

Correlation between Quality of Life and Positive and Negative Symptoms of Schizophrenia

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ABSTRACT

Aims: To assess quality of life in patients with schizophrenia, compare it with quality of life of healthy subjects, find out association between positive and negative symptoms of schizophrenia and quality of life.

Study Design: This was a cross sectional, comparative and hospital based study.

Setting: The study was carried out in/out patient department of Psychiatry, Services Hospital, Lahore.

Subjects: Fifty consecutive patients from schizophrenia were included in the study. They were compared with fifty healthy subjects matched on three variables, which were matched for age, sex, education, employment and socio-economic status.

Results: Patients with schizophrenia had significantly poorer quality of life when compared with subjects. Quality of life is inversely related to the negative symptoms 56% positive symptoms 44% and general psychopathology of schizophrenia.

Conclusion: Quality of life is a broad concept of including person's subjective opinion regarding physical health, psychological state, personal beliefs, social relationships and their relationship to the environment. This study highlights that schizophrenia adversely affects the quality of life in all the above-mentioned areas.

This study emphasizes the patient's perspective regarding illness and its various aspects. There is a dire need to incorporate quality of life measures in health care system to make it more patient oriented.

Keywords: Schizophrenia, Quality of life, Positive symptoms, Negative symptoms,

INTRODUCTION

Schizophrenia is a common illness affecting 0.5-1 % people around the world^{1,2}. Both men and women are affected equally at the age between 15-30 years. There is little difference in incidence and prevalence of this illness in developed and developing countries³.

---- Patients with schizophrenia present with disturbance of thinking, perception, catatonic features, social withdrawal, social and occupational decline³. symptoms of schizophrenia are divided into categories positive symptoms, which include hallucinations, delusion, disorganized thinking speech and behavior. Negative symptoms are avolition, alogia, anhedonia, blunted affect and social withdrawal.⁴ Schizophrenia follows a variable course with substantial symptomatic and social recovery in about one third of cases.

---- As schizophrenia affects many areas of functioning, people with illness often lead an isolated and a marginalized existence in poor housing, with a low income, little education and poor vocational and social skills⁵.

---- Usten et al⁶ noted that schizophrenia causes a high degree of disability. In a recent fourteen countries study on disability associated with

psychical and mental condition, active psychosis was ranked as the third most disabling condition, higher than paraplegia and blindness, by general population.

---- In global burden of diseases schizophrenia accounted for 1.1% of the total Disability Adjusted Life Years (DALY's) and 2.8% of Years Lost due to Disability (YLD's).⁷ Continued disability can place a considerable burden on families of the patients⁸.

---- The treatment of illness was focused on improving the symptoms in the past. There is a shift in concept of treatment with more emphasis on patient's perspective one aspect of which is more important is quality of life.⁹ It is basically the quality of life, which influences person's satisfaction with life in response to physical, social and mental aspect of illness¹⁰.

---- Quality of life (QOL) is defined by most authors as multidimensional concept which includes subjective well-being, functioning in daily life, material and social support¹¹.

---- World Health Organization Quality of Life Group¹² defined it as "individuals' perceptions of their position in life in context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns".

---- Quality of life is influenced by premorbid adjustment, duration of psychosis and symptoms.¹³

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Failure to treat symptoms and side effects adequately is also associated with a poorer quality of life in chronic schizophrenia¹⁴.

-----There is a little information available regarding quality of life in schizophrenia in Pakistan. Study by Javed¹⁵ showing that despite successful rehabilitation of chronic schizophrenia patient's quality of life is significantly lower than that of controls.

METHODOLOGY

Study Group I: Fifty consecutive patients suffering from schizophrenia attending in/out patients facility at the Department of Psychiatry, Services Hospital Lahore.

Control Group II: Fifty healthy subjects matched for age, sex and socioeconomic status.

Inclusion criteria for study group I

1. --Both male and female patients.
2. -- Age range: 15 to 60 years.
3. --All cases with schizophrenia diagnosed on the basis of ICD- 10 (International Classification of Diseases and Related Health Problems -10th revision) criteria.111

Exclusion criteria of study group I

1. --Patients with diagnosed chronic medical illness.
2. --Patients with any psychiatric disorder other than schizophrenia.
3. --Patients with history of substance abuse.

Instruments

- ---The diagnosis of schizophrenia was made on the basis of ICD-10 111 criteria. Pattern of Present State Examination 112 (Urdu Version) was used for questioning.
- ---Positive, negative symptoms and general psychopathology was assessed by using positive and negative syndrome scale (PANSS). 113
- ---The quality of life was assessed on the basis of Urdu version of WHO QOL-BREF (World Health Organization Quality of Life Assessment – Brief version.
- ---**Positive and Negative Syndrome Scale for Schizophrenia**

-----It was originally developed by Fiszbein, Opler and Kay. 113 This is a 30 items, seven points rating instruments that evaluates positive, negative and general psycho-pathology symptoms. Its rating ranges from 1-7. 1 is absent, 2 minimal, 3 mild, 4 moderate, 5 moderately severe, 6 severe, 7 extreme. The test retest reliability of PANSS is 0.88 and criterion related validity 0.62. 113

Procedure: After careful selection of subjects the nature of study was explained to each individual in both study groups. It was made clear to them that there was no obligation to take part in the study. A written consent was taken from each individual. Each

subject was interviewed in a comfortable setting with adequate privacy. To obtain accurate information, a reliable attendant of each individual was also interviewed when required.

Statistical analysis: The collected data was later analyzed on computer using SPSS 10th version. Demographic data was analyzed by using descriptive statistics. Chi square test was used for non-numerical data. Numerical data were analyzed by using Students' t-test. Correlation coefficient was used to find out the relationship between the scores of PANSS and WHOQOL-BREF (domains and global items). The .05 level was accepted as the level of significance in the present research i.e. $p < .05$.

RESULTS

The sample was divided in two groups on the basis of presence or absence of schizophrenia.

Group I (n=50); patients with schizophrenia.

Group II (n=50); healthy subjects.

Both the groups were matched on age, sex and socioeconomic status.

----The age range of the total sample (n= 100) was 15-60 years. The mean range of total sample was 32.88±8.29 years. There was no significant difference ($p > .05$) between two groups regarding age. The study sample consisted of 67 males and 33 females. The results did not show significant difference ($p > .05$) between the two groups regarding sex. Majority of the subjects in group I and II were married. There was no significant mean difference ($p > .05$) between both groups regarding marital status of the subjects. Out of the total sample (n= 100), 28% belonged to rural background and 72 % belonged to urban origin, Results indicated no significant difference ($p > .05$) between group I and group II regarding background. There was no significant difference ($p > .05$) between group I and group II regarding educational status of the subjects. Majority of the subjects in both groups were metric by education.

----Majority of the subjects in group I (n= 50) and group II had no income, it can be seen that there was no significant difference ($p > .05$) between two groups regarding socioeconomic status. Majority of the subjects in group I (n=50) and group II were unemployed. Among the sample of 50 patients with schizophrenia in group I, 22 % were having positive symptoms subtype of schizophrenia and 78 % were having negative symptoms subtype on PANSS. There was a significant mean scores difference between the two groups: group I (schizophrenia patients) and group II (healthy subjects) on scores of WHOQOL-BREF, each domain and global items, which indicated that schizophrenias patients had significant poor quality of life when compared with

healthy subjects. The results showed significant correlation ($p < .05$) between total scores on PANSS and on domain 1, 2, 3 and Item 1. There was negative correlation between the total scores on PANSS and on domain 4 and Item 2. But the correlation was not significant ($p > .05$). Results showed with worsening of schizophrenia, there was deterioration in QOL in physical health, psychological health, social relationship as well as in overall quality of life. On the other hand there was no significant deterioration in environmental domain and in general health. On negative subscale of PANSS the results

were significant in all domains and global items, which showed that with aggravation of negative symptoms the quality of life worsened. On positive subscale of PANSS, there was a negative correlation. The correlation was non-significant.

Table 1: Distribution of Symptomatology of Schizophrenia (n = 50)

Sub Scales of PANSS	n	%age
Positive symptoms	22	44
Negative symptoms	28	56

PANSS: Positive and Negative Syndrome Scale for Schizophrenia

Table 2: Comparison between Group I and Group II on scores on WHO QOL- BREF Domains and Global Items

Domains	Group I (Mean ± SD)	Group II (Mean ± SD)	t	p
Physical Health	48.76 ± 16.40	50.04 ± 16.22	3.15	< 0.05
Psychological Health	43.28 ± 15.50	66.06 ± 17.64	6.95	< 0.05
Social Relationships	43.70 ± 21.93	55.52 ± 12.43	3.32	< 0.05
Environment	39.30 ± 2.14	62.52 ± 2.54	6.99	< 0.05
Items				
Item 1	2.76 ± 1.15	3.54 ± 0.61	4.22	< 0.05
Item 2	3.16 ± 0.88	3.62 ± 0.77	2.75	< 0.05

WHOQOL- BREF : World Health Organization Quality of Life Scales- Brief version

Table 3: Correlation Coefficient between scores of PANSS and WHO QOL-BREF, domains and global items

Domain	Negative r	P	Positive r	p	General Psychopathology r	P	Total r	p
Physical Health	-.385	< .05	-.241	> .05	-.261	> .05	-.368	< .05
Psychological Health	-.256	< .05	-.225	> .05	-1.76	> .05	-.306	< .05
Social Relationships	-.315	< .05	-.224	> .05	-.092	> .05	-.315	< .05
Environment	-.272	< .05	-.123	> .05	-.110	> .05	-.175	> .05
Items								
Items 1:	-.319	< .05	-1.99	> .05	-.387	< .05	-.397	< .05
Item 2:	-.324	< .05	-.026	< .05	-.171	< .05	-.238	> .05

WHOQOL-BREF: World Health Organization Quality of Life Scale –Brief Version
Item 2: "Satisfaction with Health"

Correlation Coefficient

m 1: "General Quality of Life"
Alpha Level

DISCUSSION

This study assessed the relationship of quality of life with the symptomatology of Schizophrenia. Ho et al³⁶ studied QOL and symptoms of schizophrenia. Results of this study were in accordance with current study. The results of study by Browne et al were in line with our study as subjects' total QOL was inversely correlated with the total PANSS score, the QLS score was significantly correlated with PANSS negative and general psychopathology. There was no significant relationship with positive symptoms. The results of the study by Giner et al are in line with the present study despite use of different instrument for QOL. Bow-Thomas et al²⁰ studied a sample of 45 patients with schizophrenia. Bengtsson-Tops reported that most severe negative and positive symptoms were related to a worse social network and poor quality of life. Their results were in accordance with the present study. Javed¹⁴ found that the group of schizophrenics had a significant poor quality of life as compared to healthy controls.

Spirodonow⁴⁴ reported that psychopathology strongly influenced the QOL. The results of this study are similar to that of the present study.

Limitation of the study: The present study has a number of limitation, which include:

- 1.-- The sample was assessed only once. The possibility of change in severity of symptoms of schizophrenia and quality of life at later stages cannot be determined.
- 2.-- The study did not focus on the effect of treatment and duration of illness related to quality of life of patients.
- 3.-- It was hospitalized based study and majority (72%) of the sample belong to urban background, therefore results cannot be generalized in community people.
- 4.-- The quality of life researches usually need larger sample size, however the sample size in the present study was relatively small.
- 5.-- The impact of demographic and social variables on the QOL has not been included in the study.

- 6.--The present study both the researcher and the sample was aware of the objectives of the study that could have a based effect on the results.
- 7.--The sample was not matched regarding marital status in present study

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