

## RELATIONSHIP OF QUALITY OF LIFE WITH SOCIODEMOGRAPHIC AND TREATMENT VARIABLES IN OUTPATIENTS HAVING SCHIZOPHRENIA

Gerald Dcosta<sup>1</sup>, Sumit Chandak<sup>2</sup>, Deepak Khismatrao<sup>3</sup>

<sup>1</sup>Specialist Psychiatrist, Department of Psychiatry, Badr Al Samaa Hospital, Muscat, Oman.

<sup>2</sup>Associate Professor, Department of Psychiatry, Smt. Kashibai Navale Medical College, Narhe, Pune.

<sup>3</sup>Associate Professor, Department of PSM, Smt. Kashibai Navale Medical College, Narhe, Pune.

### ABSTRACT

#### BACKGROUND

Schizophrenia management includes interventions like medications, psychosocial support and rehabilitation efforts. Along with treatment, improvement in Quality of Life (QOL) is the goal of psychiatrist in managing schizophrenia patients.

The aim of the study is to find whether sociodemographic factors, type of medications prescribed and family support plays any role in improving QOL in schizophrenia.

#### MATERIALS AND METHODS

Our study was conducted in tertiary care hospital on 40 outpatients between 21-60 years clinically stable and suffering from schizophrenia for more than 2 years. A semi-structured questionnaire and self-administered disease specific Schizophrenia Quality of Life Scale (SQLS) was used to collect data.

#### RESULTS

Study shows that employed and married individuals have better QOL, while contrastingly patients with higher education had low QOL.

#### CONCLUSION

Study also highlights that family support is key to improved perceived QOL and type of medications used by psychiatrists does not influence QOL.

#### KEYWORDS

Quality of Life, Schizophrenia, Schizophrenia Quality of Life Scale.

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#### BACKGROUND

The median point prevalence of schizophrenia is 4.6/1,000, period prevalence of 3.3/1,000 and 4.0/1000 as lifetime prevalence. Meta-analysis finding from study conducted in 2005 by Dinesh Bhugra, Professor of Mental Health and Cultural Diversity, Institute of Psychiatry, Kings College London, UK.<sup>1</sup> It indicates that lifetime prevalence is 4.0/1,000 and not 1%, as reported in Diagnostic and Statistic Manual of Mental Disorders, Fourth Edition<sup>2</sup> and other textbooks.

Management of schizophrenia requires spectrum of interventions, which includes medication, psychosocial support and rehabilitation efforts. Steady progress in ability to decrease the psychotic symptoms has been made, but is it improving the quality of life for the patient?<sup>3</sup>

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*Corresponding Author:*  
*Dr. Sumit Chandak,*  
*#5-3, Rohan Chambers, Kothrud, Pune-411038.*  
*E-mail: csthebeautifulmindpune@gmail.com*  
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Quality of Life (QOL) measurement is rapidly expanding area in healthcare research. It has an important role in measurement of outcome in chronic illnesses and can be used to measure incremental improvement rather than complete cure and places the patient at the centre of picture. It puts people with illness including those with schizophrenia "at the centre of inquiry and gives due weight to their opinions."<sup>4</sup>

QOL has been variably defined as a "subjective evaluation of oneself and one's social and material world"<sup>4</sup> and as a "multidimensional concept based on patients self-report about their quality of life."<sup>5</sup>

The available QOL instruments include generic and disease specific instruments. The principle advantages of generic instruments are that they can be used for a wide range of health problems and also on general population and disadvantage is that by attempting to be relevant to wide range of health problems, they may have insufficient content relevant to particular health problem and maybe less sensitive to important changes in specific health problem in clinical trial.<sup>6</sup> The generic instruments being too broad based and also time consuming.<sup>7</sup> The limitations of generic instruments have been one reason why disease specific instruments are considered important.

Researchers have strongly argued for development of robust QOL instruments specific to schizophrenia based on subjective judgment of patients and including only relevant items that are expected to change.<sup>5</sup> It is generally agreed that a QOL measure should reflect the perceptions of the patient.<sup>8</sup> This subjective concept of quality of life does not require freedom of illness.<sup>9</sup>

Health interventions in schizophrenia are not merely meant to extend the duration of life, but also to enhance the quality of life. The current interest in QOL measurement stems from the need to establish standards to monitor the outcome of health interventions.<sup>10</sup> However, few studies have attempted to measure whether positive gains translate into patients perception of improved quality of life.<sup>11</sup>

Research work in QOL is receiving attention in recent times in India. QOL research in schizophrenia is very limited.<sup>12</sup> Four major studies reported till 2001 from India, one used Endicott's QOL Enjoyment and Satisfaction Questionnaire and other three used Heinrich's Quality of Scale.<sup>12</sup> Pubmed, Medline and Google search revealed four more studies conducted after 2001 using WHOQOL-Bref scale.<sup>13-17</sup>

Thus, there are few studies done in India and none have used a disease specific subjective self-rated scale to understand the interrelation between Schizophrenia and QOL in our Indian patients.

This study therefore aims to determine the relationship between sociodemographic factors and treatment modalities with self-perceived QOL in Indian schizophrenic patients. It also determines whether the patients perceived family support has any relationship with QOL.

## MATERIALS AND METHODS

It is an observational cross-sectional study conducted at a tertiary care referral centre in Western India. The study included patients diagnosed as cases of schizophrenia as per WHO ICD-10 classification. The inclusion criteria were- a) Patients in the age between 21-60 years; b) Patients suffering from schizophrenia for 2 years or more and c) Patients clinically stable for at least 3 months and the clinical stability was defined as the drug dosage not having been increased by more than 50% during the 3 months immediately prior to the study. The exclusion criteria were- a) Patients having associated major chronic physical illness; b) Patients having associated organic brain disease and c) Patients having associated substance (except tobacco) abuse.

An informed written consent was taken from all patients prior to enrolment in study. It was informed that consent could be withdrawn anytime during the study. Each individual patient was assessed for two months using semi-structured interview for collection of selected sociodemographic details and medication use. The medication use details were rechecked with case records and whether these were taken under supervision or by themselves was confirmed with the relatives. Patient's subjective understanding regarding support from family during their sickness was also assessed.

For the assessment of Quality of Life (QOL), the Schizophrenia Quality of Life Scale (SQLS)<sup>18</sup> was used. This is a novel schizophrenic specific QOL measure and is a self-administered questionnaire addressing experiences important to individuals with the disorder. The SQLS has been found to be reliable, valid with excellent acceptability and ease of use in practice. The questionnaire was filled in front of the researcher. It has 30 questions with each question having same range of response from 'Never' to 'Always'. The patients were asked to record the response of each question based on closest to how they felt over the preceding last 7 days.

The 30 questions were rated on a scale ranging from 0 to 4 (wherein 0 - Never, 1 - Rarely, 2 - Sometimes, 3 - Often and 4 - Always) except questions 12, 13, 15 and 20, which were reverse coded. These were then divided into 3 subscales- A) Psychosocial- (15 questions) addressing emotional problems, B) Motivation and Energy- (7 questions) addressing problems of motivation and activity and C) Symptoms and side effects - (8 questions) addresses symptoms and side effects of medications.

Each of the three scale is transformed into range from 0 (best status) to 100 (worst status) as measured on SQLS. The scale required 15 minutes to be filled and patients were comfortable with the same without wanting to make any changes in the question. The Konkani (local language) version of the SQLS was prepared by the bilingual translator and 3 sets of other back translators, which included medical personnel and lay people translated it back to English. Back translation was compared with original questionnaire and few discrepancies were discussed by translators and a third bilingual staff member was consulted for finalising the questionnaire.

The necessary approval was taken by the Institutional Ethics Committee and prior informed written consent was taken from the patient. The data collected from the patients was stored with utmost confidentiality.

Data collected was coded, computerised, cleaned and then analysed using SPSS, a statistical software. A comparative analysis was planned between sociodemographic indicators, medication use and SQLS. One way ANOVA is used as test of significance to compare the results.

## RESULTS

Total 40 patients participated in the study and distribution of these patients based on selected sociodemographic parameters is presented in Table 1. It show that majority of patients had duration of illness more than 10 years (n = 24/40). No participant had physical illness or defect that confounded the psychiatric symptoms. 27 out of 40 patients were unmarried and 28 participants were educated with formal education of more than 5 years. Also, 24 out of 40 patients were unemployed and 21 out of 40 were from nuclear family.

Variable	Number of Patients (N)	Percentage
<b>Gender</b>		
Male	25	62.5
Female	15	37.5
<b>Age (Years)</b>		
21-40	20	50.0
41-60	20	50.0
<b>Educational Status (Years of formal Education)</b>		
0-5	12	30.0
6-10	17	42.5
>10	11	27.5
<b>Religion</b>		
Hindu	18	45.0
Christian	22	55.0
<b>Marital Status</b>		
Married	13	32.5
Single	27	67.5
<b>Employment Status</b>		
Employed	16	40.0
Unemployed	24	60.0
<b>Type of Family</b>		
Nuclear	21	52.5
Joint	19	47.5

Duration of Illness (Years)		
0-5	8	20.0
>5-10	8	20.0
>10-15	8	20.0
>15	16	40.0

**Table 1. Sociodemographic Profile of the Study Population**

As discussed in the methodology, the SQLS was divided into 3 subscales- A) Psychosocial- Addressing emotional problems, B) Motivation and Energy- Addressing problems of motivation and activity and C) Symptoms and Side effects - Addressing symptoms and side effects of medications. Each of the three scales is transformed into range from 0 (best status) to 100 (worst status) as measured on SQLS.

A difference in the Quality of Life across all the three subscales was assessed with the selected demographic variables using One Way Analysis of Variance (One Way ANOVA) as the statistical test of significance.

	Particulars	N	Mean	S.D.	F value	df	p value
<b>Sociodemographic Factors</b>							
Gender	Male	25	29.6	14.8	0.074	1	0.787
	Female	15	30.8	10.9			
Age (years)	21-40	20	29.2	11.3	0.161	1	0.691
	41-60	20	30.9	15.4			
Educational status (formal years of education)	0-5	12	31.4	17.4	1.995	2	0.150
	6-10	17	25.8	10.4			
	>10	11	35.7	10.9			
Marital status	Married	13	29.4	16.8	0.052	1	0.821
	Unmarried	27	30.4	11.7			
Employment status	Employed	16	30.6	13.4	0.181	1	0.673
	Unemployed	24	29.7	13.6			
Type of family	Joint	19	30.1	14.9	0.000	1	1.000
	Nuclear	21	30.1	12.1			
Duration of illness (years)	0-5	8	24.1	12.2	0.772	3	0.517
	>5-10	8	30.2	14.6			
	>10-15	8	30.0	9.3			
	>15	16	33.0	14.9			

**Table 2. Difference in Psychosocial Subscale Score According to Sociodemographic Factors**

Table 2 shows that there is no statistically significant difference in psychosocial subscale score according to various sociodemographic characteristics of patients considered in the study, viz. gender, age, educational status, marital status, employment status, type of family or duration of illness.

	Particulars	N	Mean	S.D.	F value	df	p value
<b>Sociodemographic Factors</b>							
Gender	Male	25	32.0	17.5	0.086	1	0.771
	Female	15	33.6	15.9			
Age (years)	21-40	20	32.5	17.5	0.001	1	0.978
	41-60	20	32.7	16.9			
Educational status (formal years of education)	0-5	12	27.8	18.5	3.718	2	0.034*
	6-10	17	28.9	15.7			
	>10	11	43.6	11.6			
Marital status	Married	13	25.4	18.2	3.905	1	0.050*
	Unmarried	27	36.1	15.1			

Employment status	Employed	16	26.2	18.5	3.680	1	0.050*
	Unemployed	24	36.9	14.3			
Type of family	Joint	19	33.5	18.7	0.094	1	0.761
	Nuclear	21	31.8	14.8			
Duration of illness (years)	0-5	8	29.5	18.3	0.160	3	0.922
	>5-10	8	32.7	18.1			
	>10-15	8	31.9	13.8			
	>15	16	34.6	17.7			

**Table 3. Difference in Energy and Motivation Subscale Score According to Sociodemographic Factors**

\*Statistically significant.

Table 3 shows that a better quality of life in energy and motivation aspect was observed in married and employed patients and also in patients with less years of formal schooling. This difference in the mean score was statistically significant. No other sociodemographic characteristics, viz. gender, age, type of family and duration of illness influenced QOL.

	Particulars	N	Mean	S.D.	F value	df	p value
<b>Sociodemographic Factors</b>							
Gender	Male	25	17.6	12.6	0.000	1	0.989
	Female	15	17.2	16.6			
Age (years)	21-40	20	17.4	12.7	0.000	1	0.991
	41-60	20	17.3	15.9			
Educational status (formal years of education)	0-5	12	20.4	18.1	0.392	2	0.678
	6-10	17	15.7	13.5			
	>10	11	16.6	11.0			
Marital status	Married	13	18.0	17.4	0.034	1	0.854
	Unmarried	27	17.1	12.7			
Employment status	Employed	16	17.2	12.7	0.012	1	0.913
	Unemployed	24	17.5	15.4			
Type of family	Joint	19	17.8	13.6	0.033	1	0.857
	Nuclear	21	17.0	15.1			
Duration of illness (years)	0-5	8	11.2	10.3	0.614	3	0.614
	>5-10	8	18.9	14.4			
	>10-15	8	19.4	11.3			
	>15	16	18.6	17.1			

**Table 4. Difference in Symptoms and Side Effects Subscale Score According to Sociodemographic Factors**

Table 4 shows that there is no statistically significant difference in the symptoms and side effects subscale score according to various sociodemographic characteristics of patients considered in the study, viz. gender, age, educational status, marital status, employment status, type of family or duration of illness.

	Particulars	N	Mean	S.D.	F value	df	p value
<b>Medication and Family Support</b>							
Type of medication	Injectable	14	30.9	11.9	0.085	1	0.773
	Oral	26	29.6	14.2			
Medications under supervision	Supervised	16	32.6	11.9	0.961	1	0.333
	Alone	24	26.9	14.6			
Typical/atypical medication	Typical	28	30.2	14.4	0.087	1	0.769
	Atypical	12	31.5	7.8			
Family support	Yes	32	28.0	13.7	4.055	1	0.050*
	No	8	38.2	8.1			

**Table 5. Difference in Psychosocial Subscale Score According to Type of Medication and Family Support**

\*Statistically significant.

It is observed from Table 5 that there is no statistically significant difference in the psychosocial subscale score according to type of medication. However, the quality of life under psychosocial aspect is better with patients having family support.

	Particulars	N	Mean	S.D.	F value	df	p value
<b>Medication and Family Support</b>							
Type of medication	Injectable	14	34.5	13.4	0.000	1	1.000
	Oral	26	34.5	13.4			
Medications under supervision	Supervised	16	35.6	13.9	0.807	1	0.375
	Alone	24	30.6	18.4			

Typical/atypical medication	Typical	28	33.1	16.3	0.000	1	1.000
	Atypical	12	33.1	16.0			
Family support	Yes	32	30.4	17.1	3.218	1	0.081
	No	8	41.8	12.7			

**Table 6. Difference in Energy and Motivation Subscale Score According to Type of Medication and Family Support**

Table 6 shows that there is no statistically significant difference in the energy and motivation subscale score irrespective of type of medication and family support.

	Particulars	N	Mean	S.D.	F value	df	p value
<b>Medication and Family Support</b>							
Type of medication	Injectable	14	16.3	12.2	0.114	1	0.738
	Oral	26	17.9	15.4			
Medications under supervision	Supervised	16	16.1	12.4	0.333	1	0.568
	Alone	24	18.8	16.2			
Typical/atypical medication	Typical	28	18.5	12.4	0.195	1	0.661
	Atypical	12	16.4	17.6			
Family support	Yes	32	17.7	15.2	0.000	1	0.991
	No	8	17.8	12.8			

**Table 7. Difference in Symptoms and Side Effects Subscale Score According to Type of Medication and Family Support**

It is observed from Table 7 that there is no statistically significant difference in the symptoms and side effects subscale score irrespective of type of medication and family support.

**DISCUSSION**

In addition to provision of medications to the patient with schizophrenia, improvement in quality of life of these patients is of utmost importance to a psychiatrist. The treatment strategies have shown considerable changes over a period of time, earlier the emphasis was on admission to mental hospitals, which was later followed by treatment in general hospitals and currently most psychiatrists prefer outpatient care in the community settings so as to improve the quality of life of an individual.

The quality of life measurement is a step towards evolution of new understanding regarding schizophrenia and its impact on the patient. It places patient’s opinion at the centre of the inquiry and provides respect to their feelings in treatment options.

In the study conducted by us, only educational, marital and employment status have effect on the quality of life and that too it is observed only in energy and motivation subscale, while the other sociodemographic indicators have no effect on quality of life. It is also observed from the study that that family support plays an important role in quality of life of patients especially in psychosocial subscale. The quality of life does not differ based on the type of medication used by the treating doctor.

Thus, our study shows that the patients have higher energy and motivation when they are employed and married. Also, psychosocially they feel better when they get family support. Further, our study shows that the quality of life neither differs with the sociodemographic factor of the patient nor with use of different treatment options used by psychiatrists.

Similar findings were seen in study conducted by Rosenthal et al that many patients who were never married

or were unemployed may reflect their defects when interacting and coping with their human, social and physical environment and the complexity of modern society. Such findings were also seen in the studies conducted by Zubin and Spring et al<sup>9</sup> and Ciompi L.<sup>19</sup>

A study conducted by Xiang Yu-Tao et al<sup>20</sup> in China also showed that quality of life was independent of sociodemographic factors. The study by Gaité L et al<sup>21</sup> in 2002 showed that severity of symptoms and age were predictors of quality of life. Study by Browne S et al<sup>22</sup> showed that quality of life was inversely associated with duration of illness, patient’s age and length of hospitalisation. A study by Cardaso C et al<sup>23</sup> showed that male gender, low income, low schooling and single marital status was associated with low quality of life.

The Indian studies also showed that employed patients had better QOL,<sup>15</sup> age and duration of illness correlated with quality of life.<sup>16</sup> Study conducted by Patra S et al<sup>13</sup> in India also showed similar findings to our study that poor quality of life was associated with unmarried status and higher education. Contrasting to our study, the male gender was also associated with poor quality of life in the study.

A contrasting finding in our study was that the better educated people were found to have a lower quality of life. This was in contrast with the finding of study conducted by Chaturvedi S et al,<sup>24</sup> but was similar to the findings of the study conducted by Skantze et al.<sup>11</sup> It may probably be assumed that these subjects were offered jobs below their educational qualification and occupational capacity or they were not able to manage any job. Hence, it reflected as lower quality of life in educated patients as perceived by them.

The study by Gaité L et al<sup>21</sup> showed that frequency of contact with family and friendship were predictors of quality of life similar to the findings of our study that family support improves perceived quality of life. Also, study conducted by Bengtsson-Tops, A et al<sup>25</sup> showed that social and family

support and employment had significant correlation with quality of life similar to that of findings in our study.

A study conducted by Franz M et al<sup>26</sup> showed that a better quality of life in all domains was associated with patients in atypical antipsychotic groups, which is contrasting to the finding in our study.

### CONCLUSION

Our study concludes that employed and married individuals have better quality of life, which is corroborated by similar findings in other studies too. Also, higher the education, lower is the quality of life as seen in our study is similar as well as a contrasting finding with other studies. This study also highlights family support as key to the improved perceived quality of life. Further, our study shows that quality of life is not dependent on the type of medications used by the psychiatrists.

### Limitations

- Relatively small sample size of patients.
- Absence of control for stressful life events and daily hassles.
- Lack of standardised translation of SQLS and cross cultural acceptable studies.

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