ORIGINAL RESEARCH ARTICLE

A Study of The Quality of Life in Patients with Schizophrenia: A Cross-Sectional Study in A Tertiary Care Hospital, Mumbai, India

Prasad Tagad[1], Nitin Bhoge[2], Ivan Netto[3], Pritish Raut[4]*

[1]DVVPF's Medical College & Hospital, Ahmednagar, India
[2]Dr. Vaishampayan Memorial Government Medical College, Solapur, India
[3]BJ Government Medical College, Pune, India
[4]Chhatrapati Sambhaji Maharaj Government Medical College, Satara, India

DOI: 10.55489/njcm.151220244639

ABSTRACT

Background: There are limited recent Indian studies assessing the quality of life in patients with schizophrenia. This study evaluated the socio-demographic data, psychopathology, quality of life, and their associations in patients with schizophrenia.

Methodology: Fifty outpatients with schizophrenia, meeting ICD-10 DCR criteria, were assessed using Kuppuswamy's socioeconomic status scale, the Positive and Negative Syndrome Scale (PANSS), and the Quality-of-Life Scale (QLS).

Results: The mean patient age was 36.3 years, with a male-to-female ratio of 1.6:1. Most patients were married, unemployed, educated up to middle school, and belonged to the upper-lower socioeconomic class. Clinically, they had mild psychopathology with a mean PANSS total score of 62.36. Quality of life assessment revealed that 12% had severe impairment, 64% had mild to moderate impairment, and 24% had no impairment. Occupational status was significantly associated with QLS scores. PANSS scores negatively correlated with QLS scores, with stronger correlations in the general psychopathology and negative symptom domains.

Conclusion: The findings emphasize the need for personalized and holistic approaches to managing schizophrenia, addressing both clinical symptoms and socio-demographic challenges.

Key-words: Schizophrenia, Psychopathology, Quality of Life, Psychometric Scales

ARTICLE INFO

Financial Support: None declared

Conflict of Interest: None declared

Received: 02-09-2024, **Accepted**: 26-10-2024, **Published**: 01-12-2024

***Correspondence:** Dr. Pritish Raut (Email - dr.pritishraut@gmail.com)

How to cite this article: Tagad P, Bhoge N, Netto I, Raut P. A Study of The Quality of Life in Patients with Schizophrenia: A Cross-Sectional Study in A Tertiary Care Hospital, Mumbai, India. Natl J Community Med 2024;15(12):1036-1042. DOI: 10.55489/njcm.151220244639

www.njcmindia.com │pISSN: 0976-3325│eISSN: 2229-6816│Published by Medsci Publications

INTRODUCTION

Quality of life (QOL) is defined by the World Health Organization (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." WHO emphasizes the importance of well-being, beyond merely the absence of disease, as an essential component of health-something that has not received much attention for a considerable period of time.[1] Today, quality of life is a highly valued assessment, not only in psychiatry but also in many other fields, particularly in branches of medicine dealing with patients who suffer over long periods of time. The burden of illness resulting from psychiatric disorders is substantial, but it is often given less importance in typical public health statistics, which tend to focus on mortality rather than morbidity or dysfunction.[2]

With the advent of deinstitutionalization, there was a significant shift in how care for individuals with serious mental illnesses was perceived, highlighting the importance of quality of life as a critical outcome in psychiatric care. Schizophrenia, one of the most chronic, severe, and disabling psychiatric disorders, imposes disproportionately high social and economic costs relative to its incidence and prevalence. In a 14-nation study assessing disability across various illnesses, schizophrenia ranked as third most disabling condition among mental illnesses and was even considered more disabling than paraplegia or blindness.[3]

Schizophrenia impairs an individual's ability to think clearly, manage emotions, make decisions, relate to others, and differentiate delusions or hallucinations from reality. Both the positive and negative symptoms of schizophrenia severely hinder an individual's capacity to cope with the demands of daily life, particularly in environments involving social interaction and the decoding of social communication. This results in impairments in many aspects of life, including physical and cognitive functioning, mood, social and occupational roles, and economic stability. These challenges are often exacerbated by societal reactions, such as stigma and social exclusion.[4]

There are limited recent studies on the quality of life in schizophrenia patients in the Indian context. This study aims to evaluate the socio-demographic factors, psychopathology, and quality of life, and to explore the associations between these elements in patients with schizophrenia. The findings will aid in planning customized rehabilitation interventions, training mental health professionals, and encouraging further research for schizophrenia patients in the Indian setting.

The study aimed to assess the socio-demographic data, psychopathology, and quality of life (QOL) in patients with schizophrenia. It also examined the relationship between socio-demographic factors and QOL, as well as the correlation between psychopathology and QOL in these patients.

METHODOLOGY

The study was conducted on outpatients diagnosed with schizophrenia, attending the Psychiatry Department at Dr. Vithalrao Vikhe Patil Foundation's Medical College & Hospital, Ahmednagar, Maharashtra. A total of 50 patients were selected for this cross-sectional and descriptive study. The sample size of 50 patients was selected to maintain a balance between feasibility and meaningful data collection. Given that the study was conducted in a single institution, limiting the number of participants ensured the availability of adequate resources and allowed for in-depth, individualized assessments. The inclusion criteria required patients to meet the ICD-10 Diagnostic Criteria for Research (DCR) for schizophrenia, be between the ages of 18 and 50, be of either sex, and be on regular maintenance treatment for schizophrenia. Patients with chronic medical illnesses, co-morbid psychiatric conditions, or substance use disorders (except nicotine) were excluded, as were those exhibiting extrapyramidal side effects.

The study protocol was approved by the Institutional Ethics Committee, and patients who met the inclusion and exclusion criteria were recruited. Detailed information about the study was provided to both patients and their relatives, with written informed consent obtained from those willing to participate. Socioeconomic status was assessed using the Kuppuswamy socioeconomic scale[5,6] and the diagnosis of schizophrenia was confirmed using the ICD-10 DCR[7]. The ICD-10 Diagnostic Criteria for Research (DCR) for schizophrenia require the presence of characteristic symptoms for at least one month. Key symptoms include delusions (such as thought insertion or broadcasting), hallucinations (especially auditory), disorganized speech or behaviour, and negative symptoms like emotional flatness or lack of motivation. At least one of these core symptoms, or two of secondary symptoms like catatonic behaviour or persistent delusions, must be present. These criteria ensure a standardized and reliable diagnosis for research purposes, focusing on clear, persistent, and clinically significant symptoms.

Psychopathology was assessed using the Positive and Negative Syndrome Scale (PANSS)[8], a 30-item tool divided into three subscales: positive, negative, and general psychopathology. Each item was rated on a 7-point scale, with higher scores indicating more severe symptoms. Total scores range from 30 to 210, with higher scores indicating more severe psychopathology. Scores of 30–58 reflect minimal to mild symptoms, 59–75 indicate moderate symptoms, 76–120 signify marked severity, 121–150 represent severe symptoms, and 151–210 indicate extreme severity.

Quality of life (QOL) was evaluated using the Quality

-of-Life Scale (QLS)[9], which assesses four domains: interpersonal relations, instrumental role, intrapsychic foundations, and common objects and activities. Each domain is rated on a 7-point scale, where higher scores indicate better quality of life. The total QLS score ranges from 0 to 126, with scores categorized as severe impairment (below 42), mild to moderate impairment (43-84), or no impairment (above 85).

Statistical analysis: Statistical analysis of the data was conducted using the Statistical Package for Social Sciences (SPSS) for Windows (version 20) and Microsoft Excel 2007. Categorical variables were analysed using the Chi-Square test and Fisher's Exact test. To examine the correlation between psychopathology (measured by PANSS scores) and quality of life (measured by QLS scores), the Pearson correlation coefficient was employed. A p-value of less than 0.05 was considered statistically significant.

RESULTS

The age of the patients in our study ranged over 20 to 50 years. The mean age was 36.3 years. The male: female ratio was 1.6:1. Most of the patients (42%) were married. Almost an equal number of patients were from urban and rural area. Most of the patients (70%) were from upper lower class, followed by lower middle class. Most patients were educated up to the middle school (32%), followed by high school (22%), primary school (18%) and diploma holders (14%).44% of the patients were unemployed, 20% were farmers and 36% had other type of occupation (including unskilled, semi-skilled workers and professional jobs) (Table 1).

Psychopathology was assessed using the positive and negative syndrome Scale (PANSS). Most of the patients were clinically stable and had mild psychopathology (Table 2).

The mean ± SD for QLS total scores was 3.19 ± 1.064. QLS subscales were as follows: interpersonal relations (Subscale I) were 3.02 ± 0.99, instrumental role (Subscale II) was 3.32 ± 1.17, intrapsychic foundations (Subscale III) were 3.36 ± 1.23, and common objects and activities (Subscale IV) was 2.86 ± 1.05. In the interpersonal relations domain, 80% (n=40) of patients showed mild to moderate impairment, 10% (n=5) had severe impairment, and 10% (n=5) had no impairment. For the instrumental role domain, 70% (n=35) exhibited mild to moderate impairment, 4% (n=2) had severe impairment, and 26% (n=13) had no impairment. In the intrapsychic foundation's domain, 52% (n=26) had mild to moderate impairment, 14% (n=7) had severe impairment, and 34% (n=17) showed no impairment. In the common objects and activities domain, 80% (n=40) experienced mild to moderate impairment, 12% (n=6) had severe impairment, and 8% (n=4) had no impairment. Overall, 64% (n=32) of patients had mild to moderate impairment in the total QLS score, 12% had severe impairment, and 24% (n=12) showed no impairment.

Table 1: Socio-demographic profile

Variable	Patients (%)
Age groups in years	
20-29	10 (20)
30-39	16 (32)
40-50	24 (48)
Gender	
Males	31 (62)
Females	19 (38)
Residence	
Urban	28 (56)
Rural	22 (44)
Religion	
Hindu	46 (92)
Muslim	2 (4)
Buddhist	2 (4)
Education	
Uneducated	5 (10)
Primary school	9 (18)
Middle school	16 (32)
High School	11 (22)
Intermediate/ diploma	7 (14)
Graduate	2 (4)
Type of family	
Joint	6 (12)
Nuclear	44 (88)
Socio-economic status[5,6]	
I	1 (2)
II	4 (8)
III	10 (20)
IV	35 (70)
Occupation	
Unemployed	22 (44)
Unskilled	11 (22)
Semi-skilled	4 (8)
Farmer	10 (20)
Clerk	1 (2)
Professional	2 (4)
Marital status	
Married	21 (42)
Separated	11 (22)
Unmarried	18 (36)

Table 2: PANSS score of the patients

PANSS score	Mean Score ± SD
Positive score	16.16 ± 5.084
Negative score	17.84 ± 6.089
General Psychopathology score	28.66 ± 7.099
Total score	62.36 ± 15.685

SD - Standard deviation

Table 4 shows age was significantly associated only with the intrapsychic foundations subscale (Subscale III) with a p-value of 0.0321, while no significant associations were found with other subscales or the total score. Gender, residence, education, type of family, and socio-economic status did not show any significant associations with any of the QLS subscales or total score. However, occupation was significantly associated with all QLS subscales and the total score, with p-values ranging from 0.001 to 0.046, indicating a strong relationship. Marital status showed no significant associations with any of the subscales or the total QLS score.

Table 3: Distribution of study participants on basis of Quality-of-Life Scale (QLS) score

QLS subscale	Scores		
	<2*	**2-4****	**>4*****
I (Interpersonal relations)	05 (10%)	40 (80%)	05 (10%)
II (Instrumental role)	02 (4%)	35 (70%)	13 (26%)
III (Intrapsychic foundations)	07 (14%)	26 (52%)	17 (34%)
IV (Common objects and activities)	06 (12%)	40 (80%)	04 (8%)
Total QLS score	06 (12%)	32 (64%)	12 (24%)

***Unimpaired Quality of Life; **Mild to moderately impaired Quality of Life; *Severely impaired Quality of Life

Table 4: Association between different socio-demographic variables with QLS score (p values)

Variable	QLS subscale				
	I	**II**	**III**	**IV**	**Total score**
Age	1.0	0.261	0.0321*	0.341	0.404
Gender	1.0	0.770	0.980	0.870	0.967
Residence	0.155	0.612	1.0	0.971	0.883
Education	1.0	0.392	0.300	0.320	0.636
Type of family	0.103	0.173	0.396	0.167	0.141
Socio-economic status	0.629	0.260	0.118	0.528	0.515
Occupation	0.046*	0.001*	0.003*	0.002*	0.001*
Marital status	0.377	0.843	0.670	0.123	0.670

*Significant; QLS: Quality of Life Scale

Table 5: Correlation between PANSS score and QLS score

Score	QLS Subscale I	QLS Subscale II	QLS Subscale III	QLS Subscale IV	QLS Total Score
Positive Score					
Pearson Correlation	-.499**	-.455**	-.440**	-.305*	-.472**
P	<0.001	0.001	0.001	0.031	0.001
Negative Score					
Pearson Correlation	-.828**	-.755**	-.891**	-.764**	-.887**
P	<0.001	<0.001	<0.001	<0.001	<0.001
General Score					
Pearson Correlation	-.814**	-.674**	-.847**	-.725**	-.837**
P	<0.001	<0.001	<0.001	<0.001	<0.001
Total Score					
Pearson Correlation	-.836**	-.734**	-.860**	-.710**	-.865**
P	<0.001	<0.001	<0.001	<0.001	<0.001

*Correlation is significant at the 0.05 level; **Correlation is significant at the 0.01 level

Overall, occupation was the most influential socio-demographic variable associated with quality of life in this sample.

Table 5 displays the correlation between the PANSS scores and the QLS scores across various subscales and total scores. The results indicated significant negative correlations for both positive and negative scores with all QLS subscales and total scores. The negative scores showed the strongest correlations, with coefficients ranging from -0.755 to -0.891, while the positive scores had weaker correlations, ranging from -0.305 to -0.499. All correlations were statistically significant, with p-values less than 0.001, except for Subscale IV of the positive scores, which had a p-value of 0.031. Overall, higher PANSS scores were associated with lower QLS scores, suggesting that increased symptom severity was linked to reduced quality of life.

DISCUSSION

This study aimed to evaluate the socio-demographic factors, psychopathology, and their association with quality of life (QOL) in patients with schizophrenia at a tertiary care hospital. Research indicates that multiple factors can significantly impact the quality of life in individuals with schizophrenia, including age, sex, severity of psychopathology, medication side effects, and psychological adjustment. By investigating these variables, we hope to provide valuable insights into the complex interplay between them and the overall quality of life in this population.

The mean age of participants in our study was 36.3 years, which corroborates findings from other studies conducted both in India and abroad.[10-12] This suggests that the age distribution of our sample is representative of the broader schizophrenia patient population. The gender distribution in our study was comparable to findings in several other studies[10,13-14], indicating that our sample reflected the typical gender ratios observed in schizophrenia research. Notably, most participants in our study had completed at least secondary school education. This can be attributed to the onset of schizophrenia during adolescence, which often impairs cognitive abilities and educational attainment.[15-18] The emphasis on education in this demographic may highlight the need for targeted educational interventions to support those affected.

Regarding family structure, our study's findings diverged from those of Solanki et al[12], who reported a higher prevalence of nuclear families among their participants. This discrepancy could stem from cultural differences that influence family dynamics and support systems for individuals with mental illness. In terms of socioeconomic status, our results aligned with those of Solanki et al. and Kujur et al[12,19], revealing that the majority of patients in our study were classified as upper-lower class. The socioeconomic status of patients plays a crucial role in accessing healthcare services and social support, which can ultimately affect their quality of life.

Our study also revealed that 44% of participants were unemployed, a finding consistent with other research indicating high unemployment rates among individuals with schizophrenia.[12,17,20] For instance, Narvaez et al.[18]reported that 94% of patients were unemployed, highlighting a pervasive issue that transcends cultural boundaries. The high rates of unemployment in this population can be attributed to various factors, including stigma, cognitive impairments, and the side effects of antipsychotic medications, which may hinder patients' ability to maintain regular employment.

The marital status of our study population was found to be comparable with findings from Gallupi et al[14], while other studies reported higher rates of single patients.[10-11] These variations could be due to cultural differences that influence marriage and relationship dynamics among individuals with schizophrenia. Our study highlights the importance of considering these factors in understanding the quality of life in this population.

Psychopathology was assessed using the Positive and Negative Syndrome Scale (PANSS), and our findings aligned with other studies indicating that most patients were clinically stable and experienced mild psychopathology.[12,14-15,21] This suggests that the patients in our sample may have benefited from ongoing treatment and support, contributing to their overall stability.

When evaluating quality of life, our study found that most patients experienced mild to moderate impairment. This finding is consistent with other studies that have identified impaired quality of life in patients with schizophrenia. For instance, Narvaez et al[18] studied predictors of both subjective and objective quality of life using the Quality-of-Life Interview (QOLI) and found that participants rated their quality of life at a midpoint on a 1-7 scale. Similarly, Solanki et al.[12] reported impoverished quality of life, particularly in the social relationship domain, using the WHOQOL-BREF scale. These findings underscore the need for comprehensive interventions to enhance the quality of life for individuals with schizophrenia.

Our analysis revealed no significant association between patients' age and quality of life, a finding supported by various studies.[10,13,17,22] Some literature suggests that older patients may experience improved quality of life due to greater knowledge about their illness and treatment options.[14.23] In contrast, Narvaez et al.[18] found that poor objective quality of life was associated with older age, attributing this to reduced daily activities and social interactions.

Regarding gender, our study found no statistically significant association between gender and quality of life (Table 4), aligning with the results of other studies.[10,13,24] Chan and Yu[17] reported that females had lower quality of life compared to males, primarily due to life satisfaction issues related to leisure and personal safety. Cultural factors may further exacerbate these disparities, as many women in Asian countries are economically dependent on their spouses. In contrast, Western studies have shown that lower quality of life is associated with male gender, highlighting differing societal norms and expectations.

Our study found no significant association between educational status and quality of life (Table 4), corroborating findings from other research.[10,16-17] However, some studies, such as those by Narvaez et al[18] and Cardoso et al[26], found lower quality of life correlated with lower educational attainment. This inconsistency may arise from differing socio-economic contexts, where patients with higher education levels face greater societal pressures and unmet expectations.

Concerning family type, we observed no significant association with quality of life (Table 4). Family plays a critical role in the care of individuals with mental illness, especially in developing countries, where strong familial bonds are commonplace.[17,28] Positive familial support can enhance the quality of life for individuals facing stigma or discrimination.[29]

Our study did not find a statistically significant association between socioeconomic status and quality of life (Table 4), consistent with the findings of Tan et al.[23] However, other studies indicated that lower income is often associated with poorer quality of life.[12,26] This discrepancy may highlight the complexities of how socioeconomic factors interact with mental health.

We identified a significant association between occupational status and quality of life ($p < 0.05$) where employed patients reported greater satisfaction compared to unemployed individuals (Table 4). This finding aligns with Solanki et al.[12], who noted that employment positively influences quality of life. Unemployment can detrimentally affect patients' self-concept and overall perception of their worth, resulting in lower quality of life.[17,21,30] Many patients, despite having stable mental health, struggle to find employment due to various barriers, including the side effects of medications and social stigmatization.

In our study, no significant association was found between marital status and quality of life (Table 4), which aligns with other research.[10,17] While being single has been linked to lower quality of life in various domains[25-26], our findings suggest that marital status may not be a determining factor in this population.

A significant negative correlation was observed between psychopathology measured by the PANSS scale and quality of life assessed by the QLS. Specifically, negative symptoms and general psychopathology scores were more significantly correlated with the common objects and activities domain of quality of life (Table 5). This finding corroborates the work of Browne et al.[31], who also noted that negative symptoms significantly influence quality of life, with more emphasis placed on negative than positive symptoms. Solanki et al.[12] found similar negative correlations across quality-of-life domains using the WHOQOL-BREF scale.

While some studies suggest that positive symptoms have minimal impact on quality of life[15,32], our findings indicate that negative symptoms may play a more critical role in determining quality of life. These differences highlight the necessity for tailored interventions that address both clinical symptoms and the broader socio-demographic factors affecting individuals with schizophrenia. Overall, our study underscores the multifaceted nature of quality of life in schizophrenia, suggesting that addressing psychopathology while considering socio-demographic variables can lead to improved outcomes for this population.

STRENGTHS

This study is one of the few Indian investigations into the quality of life in schizophrenia patients, emphasizing the impairment in QOL and the associated factors. By employing a multidimensional approach, we utilized the Quality-of-Life Scale (QLS), which includes both objective and subjective indicators, alongside clinical and socio-demographic data.

LIMITATIONS

The study sample comprised clinically stable outpatients, limiting the generalizability of findings to all schizophrenia patients, particularly those with severe psychotic symptoms. Additionally, other influential factors such as premorbid adjustment, social support networks, medication side effects, and psychosocial interventions were not assessed.

CONCLUSION

This study highlights the significant effects of sociodemographic factors and psychopathology on the quality of life in patients with schizophrenia. Our findings indicate that variables such as age, gender, education level, and employment status significantly influence the overall well-being of individuals with schizophrenia. Moreover, the severity and type of psychopathological symptoms are crucial in shaping QOL. The application of validated psychometric scales has offered valuable insights into the multidimensional nature of quality of life in this population.

REFERENCES

1. World Health Organization. WHOQOL: Measuring Quality of Life. Available at: https://www.who.int/tools/whoqol. Accessed on January 11th 2024.
2. Developments in mental health scenario: Need to stop exclusion - Dare to care. ICMR Bulletin. 2001 Apr;31(4). Available at: https://www.icmr.gov.in/icmrobject/custom_data/pdf/icmr-bulletins/buapr01.pdf. Accessed on February 19th 2024
3. Johnson DL. Global impact of schizophrenia. Expert Rev Neurother. 2002 Jan;2(1):1-4.
4. Alptekin K, Akvardar Y, Akdede BB, Dumlu K, Işık D, Pirinçci F, Yahssin S, Kitiş A. Is quality of life associated with cognitive impairment in schizophrenia? Prog Neuropsychopharmacol Biol Psychiatry. 2005 Feb;29(2):239-44.
5. Kuppuswamy B. Manual of socioeconomic status (urban). Delhi: Manasayan. 1981;8:66-72.
6. Patro BK, Jeyashree K, Gupta PK. Kuppuswamy's socioeconomic status scale 2010—the need for periodic revision. Indian J Pediatr. 2012 Mar;79:395-6.
7. World Health Organization. The ICD-10 classification of mental and behavioural disorders: diagnostic criteria for research,1992. Available at: https://www.who.int/publications/i/item/9241544228. Accessed on January 11th 2024.
8. Kay SR, Fiszbein A, Opler LA. The positive and negative syndrome scale (PANSS) for schizophrenia. Schizophr Bull. 1987 Jan;13(2):261-76.
9. Heinrichs DW, Hanlon TE, Carpenter Jr WT. The Quality-of-Life Scale: an instrument for rating the schizophrenic deficit syndrome. Schizophr Bull. 1984 Jan;10(3):388-98.
10. Packer S, Husted J, Cohen S, Tomlinson G. Psychopathology and quality of life in schizophrenia. J Psychiatry Neurosci. 1997 Jul;22(4):231-4.
11. Fitzgerald PB, Williams CL, Corteling N, Filia SL, Brewer K, Adams A, De Castella AR, Rolfe T, Davey P, Kulkarni J. Subject and observer-rated quality of life in schizophrenia. Acta Psychiatr Scand. 2001 May;103(5):387-92.
12. Solanki RK, Singh P, Midha A, Chugh K. Schizophrenia: Impact on quality of life. Indian J Psychiatry. 2008 Jul;50(3):181-6.
13. Savilla K, Kettler L, Galletly C. Relationships between cognitive deficits, symptoms and quality of life in schizophrenia. Aust N Z J Psychiatry. 2008 Jun;42(6):496-504.
14. Galuppi A, Turola MC, Nanni MG, Mazzoni P, Grassi L. Schizophrenia and quality of life: how important are symptoms and functioning? Int J Ment Health Syst. 2010 Dec;4(1):1-8.

15. Bechdolf A, Klosterkötter J, Hambrecht M, Knost B, Kuntermann C, Schiller S, Pukrop R. Determinants of subjective quality of life in post acute patients with schizophrenia. Eur Arch Psychiatry Clin Neurosci. 2003 Oct;253:228-35.
16. Tan HY, Choo WC, Doshi S, Lim LE, Kua EH. A community study of the health-related quality of life of schizophrenia and general practice outpatients in Singapore. Soc Psychiatry Psychiatr Epidemiol. 2004 Feb;39:106-12.
17. Chan S, Yu IW. Quality of life of clients with schizophrenia. J Adv Nurs. 2004 Jan;45(1):72-83.
18. Narvaez JM, Twamley EW, McKibbin CL, Heaton RK, Patterson TL. Subjective and objective quality of life in schizophrenia. Schizophr Res. 2008 Jan;98(1-3):201-8.
19. Kujur NS, Kumar R, Verma AN. Differences in levels of disability and quality of life between genders in schizophrenia remission. Ind Psychiatry J. 2010 Jan;19(1):50.
20. Rüesch P, Graf J, Meyer PC, Rössler W, Hell D. Occupation, social support and quality of life in persons with schizophrenic or affective disorders. Soc Psychiatry Psychiatr Epidemiol. 2004 Sep;39:686-94.
21. Adewuya AO, Makanjuola RO. Subjective quality of life of Nigerian schizophrenia patients: sociodemographic and clinical correlates. Acta Psychiatr Scand. 2009 Aug;120(2):160-4.
22. Dimitriou P, Anthony D, Dyson S. Quality of life for patients with schizophrenia living in the community in Greece. J Psychiatr Ment Health Nurs. 2009 Aug;16(6):546-52.
23. Picardi A, Rucci P, de Girolamo G, Santone G, Borsetti G, Morosini P. The quality of life of the mentally ill living in residential facilities: findings from a national survey in Italy. Eur Arch Psychiatry Clin Neurosci. 2006 Sep;256:372-81.
24. Browne S, Clarke M, Gervin M, Waddington JL, Larkin C, O'Callaghan E. Determinants of quality of life at first presentation with schizophrenia. Br J Psychiatry. 2000 Feb;176(2):173-6.
25. Norman RM, Malla AK, McLean T, Voruganti LP, Cortese L, McIntosh E, Cheng S, Rickwood A. The relationship of symptoms and level of functioning in schizophrenia to general well-being and the Quality of Life Scale. Acta Psychiatr Scand. 2000 Oct;102(4):303-9.
26. Cardoso CS, Caiaffa WT, Bandeira M, Siqueira AL, Abreu MN, Fonseca JO. Factors associated with low quality of life in schizophrenia. Cad Saude Publica. 2005 Oct;21(5):1338-40.
27. De Souza LA, Coutinho ES. The quality of life of people with schizophrenia living in community in Rio de Janeiro, Brazil. Soc Psychiatry Psychiatr Epidemiol. 2006 May;41:347-56.
28. World Health Organization. The World Health Report 2001: Mental health: new understanding, new hope. Geneva: World Health Organization; 2001. Available at: https://iris.who.int/handle/10665/42390. Accessed on January 11th 2024.
29. Greenberg JS, Knudsen KJ, Aschbrenner KA. A memorial tribute: Prosocial family processes and the quality of life of persons with schizophrenia. Psychiatr Serv. 2006 Dec; 57(12): 1771-7.
30. Makara-Studzińska M, Wołyniak M, Partyka I. The quality of life in patients with schizophrenia in community mental health service – selected factors. J Pre Clin Clin Res. 2011;5(1):31-4.
31. Browne S, Roe M, Lane A, Gervin M, Morris M, Kinsella A, Larkin C, O'Callaghan E. Quality of life in schizophrenia: relationship to sociodemographic factors, symptomatology and tardive dyskinesia. Acta Psychiatr Scand. 1996 Aug;94(2):118-24.
32. Reine G, Lancon C, Di Tucci S, Sapin C, Auquier P. Depression and subjective quality of life in chronic phase schizophrenic patients. Acta Psychiatr Scand. 2003 Oct;108(4):297-303.