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## **Quality of life in patients with schizophrenia- A hospital-based cross-sectional survey from South Odisha**

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**Abstract**--There is limited evidence from India on the effect schizophrenia has on the quality of life (QoL) of patients. Our study aimed to determine the quality of life of patients with schizophrenia and analyze its determinants. This was a cross-sectional study carried out at the psychiatric outpatient department of SLN Medical College and Hospital in Koraput among 100 adult patients diagnosed with schizophrenia. Data was collected by psychiatrists using the Positive and Negative Syndrome Scale (PANSS) tool along with the WHO QoL BREF version HADS (Hamilton Anxiety and Depression Scale) and GAF (Global Assessment of Functioning) tools. Among the participants, the lowest scores for WHOQOL-BREF were reported in the psychological domain of health (mean=11.6; SD=2.3), followed by the social domain (mean=12.2; SD=3.3) and environmental domains (mean=13.8; SD=2.4). The highest score was seen in the physical health domain (mean=13.9; SD=2.6). In general, the QoL was better among females than males. We found a significant association between the socio-demographic characteristics such as social support and the quality of life in schizophrenia. Significantly higher scores were recorded from respondents who had good financial and living conditions and this was seen in all domains of the quality of life. Higher GAF scores were associated with a better QoL in all domains, the strongest correlation seen in the environment domain. The association of QoL scores with PANSS scores was not statistically significant for the most part. We found a significant correlation between the severity of anxiety and depression and scores of all domains of quality of life. In conclusion,

we found that overall the QoL was poor in schizophrenia patients and this was true for all domains of QoL. We also reported significant determinants and covariates of this QoL such as the relationship with symptom severity, anxiety and depression, and global function.

**Keywords**---Psychiatry, Schizophrenia, quality of life, WHO BREF, GAF, HADS, PANSS.

## Introduction

Schizophrenia is a serious psychiatric disorder characterized by psychosis, associated disability, and functioning. (1) It is strongly linked with stigma and discrimination, and over two-thirds of patients lack specialist mental health care. It affects around 1 in 300 persons across the world and is mostly diagnosed in adulthood. (1) Schizophrenia remains a significant mental health burden in India with varying estimates of prevalence. Common outcomes of schizophrenia include diminished sociality, poor emotional responsiveness, low level of emotional expressions and neuromotor dysfunction. (2)

Patient-reported outcome measure is important in mental health assessments and Quality of life (QoL) is a major indicator of this. The World Health Organization's Health-related QoL is a suitable tool to assess QoL in mental illnesses and has been used previously in other studies outside India. (3) QoL is defined by the WHO 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."

The aim of treatment for schizophrenia was previously focused on reducing the psychopathological symptoms, and not emphasizing everyday life problems such as social functioning or ability to cope with day to day duties. However, currently, the main aim of psychiatric care is improvement in patients' quality of life. Evidence suggests that patients with mental illness show a lower overall QoL as compared to the general population. (4,5) The QoL in patients with schizophrenia also depends on various determinants such as socio-demographic characteristics, clinical, and economic factors.

Due to poor insight and other psychopathological symptoms, the evaluation of QoL, which is subjective in nature, has been questioned. (6) However, recent studies have established that in patients with schizophrenia who are willing to cooperate, QoL assessment is possible during remission. (7) While the tools have been validated in India, there are insufficient studies exploring the results in Indian population. With this background, the aim of our study was to determine the quality of life of patients with schizophrenia and analyze its determinants.

## Methodology

This was a cross sectional study carried out at the psychiatric out-patient department of SLN Medical College and Hospital in Koraput between January to May 2022. We included 100 patients over 18 years of age who were diagnosed

with schizophrenia according to ICD-10 criteria and with a duration of two years and above. We excluded patients with primary diagnosis of depression or any other comorbid psychiatric disorder, organic brain disorder, or substance dependence.

We have obtained informed consent from the primary care giver and ethical committee clearance was obtained prior to the study initiation. Serial sampling was done for selection of participants. We used a pre-designed data collection proforma for evaluation and data collection. We used the Positive and Negative Syndrome Scale (PANSS) tool along with the WHO QoL BREF version tools for evaluation of all patients. (8–10) Additionally, HADS (Hamilton Anxiety and Depression Scale) and GAF (Global Assessment of Functioning). (11,12) Data on the family's perceptions and attitudes was also collected by the investigators through interviews.

Descriptive analysis was done using the data collected and all categorical variables were presented as proportions. We performed correlation analysis considering the ordinal outcome variables on a scale to assess for possible determinants. Means were used for measures of central tendency along with standard deviations range. Standard reporting guidelines for observational studies were followed during preparation of the report.

## **Results**

We included a total of 100 participants in this study with an average age of 36 years (SD=8.9 years). Among them 60% were females and the rest males. The lowest scores for WHOQOL-BREF was reported in the psychological domain of health (mean=11.6; SD=2.3). This was followed by social domain (mean=12.2; SD=3.3) and environmental domains (mean=13.8; SD=2.4). The highest score was seen in physical health domain (mean=13.9; SD=2.6). In general, the QoL was better among females than males. However, we did not find any statistically significant difference between the genders related to their QoL in total or as per their domains.

We found a significant association between the socio-demographic characteristics and the quality of life in schizophrenia. As compared to divorced and widowed persons, those who were unmarried or currently married had significantly higher scores in psychological, social and environmental domains of QoL. Those living with their parents or siblings had a lower QoL in social domain as compared with those living with their children or a partner. Significantly higher scores were recorded from respondents who had a good financial and living condition and this was seen in all domains of the quality of life. However, this correlation was most strong in the environmental domain, followed by psychological and physical domains. Occupational engagement was also associated with a higher QoL. Higher GAF scores was associated with a better QoL in all domains, the strongest correlation seen in environment domain (Table-1).

Table-1. Domains of quality of life in people with schizophrenia and their correlation with GAF scores		
WHO QoL BREF domains scores	GAF scores	
	Statistical Analysis	
	p	R
Physical health	p<0.05	R = 0.35
Psychological health	p<0.01	R = 0.47
Social relationships	p<0.01	R = 0.37
Environment	p<0.001	R = 0.55

The association of QoL scores with PANSS scores was not statistically significant for the most part. However, with better QoL reported a lower PANSS scores across its domains. Although a significant negative correlation was seen for general health status and negative symptoms of the PANSS scale (Table-2).

Table-2. Domains of quality of life in people with schizophrenia and their correlation with PANSS scores				
WHOQoL-BREF-Domains	Pearson's Correlation Coefficient, r			
	PANSS-Positive syndrome	PANSS-Negative syndrome	PANSS-General psychopathology	PANSS-Composite index
Physical health	0.03	-0.07	-0.05	-0.04
Psychological health	-0.08	-0.19	-0.12	-0.16*
Social relationships	0.02	-0.30*	-0.09	-0.12
Environment	-0.17*	-0.19*	-0.23*	-0.19*

*\*Statistically Significant with p<0.05*

We found a significant correlation between the severity of anxiety and depression and scores of all domains of quality of life. (Table-3) Positive attitude of families towards treatment was associated with a better general quality of life.

Table-3. Domains of HADS in people with schizophrenia and their association with mean WHO QoL scores					
HADS severity scale		Mean WHO BREQ QoL scores(mean, SD)			
		Physical	Psychological	Social	Environmental
Anxiety	Normal	14.39 (±1.26)	13.33 (±1.87)	13.21 (±1.92)	14.36(±2.94)
	Mild	13.22 (±1.95)	11.67(±2.65)	12.65 (±2.63)	13.27(±1.38)
	Moderate	12.75 (±1.99)	10.32 (±2.30)	10.39 (±2.18)	11.19(±3.55)
	Severe	10.21 (±2.37)	9.29 (±1.58)	9.21 (±1.19)	10.38(±1.47)
Depression	Normal	14.65 (±1.57)	12.54 (±1.25)	13.51 (±1.99)	13.774(±1.42)
	Mild	14.23 (±2.26)	12.31 (±1.40)	13.38 (±1.09)	14.93(±2.36)
	Moderate	11.29 (±2.85)	9.67 (±3.18)	9.13 (±1.35)	11.61(±1.67)
	Severe	9.43 (±2.12)	7.21 (±2.19)	8.25 (±2.36)	9.22(±1.27)

## Discussion

This study assesses the quality of life in schizophrenia patients in multiple domains and assessed their association with anxiety/depression severity as well as symptoms and function. We found an in general poor quality of life in these patients and this was significantly associated with severity of anxiety and depression, poorer function and higher severity of symptoms. Similar findings have been reported elsewhere, but the consistency of findings from various settings remains unclear. Similar to our findings, other studies have found that the highest QoL scores were in physical health followed by environment, social and psychological domains.(13) Some others have reported a similar trend but with social domain scores being lowest. (14)

There have been conflicting reports regarding the QoL differences between males and females with schizophrenia. Many studies have found that males were more predisposed to a poor QoL associated with schizophrenia as compared to females.(15) However, some have reported a better QoL in males and some other studies have reported no significant difference between the genders. (16,17) People with schizophrenia usually have problems in maintaining relationships, primarily because of their psychopathological symptoms. Other causes include a low self-esteem and inability to maintain intimate relationships. Additionally, psychotropic drugs may lead to decreased libido or impotency. While a limited social life and related stigmatization may also be responsible for a lack of relationships, a few studies such as the one by Skantze et.al. did not find any correlation between these factors. (18)

We found that a higher socio-economic status led to better quality of life and this is corroborated by other studies as well. (19) Occupational activity has an influence on the QoL in patients with schizophrenia. Previous evidence suggests that patients who were employed showed a better QoL, specially in the physical and psychological domains of QoL. (6,18) However, it is also to be noted that many patients have challenges in finding employment despite a stable health status. This is probably due to other factors influencing employability such as side effects of neuroleptics and frequent hospitalizations and most importantly, stigma. (20,21)

Like our study, available evidence suggests a relationship between GAF scores and QoL in people with schizophrenia.(22) However, there remain inconsistencies regarding the correlation between psychopathological symptoms and QoL. A few like Narvaez et al. reported that severity of positive symptoms had no association with QoL while other studies reported that a reduction of positive symptoms improves QoL.(22,23)

It is well recognized that depression and anxiety are significant predictors of QoL in schizophrenia and our study corroborates this.(23) Depressive symptoms influence the QoL more than psychotic symptoms. A study from China has shown that while depression is negatively correlated with all domains of QoL, anxiety is related with only the psychological domain.(14) Social support is one of the most important factors related to better mental health and this is also associated with a better QoL in people with schizophrenia.(24)

In our study, all assessments and data collection was done by trained psychiatrists which is a major strength. Our study is however, limited by its sample size and scope of participants and therefore cannot be generalized to the target population. In conclusion, our study, which was one of a first from the region exploring the QoL among patients with schizophrenia, found that overall the QoL was poor in these patients and this was true for all domains of QoL. We also reported significant determinants and covariates of this QoL such as relationship with symptom severity, anxiety and depression, and global function.

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