

A Comparative Study of Quality-of-Life Measurements in the Patients of Unipolar Depressive Disorder, Before and After Treatment

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Abstract: *Quality of life (QOL) is a broad multi-dimensional concept that usually includes subjective evaluations of both positive and negative aspects of life. This study was done to understand the QOL of patients with Unipolar Depressive Disorder, before and after treatment when compared to that of the normal population. 55 patients with Unipolar Depressive Disorder (UDD Group) and 54 Controls were studied using WHOQOL-BREF scale. It was administered once at the time of recruitment in the study and again after treatment for 3 months and once to the Controls. The comparisons of QOL were made before and after treatment, in terms of degree of improvement in QOL after 3 months of treatment, to discern how close to the normal benchmark they bounce back, with treatment. The Mean scores of the Overall-QOL on the WHOQOL-BREF scale, were severely lowered in the patients in UDD Group, before starting the treatment. After treatment for 3 months the QOL scores of the UDD group raised close to the QOL levels of the normal Controls. This indicates that the early recognition and prompt treatment of Depression is important in improving the Quality of Life of the patients.*

Keywords: Quality of Life; Unipolar Depressive Disorder; WHOQOL-BREF.

1. Introduction

The World Health Organization (WHO) defined health as 'Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'.^[1]

Nowadays, population's health is assessed, not only on the basis of saving lives, but also in terms of improving their quality and to demonstrate, how large the 'burden' of a specific mental disorder is.^[2]

Quality of Life (QOL) is defined, as an individual's perception 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. QOL includes both positive and negative dimensions embedded in the socio-cultural and environmental context.^[3]

The WHOQOL-100 and WHOQOL-BREF Quality of Life scales were developed by WHO with 15 international field centers. The WHOQOL-BREF Scale enables health professionals to assess changes in Quality of Life, over the course of treatment.^[4]

On an intuitive level, QOL and Depression can appear as opposing phenomena, crudely representing all the positive and negative aspects of well-being. Poor QOL is sometimes seen as a consequence of Depression. On the other hand, poor QOL may also be a precursor to Depression. In other formulations, Depression can be seen as a component of QOL. Whatever the implicit models of their interrelationships, there has been little theoretical attention or research to understand the relationship between Depression and QOL.^[5]

Angermeyer MC et.al, 2015, in their follow-up study on Quality of Life in patients with Depression, observed that in the patients whose Depression remitted, the QOL was better than that of patients with persisting Depression, though it

was still slightly worse than that of the general population. Even at the end of the follow-up period of 6 months, there was a slight lack of Quality of Life, especially as concerns the level of Independence, Spirituality/ Religion/ Personal Beliefs and Physical Health^[9]

A study by Miller et.al, 1998, observed that there was severe impairment in the psycho-social functioning of patients with Depression and following treatment, there was significant improvement in 4 weeks^[10]

Margaret Moore et.al, 2005, in a study found that Depression is associated with poorer QOL^[11]

The present study seeks to advance the understanding about the conceptual relationship of Depression and QOL, before and after treatment

2. Materials and Methods

It was a Case-Control Longitudinal Study with the Case group, UDD Group (Unipolar Depressive Disorder Group), drawn from the patients attending the Psychiatry OPD at ESIC Post Graduate Institute of Medical Sciences and Research Hospital, Bengaluru. From among the patients who were evaluated and diagnosed as UDD, by using ICD-10 criteria and consented voluntarily to participate in the study, were assigned to the Case Group and the data was collected over a period of one year (Aug2017 - July2018). Age Group between 18-50 years was considered for homogeneity.

We could recruit 66 patients with UDD. Of them, 11 patients dropped out of the study, for various reasons, over the course of 3 months follow-up in a staggered way. Finally, 55 patients with UDD, completed the study. For comparison, 54 Controls, who were psychiatrically-asymptomatic and otherwise healthy, were taken in from the same socio-cultural milieu with closely matching socio-demographic profiles. Informed Consent was taken from them too.

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For both the Case Group and the Control Group, there was no randomization and the selection was made in a serial consecutive way, from among those who were volunteering.

A Semi-Structured Proforma was administered to assess their socio-demographic parameters. The Quality of Life (QOL) of these patients was assessed at the initial contact by using WHOQOL-BREF Scale.

The UDD Group were offered standardized mainstream treatment consisting of appropriate Pharmacotherapy and Cognitive-Behavioral-Therapy sessions once a week with an emphasis on improving their QOL. Sufficient time was given for these therapies to work and consolidate the improvement in them, which is usually 3 months. QOL measurements were done again in all of those who stayed in the study, using the same scale at the end of 3 months.

WHOQOL-BREF Scale was administered to the matching Controls, for measuring their QOL as a bench mark for comparison.

Patients with other Depressive Disorders (Bipolar Depression, Dysthymia, etc), those who were suffering from clear cut psychotic disorders and substance abuse disorders, those suffering from serious or debilitating medical illnesses

interfering with their responses to the questionnaire and those with UDD, who were already on treatment, were excluded for avoiding heterogeneity.

Statistical analysis of the data was done on the Microsoft Excel. Using appropriate statistical methods, numerical and dimensional comparisons were made using the central tendencies like the Means with S.D. separately for UDD Group before and after the treatment. Means of Case Group were compared with those of the Control Group. Student's t-Test, Chi-Square Test and ANOVA were applied for finding out the significance of difference by 'p' values where appropriate. Descriptive data tables and pictorial illustrations were made.

3. Results

The data collected is summarized as follows:

The Cases and the Controls, as shown in **Table No. 1**, did not differ significantly on any of the socio-demographic variables viz Age, Gender, Education, Occupation, Income per Month, Habitat, Marital Status, Children and the Type of Family they live in.

Table 1: Comparisons of the Case Group (UDD) with the Control Group on their Socio-Demographic Profiles:

Socio-Demographic Variables	UDD Group (n=55)	Control Group (n=54)	'p' value
Age			
18-24 Yrs	13	10	0.78(NS)
25-34 Yrs	22	22	
35-50 Yrs	20	22	
Gender			
Male	26	29	0.56(NS)
Female	29	25	
Education			
Illiterate	9	16	0.06(NS)
Primary	13	12	
Secondary	14	14	
PUC	6	9	
Graduate	13	3	
Postgraduate	0	0	
Occupation			
Unemployed	3	1	0.60(NS)
Un/ Semi- Skilled	41	42	
Skilled	11	11	
Income Per Month			
<Rs. 10,000	24	16	0.15(NS)
Rs. 11,000 - Rs. 20,000	18	29	
Rs. 21,000 - Rs. 30,000	9	5	
>Rs. 30,000	4	4	
Habitat			
Rural	29	32	0.44(NS)
Semi-Urban	15	16	
Urban	11	6	
Marital Status			
Single	11	18	0.11(NS)
Married	44	36	
Children			
0-2 children	25	27	0.19(NS)
3-5 children	18	9	
>5 children	1	0	
Family			
Nuclear	25	24	0.91(NS)
Joint	30	30	

Note: p>0.05: Not Significant, p<0.05: Significant, p<0.01: Very Significant, p<0.001: Highly Significant

QOL DATA

The Raw Scores obtained by applying WHOQOL-BREF Scale were converted to the Transformed Scores by using the Second Transformation Method as described in WHOQOL-BREF User Manual. As revealed in the Table No.2, The Mean Overall-QOL Score in UDD Group Before Treatment was 147.76 with a Standard Deviation of ± 14.16 . After Treatment for 3 months, the Score was 277.84 with a Standard Deviation of ± 10.87 . It means that, with treatment the Quality of Life of Depressed patients improved almost two-fold, with a 'p' value of 0.0001, which indicates Highly Significant improvement. This is depicted visually in the cylindrical charts vide the Fig No. 1.

Table 2: Intra-Group Comparison of Overall-QOL Scores of UDD Group: Before and after Treatment

Overall-QOL Score in UDD Group: Before Vs. After Treatment (n=55)				
Type of QOL	Max. Possible Score	UDD Group's Scores Mean \pm S.D		'p' value
		Before Treatment	After Treatment	
Overall-QOL	400	147.76 \pm 14.16	277.84 \pm 10.87	0.0001 (HS)

Note: $p > 0.05$: Not Significant, $p < 0.05$: Significant, $p < 0.01$: Very Significant, $p < 0.001$: Highly Significant

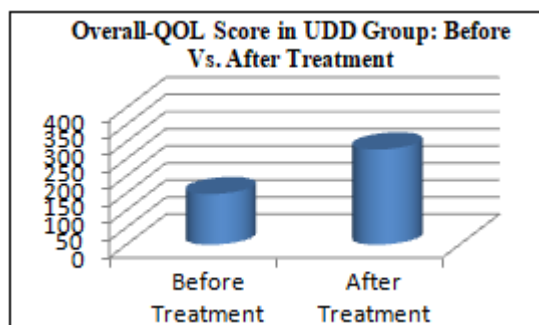


Chart 1: Cylinder Diagram Showing the Intra-Group Comparison of Overall-QOL Scores among UDD Group: Before and after Treatment

Depressive Disorder patients were treated with individually tailored Anti-Depressants and Cognitive-Behavioral-Therapy sessions for 3 months. Similarly Anxiety Disorder patients were treated with individually suitable Anxiolytic medications and CBT sessions for 3 months. After the treatment, the QOL scores were measured again in both the Groups and compared with each other.

Table No. 6 and Fig No. 5, shows the QOL comparisons between the UDD Group at the time of recruitment into the study and the Control Group. The Overall-QOL Score In UDD Group was 147.76 with a Standard Deviation of ± 14.16 , whereas for the Control Group it was 296.72 with a Standard Deviation of ± 14.25 . This showed that the UDD Group's Overall-QOL Score, Before Treatment, was just half of that of the Control Group.

Table 6: UDD Group Vs. Control Group Comparisons on Overall-QOL Scores: Before Treatment

UDD Group Vs. Control Group Comparisons on Overall-QOL Scores: Before Treatment				
Type of QOL	Max. Possible Score	UDD Group's Score Mean \pm S.D	Control Group's Score Mean \pm S.D	'p' value
Overall-QOL	400	147.76 \pm 14.16	296.72 \pm 14.25	0.0001(HS)

Note: $p > 0.05$: Not Significant $p < 0.05$: Significant, $p < 0.01$: Very Significant, $p < 0.001$: Highly Significant

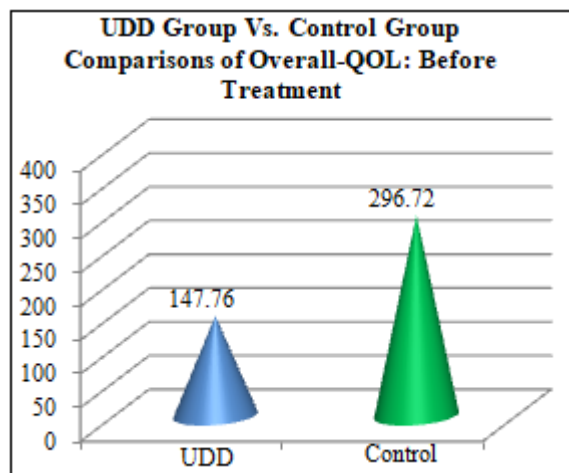


Chart 5: Pyramid Diagram Showing the UDD Group Vs. Control Group Comparisons on Overall-QOL Scores: Before Treatment

After the treatment, the QOL scores were measured again in the UDD Group. The Post-Treatment QOL Scores of Depressed patients were compared with the benchmark QOL Scores of the Control Group. This comparison was aimed at knowing how far the Depressed patients catch up, in terms of QOL, with the normal population, with the benefit of treatment.

The Overall QOL Score In UDD Group, Post-Treatment, was 277.84 with a Standard Deviation of ± 10.87 , whereas the score of the Control Group was 296.72 with a Standard Deviation of ± 14.25 . That means that with just 3 months of treatment, the Depressive patients bounced back to near-normal QOL scores, catching up with the general population with a very narrow gap. Statistically too, at the end of 3 months of treatment, the difference between the Depressive and the normal population is Not Significant, with a 'p' value of 0.19 as revealed in **Table No. 7** and depicted visually in **Chart No. 6**.

Table 7: UDD Group Vs. Control Group Comparisons on Overall-QOL Scores: After Treatment

UDD Group Vs. Control Group Comparisons on Overall-QOL Scores: After Treatment				
Type of QOL	Max. Possible Score	UDD Group's Score Mean \pm S.D	Control Group's Score Mean \pm S.D	'p' value
Overall-QOL	400	277.84 \pm 10.87	296.72 \pm 14.25	0.19(NS)

Note: $p > 0.05$: Not Significant $p < 0.05$: Significant, $p < 0.01$: Very Significant, $p < 0.001$: Highly Significant

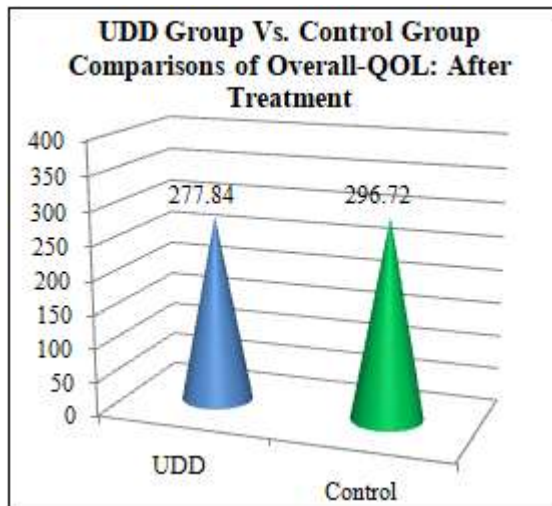


Chart 6: Pyramid Diagram Showing the UDD Group Vs. Control Group Comparisons on Overall-QOL Scores: After Treatment

4. Discussion

In our study, the Case Group (UDD Group) was compared to the Control Group, with regard to their Age, Education, Occupation, Income, Marital Status, Number of Children, Habitat and the Type of Family they live in. Statistically, No Significant differences were found, with the 'p' values in each of the parameters being above 0.05. Thus, the UDD Group and the Control Group were well matched in all the Socio-Demographic Parameters.

In the study population of 55 Depressive patients, the Quality of Life was measured twice i.e. Before and After the treatment. Before treatment, the Overall-QOL Score of the Depressive patients was 147.76 out of 400, which indicate that the QOL of the Depressed Patients is severely impaired.

After treating the Depressive patients for 3 months with tailor-made Anti-depressants and Cognitive-Behavior-Therapy sessions, the QOL was assessed again. The Overall-QOL score was 277.84 out of 400. This means, with treatment, the Overall-QOL in Depressed patients improved almost two-fold. Statistically too, the difference was Highly Significant, with a 'p' value of 0.0001.

Our findings are supported by other studies, as follows: Simon et.al, 2000^[6], Yu Chen Chang et.al, 2015^[7], Berlin MT et.al, 2007^[8], Angermeyer MC et.al, 2015^[9], Miller et.al, 1998^[10], Margaret Moore et.al, 2005^[11].

However, the findings of this study, with respect to the QOL outcomes in the Depressed patients, differ from other study: Barge Schaapveld et.al, 2002^[12]

Before starting on treatment, the Overall-QOL score of the UDD Group was 147.76, whereas in the Control Group the score was 296.72 out of 400. This implied that the Overall-QOL was very much reduced in the Depressive patients when compared with the Control Group. Statistically too, the difference was Highly Significant, with a 'p' value of 0.0001.

After treating the Depressive patients for 3 months, the Overall-QOL in UDD Group improved to 277.84 against the benchmark Overall-QOL of the Control Group, which was 296.72. This reflected that with just 3 months of treatment, the Depressive patients bounced back to near-normal QOL scores, catching up with the general population with only a very narrow gap left. Statistically too, at the end of 3 months of treatment, the difference between the Depressive and the normal population is Not Significant, with a 'p' value of 0.19.

This study has had a few limitations. The relatively small sample size did not allow for a more differential and detailed analysis of the QOL in the UDD patients. More prolonged duration of the study with longer follow-up of each patient and further assessments of the QOL scores at 6 months, 9 months and 1 year of treatment would have probably shown further improvements in their QOL leveling-off with the Controls. However, this was not possible in the limited scope of this study. This study used only a self-report/self-rating instrument to assess the QOL. Additional observer's reports are desirable to complement the self-report data. This study concentrated only on the assessments of the Quality of Life outcomes, and has side-stepped looking at the other treatment outcomes like the symptom-relief and functional recovery. This research was done in a tertiary hospital setup, on those patients who sought high-level professional help. This poses some problems in generalizing the results to the routine Psychiatric practice in the community at large.

5. Conclusions

The results of this prospective study lead to the following conclusions:

The Pre-treatment Overall-QOL score of the Unipolar Depressive Disorder Group was severely low and the Post-treatment Overall-QOL score revealed Highly Significant improvement (almost two-fold increase).

When the UDD Group was compared with the socio-demographically-matched Controls on their QOL measures, the Pre-treatment Overall-QOL was very much reduced in the Depressive patients. The Post-treatment Overall-QOL scores showed that the Unipolar Depressive patients bounced back to near-normal QOL levels, catching up with the general population, with only a very narrow gap left.

6. Future Scope

This study recommends that the Quality of Life Assessments should be routinely done in evaluating the treatment outcomes in the Depressive patients. The Quality of Life improvement should be one of the important therapeutic goals in treating the UDD patients. All the Depressive patients should receive a comprehensive treatment with suitable medication and psycho-social therapies, to bring about all round improvements in them, including their Quality of Life. More studies with larger sample sizes and longer duration of follow-up of the Depressive patients may be taken up to consolidate the consensus on the QOL issues affecting these patients.

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