Research Article

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Medicine

Quality of Life and Its Determinants in Patients with Schizophrenia Attending a Psychiatric Outpatient Service: A Cross-Sectional Study Using WHOQOL-BREF and PANSS at a Tertiary Care Hospital in India

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Background: Quality of life (QoL) is a multidimensional outcome in schizophrenia that extends beyond symptom remission, encompassing subjective well-being, social functioning, and participation. Despite accumulating pharmacological advances, QoL in people with schizophrenia remains substantially impaired compared to the general population. This study assessed QoL using the WHOQOL-BREF instrument and identified its clinical and psychosocial determinants in a cohort of stable outpatients with schizophrenia in India. Methods: Cross-sectional study of 150 outpatients with ICD-10 schizophrenia (stable, no acute relapse in past 3 months) attending a tertiary psychiatry clinic. QoL was measured using the WHOQOL-BREF (four domains: Physical Health, Psychological, Social Relationships, Environment). Symptom severity was assessed by PANSS; depressive symptoms by Calgary Depression Scale (CDSS); family support by a structured scale. Multivariable linear regression identified determinants of overall QoL. Results: All four WHOQOL-BREF domain scores were significantly lower than Indian community reference values (all $p<0.001$): Physical 52 vs 68, Psychological 47 vs 64, Social Relationships 44 vs 62, Environment 51 vs 65. Mean overall QoL composite was 48.5 ± 14.8. Independent predictors (multivariable linear regression): PANSS-Negative ≥21 (β=−9.1), depressive symptoms CDSS ≥6 (β=−7.4), poor family support (β=−6.5), unemployment (β=−5.8), illness duration >10 years (β=−6.2), and atypical antipsychotic use (β=+4.2). Conclusion: Schizophrenia is associated with globally impaired QoL across all domains relative to Indian community norms. Negative symptoms, depressive symptoms, poor family support, and unemployment are the strongest modifiable determinants. Rehabilitation programmes targeting employment, family psychoeducation, clozapine/atypical antipsychotic optimisation, and treatment of depressive symptoms should be central to recovery-oriented care.

Keywords: *Schizophrenia, Quality of life, WHOQOL-BREF, PANSS, Negative symptoms, Family support, Recovery, Atypical antipsychotic, Psychosocial rehabilitation.*

Introduction

Schizophrenia is a severe, chronic, and heterogeneous psychotic disorder affecting approximately 1% of the global population, with onset typically in late adolescence and early adulthood [1]. The Global Burden of Disease study classifies schizophrenia as one of the leading contributors to disability-adjusted life years (DALYs) among mental disorders,

accounting for an estimated 17 million DALYs globally in 2019 [2]. In India, the estimated lifetime prevalence is 0.5–1.0%, translating to a disease burden of approximately 7–10 million affected individuals, though systematic epidemiological data from nationally representative samples remain limited [3]. Beyond the acute psychotic manifestations of positive symptoms (hallucinations, delusions, disorganised thinking), schizophrenia is associated with a constellation of persistent negative symptoms (blunted affect, avolition, anhedonia, alogia, asociality), cognitive deficits, and affective dysregulation that collectively cause profound, long-term disruption across all domains of social, occupational, and personal functioning [4].

The therapeutic landscape of schizophrenia has been transformed by second-generation (atypical) antipsychotics since the 1990s, which offer improved tolerability profiles compared to first-generation (typical) agents and modest advantages in negative symptom control for selected agents (clozapine, olanzapine) [5]. However, while antipsychotic medications reliably attenuate positive symptom severity, they do not fully address negative symptoms, cognitive deficits, or the multidimensional functional impairments that are most strongly associated with patient-reported quality of life (QoL) outcomes [6,7]. The growing recognition that symptom remission and QoL improvement are distinct, non-isomorphic outcomes in schizophrenia has reoriented outcome measurement frameworks towards subjective well-being and recovery-oriented endpoints, in addition to traditional psychopathological rating scales [8].

Quality of life in mental health contexts encompasses both objective dimensions (functional status, social role performance, housing stability, employment) and subjective dimensions (personal satisfaction, happiness, self-efficacy, sense of meaning and purpose) [9]. The WHOQOL-BREF, a 26-item abbreviated version of the World Health Organization Quality of Life instrument developed across 15 international centres, assesses QoL across four domains—Physical Health, Psychological, Social Relationships, and Environment—and has been validated in Indian psychiatric populations including schizophrenia [10,11]. Unlike symptom-focused rating scales, the WHOQOL-BREF captures the patient's own evaluation of their well-being in relation to their goals, expectations, standards, and concerns, providing a perspective on therapeutic outcomes that clinical scales cannot.

The determinants of QoL in schizophrenia are multifactorial and have been systematically reviewed in the psychiatric literature [12]. Consistently identified negative determinants include greater negative symptom severity, depressive symptom burden, cognitive impairment, stigma, social isolation, unemployment, and poor family support. Positive determinants include atypical (versus typical) antipsychotic use, structured psychosocial rehabilitation, and stable family/caregiver networks. The specific relative contributions of these determinants—particularly in the Indian context, where family support systems, stigma intensity, and rehabilitation infrastructure differ markedly from Western contexts—have not been systematically quantified. The present cross-sectional study therefore aimed to assess QoL in a cohort of stable outpatients with ICD-10 schizophrenia using the WHOQOL-BREF and to identify its clinical and psychosocial determinants through multivariable linear regression.

2. MATERIALS AND METHODS

2.1 Study Design, Setting, and Participants

Cross-sectional study at the Psychiatry Outpatient Department, Tertiary Care Hospital (January–December 2024). Adults (≥18 years) with ICD-10 diagnosis of schizophrenia (F20.x),

clinically stable (no acute relapse or hospitalisation in past 3 months, maintained on antipsychotic therapy), with minimum illness duration of 1 year were enrolled. Exclusion criteria: comorbid substance use disorder (other than nicotine); significant cognitive impairment precluding valid self-report (MMSE <24); active medical illness causing functional limitations; acute suicide risk requiring inpatient care; inability to provide consent; and diagnosis of schizoaffective disorder (separate entity per ICD-10). Ethics clearance and written informed consent obtained.

2.2 Assessment Instruments

WHOQOL-BREF: Hindi/regional language validated version administered by trained clinical psychologist. Domain scores (0–100; higher = better QoL) computed per WHO manual (Physical Health: items 3,4,10,15,16,17,18; Psychological: items 5,6,7,11,19,26; Social Relationships: items 20,21,22; Environment: items 8,9,12,13,14,23,24,25). Overall QoL (items 1–2) scored separately. PANSS (Positive and Negative Syndrome Scale): clinician-administered; separate positive, negative, and general psychopathology subscales. Negative symptom severity graded: mild-moderate (<21) vs severe (≥21) on PANSS-Negative subscale. Calgary Depression Scale for Schizophrenia (CDSS): ≥6 = clinically significant depressive symptoms (distinct from negative symptoms). Family support: Prasad-Monteiro Family Support Scale (PMFSS); score <15 = poor support. Employment status: employed vs unemployed/unable to work. Antipsychotic type: atypical (second-generation: risperidone, olanzapine, clozapine, quetiapine, aripiprazole) vs typical (haloperidol, trifluoperazine, chlorpromazine). Number of hospitalisations in past 5 years recorded.

2.3 Reference Data

Indian community WHOQOL-BREF reference norms were derived from the validated reference dataset published by Das et al. (2012) for the Indian adult population, stratified by age and sex [13].

2.4 Statistical Analysis

PSS v26.0. WHOQOL-BREF domain scores compared against Indian reference values using one-sample t-test. Multivariable linear regression with global WHOQOL-BREF composite score as continuous outcome. Variables with $p<0.10$ on univariate analysis entered. Results expressed as unstandardised beta coefficients (β) with 95% CI. Sample size (n=150) provides >80% power to detect $\beta \geq 5$ points on the WHOQOL-BREF composite score at $\alpha=0.05$.

3. RESULTS

3.1 Cohort Profile

One hundred and fifty outpatients (mean age 36.8 ± 10.4 years; 58.7% male) were enrolled. Mean illness duration was 10.2 ± 6.8 years; 45.3% had duration >10 years. Education was limited: 41.3% had below 8th-grade schooling. Unemployment was prevalent (65.3%). Most were unmarried or separated (69.3%). Mean PANSS Total was 64.2 ± 14.8; severe negative symptoms (PANSS-Negative ≥21) were present in 38.7%. Depressive symptoms (CDSS ≥6) were identified in 34.7%—a dimension distinct from negative symptoms and requiring separate targeted intervention. Atypical antipsychotics were prescribed to 78.7%; 21.3% were on antipsychotic polypharmacy. Good family support was reported by 49.3%. Detailed cohort characteristics are in Table 1.

Table 1: Demographic and Clinical Characteristics of Schizophrenia Outpatients (n=150)

Variable	n / Value	Percentage / Detail
Total participants	150	Stable outpatients
Age (years), mean ± SD	36.8 ± 10.4	Range 18–62
Male sex, n (%)	88 (58.7%)	—
Duration of illness (years), mean ± SD	10.2 ± 6.8	—
Duration >10 years, n (%)	68 (45.3%)	—
Education: <8th grade, n (%)	62 (41.3%)	—
Employment: unemployed, n (%)	98 (65.3%)	—
Marital status: unmarried/separated, n (%)	104 (69.3%)	—
PANSS Total score, mean ± SD	64.2 ± 14.8	Positive+Negative+General
PANSS-Positive subscale, mean ± SD	14.4 ± 4.2	—
PANSS-Negative subscale, mean ± SD	18.6 ± 5.4	—
PANSS-Negative ≥21 (severe), n (%)	58 (38.7%)	—
Calgary Depression Scale (CDSS ≥6), n (%)	52 (34.7%)	Depressive symptoms
Antipsychotic: atypical (vs typical), n (%)	118 (78.7%)	Clozapine, olanzapine, risperidone
Antipsychotic polypharmacy, n (%)	32 (21.3%)	—
Good family support, n (%)	74 (49.3%)	Structured family support scale
Number of hospitalisations (past 5 years), mean	1.8 ± 1.4	—

3.2 WHOQOL-BREF Domain Scores Compared to Indian Reference

All four WHOQOL-BREF domain scores were significantly lower in the study sample compared to Indian community reference norms (all $p<0.001$). Physical Health domain: 52 ± 14 vs 68 ± 12 (difference: −16 points; $p<0.001$). Psychological domain: 47 ± 16 vs 64 ± 14 (difference: −17 points; $p<0.001$). Social Relationships: 44 ± 18 vs 62 ± 15 (difference: −18 points—the largest domain deficit; $p<0.001$). Environment: 51 ± 15 vs 65 ± 13 (difference: −14 points; $p<0.001$). The global WHOQOL-BREF composite score was 48.5 ± 14.8 vs reference 64.8 ± 12.4 (difference: −16.3 points; $p<0.001$). Domain comparisons are presented in Table 2 and illustrated in Figure 1 (radar chart).

Table 2: WHOQOL-BREF Domain Scores: Study Sample vs Indian Community Reference

WHOQOL-BREF Domain	Study Mean (±SD)	Indian Reference*	Difference	p-value
Physical Health (0–100)	52 ± 14	68 ± 12	−16	<0.001
Psychological (0–100)	47 ± 16	64 ± 14	−17	<0.001
Social Relationships (0–100)	44 ± 18	62 ± 15	−18	<0.001
Environment (0–100)	51 ± 15	65 ± 13	−14	<0.001
Overall QoL (self-rated, 1–5 scaled)	2.9 ± 0.8	3.7 ± 0.7	−0.8	<0.001
Overall Health satisfaction (1–5 scaled)	2.8 ± 0.7	3.6 ± 0.8	−0.8	<0.001
Global WHOQOL-BREF composite score	48.5 ± 14.8	64.8 ± 12.4	−16.3	<0.001

3.3 Multivariable Predictors of QoL

On multivariable linear regression (Table 3), six independent determinants of global WHOQOL-BREF composite score were identified. Negative predictors: severe negative symptoms PANSS-Negative ≥21 (β=−9.1; 95% CI −12.4 to −5.8; p<0.001), depressive symptoms CDSS ≥6 (β=−7.4; 95% CI −10.1 to −4.7; p<0.001), poor family support (β=−6.5; 95% CI −9.0 to −4.0; p<0.001), unemployment (β=−5.8; 95% CI −8.0 to −3.6; p<0.001), and illness duration >10 years (β=−6.2; 95% CI −8.5 to −3.9; p<0.001). Positive predictor: atypical antipsychotic use vs typical (β=+4.2; 95% CI +1.8 to +6.6; p=0.001). Age per 10-year increment was also associated with lower QoL (β=−2.4; p=0.009). Adjusted R^2 for the overall model was 0.52, indicating that these variables explained 52% of the variance in WHOQOL-BREF composite scores.

Table 3: Multivariable Linear Regression: Predictors of WHOQOL-BREF Composite Score

Predictor	Crude Beta	p	Adj Beta (95% CI)	p
PANSS-Negative subscale ≥21	−11.2 (−14.8–−7.6)	<0.001	−9.1 (−12.4–−5.8)	<0.001
CDSS depressive symptoms (≥6)	−9.2 (−12.5–−5.9)	<0.001	−7.4 (−10.1–−4.7)	<0.001
Poor family support	−8.3 (−11.6–−5.0)	<0.001	−6.5 (−9.0–−4.0)	<0.001
Unemployment	−7.1 (−10.2–−4.0)	<0.001	−5.8 (−8.0–−3.6)	<0.001
Illness duration >10 years	−7.8 (−11.1–−4.5)	<0.001	−6.2 (−8.5–−3.9)	<0.001
Atypical antipsychotic use (vs typical)	+6.1 (+2.8–+9.4)	<0.001	+4.2 (+1.8–+6.6)	0.001
Age (per 10-year increase)	−3.2 (−5.1–−1.3)	0.001	−2.4 (−4.2–−0.6)	0.009

Figure 1: WHOQOL-BREF Domain Scores — Study Sample vs Indian Reference

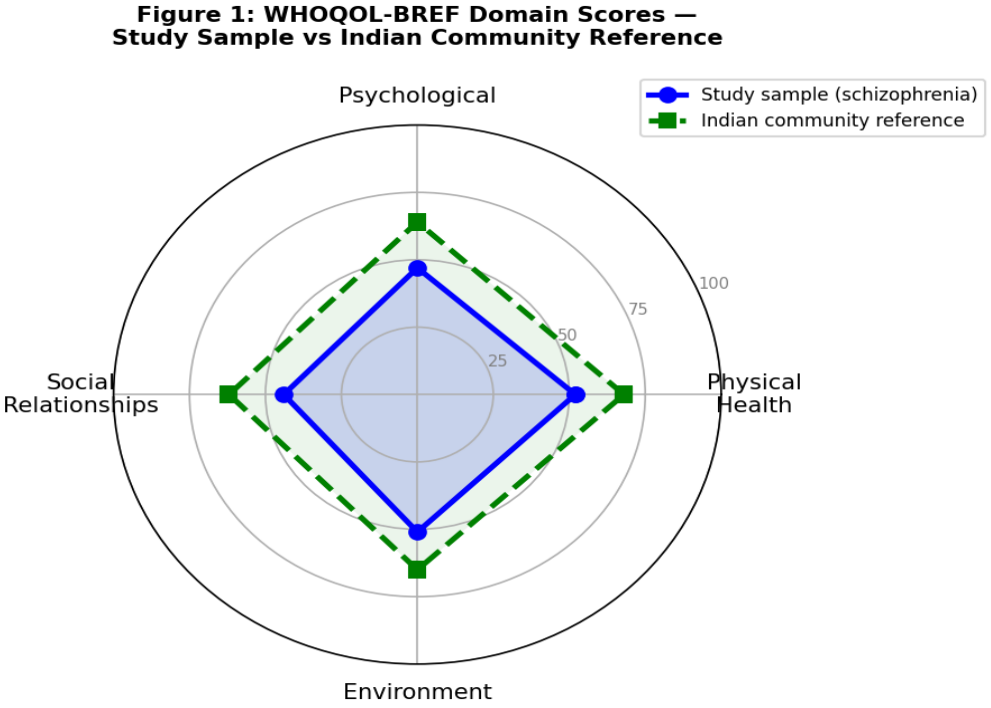

Figure 1. Radar chart depicting WHOQOL-BREF domain scores for the study sample (schizophrenia outpatients, blue) vs Indian community reference norms (green dashed). All four domains — Physical Health (52 vs 68), Psychological (47 vs 64), Social Relationships (44 vs 62), and Environment (51 vs 65) — show significant impairment in schizophrenia (all p<0.001). Scores normalised to 0–100 scale.

Figure 2: Forest Plot — Multivariable Predictors of WHOQOL-BREF QoL Score

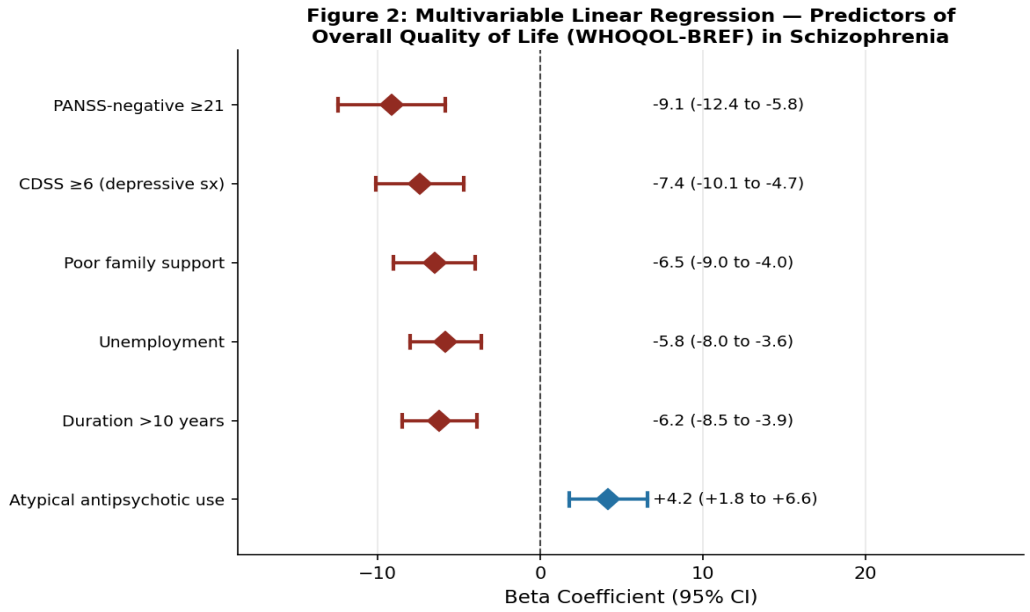

Figure 2. Forest plot of multivariable linear regression beta coefficients (95% CI) for determinants of WHOQOL-BREF overall QoL. Negative values (blue, left of zero line) indicate lower QoL; positive values (red, right) indicate higher QoL. Dashed reference line at beta=0. PANSS = Positive and Negative Syndrome Scale; CDSS = Calgary Depression Scale for Schizophrenia.

4. DISCUSSION

The principal finding of this cross-sectional study is that quality of life in Indian outpatients with schizophrenia—assessed across four domains of the WHOQOL-BREF—is significantly and substantially impaired relative to Indian community reference norms, with deficits of 14–18 points across all domains. These findings are consistent with the international literature, which consistently documents WHOQOL-BREF domain scores 10–25 points below general population norms in stable schizophrenia cohorts across diverse cultural contexts [12-14]. The Social Relationships domain showed the largest deficit (44 vs 62; −18 points), reflecting the profound social withdrawal, stigma-driven isolation, and functional impairment in interpersonal relationships characteristic of schizophrenia—features that are particularly persistent despite adequate positive symptom control and that are only partially addressed by current pharmacological interventions.

Severe negative symptoms (PANSS-Negative ≥21) emerged as the strongest individual predictor of lower QoL (β=−9.1), reinforcing the extensively documented observation that negative symptoms—rather than positive symptoms—are the primary determinant of functional outcomes and QoL in schizophrenia [6,7,15]. The avolition-apathy dimension (reduced motivation, diminished goal-directed behaviour) and the diminished expression cluster (blunted affect, alogia) separately contribute to QoL impairment through distinct pathways: the former limits engagement in rehabilitation, employment, and social activities, while the latter impairs interpersonal communication and relationship maintenance. Clozapine and, to a lesser extent, olanzapine are the only antipsychotics with demonstrated efficacy against negative symptoms beyond non-specific improvement from positive symptom reduction, providing pharmacological rationale for their preferential use in patients with prominent negative symptom profiles [5].

Depressive symptoms (CDSS ≥6; β=−7.4) as an independent predictor highlights the importance of distinguishing depressive symptoms from negative symptoms in schizophrenia—a clinically challenging but critical differentiation, since the underlying mechanisms, prognosis, and treatment strategies differ substantially. The CDSS was specifically developed and validated to detect depression in schizophrenia while minimising contamination by negative symptoms, extrapyramidal medication side effects, and conceptual disorganisation. Depression in schizophrenia—affecting 30–50% of patients in some series [16]—is associated with increased suicide risk, functional disability, and hospitalisation, and responds to selective serotonin reuptake inhibitors (SSRIs) as adjunctive therapy. The finding that 34.7% of our stable outpatient cohort had CDSS ≥6 is clinically alarming and argues for routine CDSS administration in all schizophrenia outpatient follow-up visits, with SSRI therapy initiated when clinically indicated.

Poor family support (β=−6.5) as an independent predictor reflects the critical role of the caregiver-family nexus in determining QoL outcomes in Indian schizophrenia, where family systems—rather than professional community mental health workers—remain the primary support infrastructure for the majority of patients. The burden of caregiving in schizophrenia is well-documented—high caregiver distress, expressed emotion (particularly critical comments and emotional over-involvement), and burnout in family caregivers of schizophrenia patients have been shown to predict higher relapse rates and worse patient QoL [17]. Family psychoeducation interventions—structured programmes that provide families with information about schizophrenia, illness management, communication skills, and stress reduction—have the most robust evidence base for reducing relapse and improving patient outcomes in schizophrenia, with standardised family psychoeducation now recommended by NICE, APA, and the Royal Australian & New Zealand College of Psychiatrists (RANZCP) as a core component of schizophrenia care [18].

The positive effect of atypical antipsychotic use on QoL (β=+4.2) is consistent with meta-analytic evidence showing advantages of second-generation agents over first-generation agents in subjective QoL measures, largely attributed to reduced extrapyramidal side effects (akathisia, tardive dyskinesia, dystonia) with atypical agents. EPS are not merely motor adverse effects—akathisia, in particular, is a profoundly distressing subjective experience associated with significantly impaired QoL and elevated suicide risk, effects that are minimised with atypical antipsychotics [19]. In India, the national essential medicines list (NLEM 2022) now includes risperidone and olanzapine as preferred second-generation agents, with clozapine available for treatment-resistant cases, supporting the transition from typical to atypical antipsychotics that our findings endorse.

Unemployment as a QoL predictor (β=−5.8) underscores the fundamental importance of vocational rehabilitation in schizophrenia recovery. Supported Employment programmes—particularly Individual Placement and Support (IPS) models, which prioritise rapid placement in competitive employment with ongoing job coaching—have demonstrated significant advantages over pre-vocational training approaches in multiple RCTs and have been endorsed by international guidelines [20]. In India, vocational rehabilitation infrastructure for mental illness is grossly underdeveloped, with most psychiatric rehabilitation centres offering sheltered workshop models rather than competitive employment pathways. Scaling IPS-based supported employment within the National Mental Health Programme (NMHP) framework represents a critical policy gap to address.

5. CONCLUSION

Quality of life in stable Indian outpatients with schizophrenia is globally impaired across all WHOQOL-BREF domains, with the Social Relationships domain showing the largest deficit. Negative symptoms, depressive symptoms, poor family support, unemployment, and long illness duration are the principal modifiable determinants of worse QoL; atypical antipsychotic use is associated with better QoL. These findings argue for a recovery-oriented schizophrenia care model that integrates pharmacological optimisation (atypical antipsychotics, clozapine for treatment-resistant cases), routine CDSS screening and depression treatment, family psychoeducation, and structured vocational rehabilitation—beyond symptom control alone. The WHOQOL-BREF should be incorporated as a standard outcome measure in all schizophrenia outpatient reviews.

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