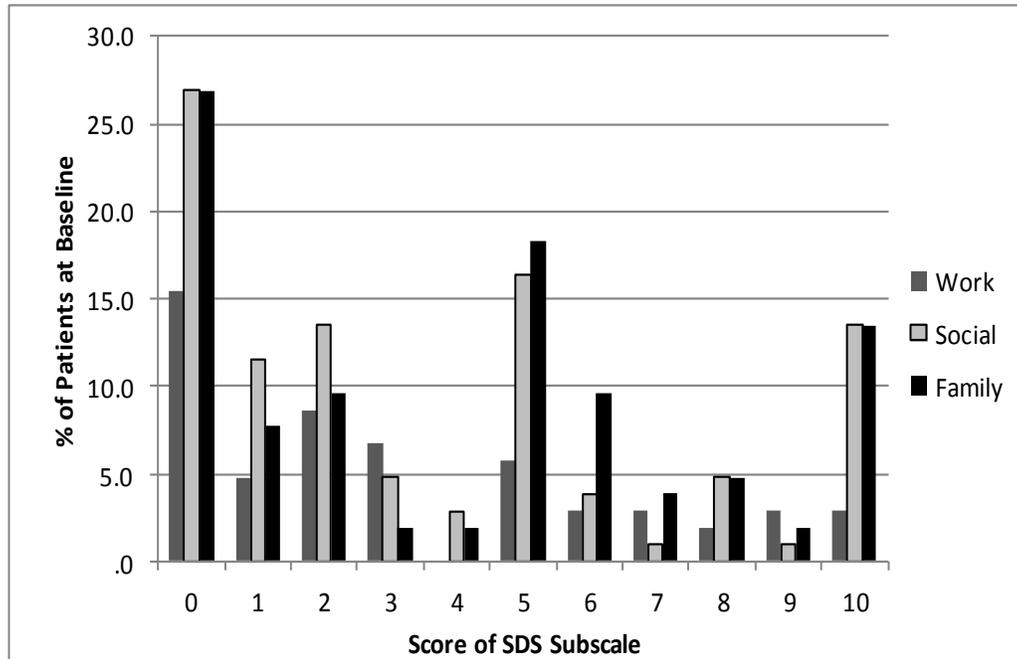
\*Percentage is over total number of patients

<sup>†</sup>PTSD = Post-traumatic Stress Disorder

Mean SDS score was  $9.36 \pm 7.92$ . 57.7% of patients had a total score of less than '10', followed by 35.6% with a score between '11-20'. Approximately 6% of patients had scores between '21-30'. There were no significant differences in total SDS scores between males and females, and between the different ethnicities.

Component analysis revealed that the majority of patients had scores of '0' on all three components. This was followed by the midline range and the full score of '10',

especially for the 'Social' and 'Family' components. In terms of 'Work' however, most patients congregated between the '0-3' range. Only four (3.8%) patients had scores more than '6', reflecting markedly impaired, on all three components [Figure 1]. Analysis of results by ethnicity and gender revealed no significant differences. Using the definition adopted by Demyttenaere et al in their study where 'Recovery' was defined as a score of less than '4' on all three components on the SDS scale, 43 (41.3%) patients showed recovery.



**Figure 1.** Scores on SDS Components for all Patients Studied (n=104)

Stepwise regression analysis revealed that total SDS scores was primarily predicted by symptom severity, as reflected in MADRS scores [Table 2]. Regression analysis of

factors that predict the three components of the SDS revealed that all three components were also influenced by symptom severity [Table 3].

**Table 2.** Stepwise regression analysis for factors associated with total HRQOL in 104 patients with chronic depression

Model	SLR*		MLR†		
	b <sup>‡</sup> (95% CI)	P value	Adj.b <sup>§</sup> (95% CI)	t-stat	P value
Age (year)	-0.11 (-0.24, 0.02)	0.09			
Length of time in psychiatric care (months)	-0.01 (-0.04, 0.02)	0.55			
MADRS score	0.39 (0.27, 0.50)	<0.001	0.44 (0.33, 0.55)	8.09	<0.001
Education					
Primary	1.0				
Secondary	2.33 (-8.27, 5.48)	0.15			
Tertiary	-3.28 (-6.90, 0.34)	0.08			
Race					
Malay	1.0				
Chinese	0.14 (-3.44, 3.72)	0.94			
Indian	-0.66 (-3.96, 2.64)	0.69			

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Relationship status	1.0	
Single	-1.66 (-5.06, 1.75)	0.34
Married	1.31 (-5.93, 8.55)	0.72
Divorced	-6.61 (-14.56,	0.10
Widow	1.34)	
Employment status	1.0	
Yes	0.94 (-2.16, 4.04)	0.55
No		

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\*Simple linear regression

†Multiple linear regression ( $R^2 = 0.41$ ; The model reasonably fits well; Model assumptions are met; There is no interaction between independent variables, and no multicollinearity problem)

‡Crude regression coefficient

§Adjusted regression coefficient

**Table 3.** Stepwise regression analysis for factors associated with SDS Components in 104 patients with chronic depression

Model	Social Component					Family Component					Work Component				
	SLR*		MLR <sup>†</sup>			SLR*		MLR <sup>†</sup>			SLR <sup>a</sup>		MLR <sup>†</sup>		
	b <sup>‡</sup> (95% CI)	P value	Adj.b <sup>§</sup> (95% CI)	t-stat	P value	b <sup>‡</sup> (95% CI)	P value	Adj.b <sup>§</sup> (95% CI)	t-stat	P value	b <sup>‡</sup> (95% CI)	P value	Adj.b <sup>§</sup> (95% CI)	t-stat	P value
Age (year)	-0.02 (-0.08, 0.04)	0.14				-0.04 (-0.10, 0.01)	0.14				-0.02 (-0.09, 0.06)	0.71			
Length of time in psychiatric care (months)	-0.01 (-0.02, 0.01)	0.48				-0.00 (-0.02, 0.01)	0.78				0.00 (-0.02, 0.02)	0.99			
MADRS score	0.17 (0.12, 0.22)	<0.001	0.18 (0.13, 0.23)	7.45	<0.001	0.17 (0.13, 0.22)	<0.001	0.19 (0.14, 0.24)	7.80	<0.001	0.18 (0.12, 0.25)	<0.001	0.18 (0.12, 0.25)	5.49	<0.001
Education															
Primary	1					1					1				
Secondary	1.43 (0.05, 2.80)	0.04				1.21 (-0.20, 2.61)	0.09				0.78 (-9.21, 2.48)	0.36			
Tertiary	-1.89 (-3.46, -0.32)	0.02				-1.50 (-3.11, 0.12)	0.07				-1.42 (-3.20, 0.36)	0.12			
Race															
Malay	1					1					1				
Chinese	0.21 (-1.37, 1.78)	0.80				0.06 (-1.53, 1.66)	0.94				1.14 (-1.10, 3.37)	0.31			
Indian	0.32 (-1.13, 1.77)	0.66				-0.41 (-1.88, 1.07)	0.59				-0.88 (-2.74, 0.98)	0.35			
Relationship status															
Single	1					1					1				
Married	-0.03 (-1.54, 1.47)	0.97				-0.09 (-1.62, 1.43)	0.90				-1.52 (-3.27, 0.23)	0.09			
Divorced	-1.03 (-4.20, 2.15)	0.52				0.14 (-3.09, 3.37)	0.93				-1.60 (-1.73, 4.93)	0.34			
Widow	-1.90 (-5.42, 1.62)	0.29				-2.93 (-6.48, 0.62)	0.11				-3.32 (-9.79, 3.14)	0.31			
Employment status															
Yes	1					1					1				
No	-1.53 (-2.86, -0.20)	0.02				-0.45 (-1.84, 0.93)	0.52				0.29 (-2.74, 3.32)	0.99			

\*Simple linear regression

†Multiplelinear regression [ $R^2 = 0.39$  (Family), 0.36 (Social) and 0.35 (Work); The model reasonably fits well; Model assumptions are met; There is no interaction between independent variables, and no multicollinearity]

‡Crude regression coefficient

§Adjusted regression coefficient

## Discussion

The majority of patients had mild disability and this is consistent with the results showing the majority of patients were in the 'Recovery' phase with regard to symptom severity. Multiple regression revealed that symptom severity was a predictor of HRQOL across the board, and this has been noted in several studies<sup>24-28</sup>. Another interesting and important point to note is that when analysing the components of the SDS as reflected in Figure 1, a pattern was observed where most patients either selected '0', '5' or '10'. This was very different from that observed in a study by Demyttenaere et al<sup>29</sup> where most patients selected between 5-8 on all three subscales. What this shows is that the majority of the patients in the study have both extreme and neutral behaviours, with extreme behaviours selecting scores at either end of the spectrum i.e. '0' or '10'; while neutral patients select the mid-point of '5'. This could have somewhat compromised the results.

It is important to determine what factors really influence HRQOL and how they affect patient's HRQOL as these factors can then be modified, to improve HRQOL in such patients, and can be used in the planning of treatment or care of patients accordingly<sup>20</sup>. Indeed HRQOL should be regarded not as a one dimensional outcome influenced only by a handful of factors, but instead a powerful interplay between several factors that are perceived to be important<sup>24,30</sup>.

The limitations of this study are the small sample size and the fact that most patients were in the recovery phase, which might limit the generalizability of the results obtained. A more comprehensive study involving a larger sample of patients with various levels of depression severity should

thus be undertaken to confirm the predictive factors of HRQOL in the Malaysian setting.

## Conclusion

Symptom severity significantly influenced the HRQOL of patients. Data obtained on HRQOL characteristics as well as its predictive factors can be used by members of the psychiatric unit such as psychiatrists, nurses, counsellors and pharmacists; in the design and implementation of therapeutic and preventive interventions.

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