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Perceived stress, quality of life, and coping skills among patients with schizophrenia in symptomatic remission

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Abstract

Background: Schizophrenia is one of the worst diseases with its ubiquitous challenges due to its unique psychopathology and life events. Patients with schizophrenia use various coping strategies to overcome distress. The aim of the study was to evaluate the association between perceived stress, quality of life, and coping skills in patients with schizophrenia in remission. A total of 48 consecutive patients of schizophrenia, in remission, attending outpatient department of psychiatry at Academic hospital, South India, who satisfied the inclusion and exclusion criteria were recruited for the present study. The participants were assessed on Positive and Negative Symptoms Scale, Ways of Coping Checklist – Revised and Perceived Stress Scale and WHO Quality of Life. Results were analyzed using appropriate statistical package software v 16.0.

Result: Highest medial was found in self-controlling and positive reappraisal coping skills. Distancing is associated with high physical domain of quality of life whereas patients with good social support score more in social and physical domain of quality of life.

Conclusion: Patients with history of schizophrenia even though in remission dwell a stressful life. They often need different kind of social support or cognitive aids. In that view, studying their stress level, ability to cope with it, and quality of life will help us to manage them in better way.

Keywords: Stress, Coping skills, Quality of life, Schizophrenia, Remission

Background

Schizophrenia is one of the most difficult diseases to treat because of its distinct psychopathology and life events [1]. Patients with schizophrenia have incapacitating symptoms, impaired social functioning, difficulties in daily life activities, a lack of motivation, deteriorated communication skills, and social cohesion, and available treatments often provide only limited benefits [2, 3]. These symptoms interfere with the patient's educational, occupational, familial, and social functioning [4].

The concept of remission in schizophrenia has garnered attention since it is significant and necessary for

patients' functional improvement [5]. The term "remission" has a significant connotation for patients and, as a result, has nonstop implications for their well-being. Remission is defined as a period of 6 months or more in which a patient with schizophrenia has no or only minor symptoms of schizophrenia [6].

There are contradictory findings in the literature; nonetheless, a few studies show that social functioning and quality of life are better in schizophrenia patients during remission than in schizophrenia patients who are not in remission [2, 7, 8]. However, some other research found the quality-of-life outcomes in schizophrenia patients in symptomatic remission to be debatable [9, 10].

Patients with schizophrenia employ a variety of coping methods to cope with their uncomfortable symptoms as well as their regular life activities and stressors

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[11]. According to studies, persons with schizophrenia frequently engage in avoidance or distraction, drug use, and social seclusion in order to cope with symptoms and control their suffering [12]. To deal with stressful events, they frequently employ “emotion-focused” and “passive coping” tactics. They frequently avoid confronting pressures rather than considering potential solutions [13].

According to one study, patients with schizophrenia typically utilize the coping strategy of seeking social support, which is followed by “accepting and daydreaming” and “active and growth-oriented coping.” The findings also revealed that those who employed “active and growth-oriented coping” more frequently had fewer negative symptoms, a lower level of disability, and a higher quality of life [14]. Many researchers have also found that patients frequently employ “help seeking” or “seeking social support” to cope with psychotic, non-psychotic symptoms, and day-to-day life pressures [15, 16].

Psychiatrists in India are relieved by the absence of psychotic symptoms in patients with schizophrenia during routine out-patient assessments in frantic psychiatric clinics. However, their interior experiences, such as perceived stress and coping, are rarely measured. Lack of sleep [17], mastery [18], family support [19], and less use of atypical antipsychotics [20] have all been linked to poor quality of life in schizophrenia patients. Coping styles, among other things, have been linked to general QOL [21]. According to a recent Asian study, personal empowerment was the best predictor of QOL in schizophrenia [22]. Both positive and negative coping mechanisms were found to be strongly associated to QOL [23]. The objective standard of life, on the other hand, does not guarantee good QOL [24]. Though the stress-vulnerability-coping model has been implicated in earlier western studies [25], such a model has not been discovered on the Indian subcontinent.

As a result, the current study sought to examine perceived stress, quality of life, and coping abilities in schizophrenia patients in symptomatic remission. Also, this study tried to explore the relationship between perceived stress and quality of life, duration of illness and coping skills, age group and coping styles, etc. We hypothesized that positive coping styles would improve quality of life in different domains, which might be seen more in younger group with shorter duration of illness.

Methods

Study design

It was a hospital-based cross sectional study conducted between January 2018 and September 2019 in Academic hospital, South India.

Sample

Every patient with the diagnosis of schizophrenia was screened for remission within the study period. After meeting the inclusion and exclusion criteria, 48 patients from the outpatient Department of Psychiatry were included in the sample. Outpatients with a diagnosis of schizophrenia who were in remission (clinical and functional) and aged 18 to 65 years old met the inclusion criteria. Exclusion criteria included patients with full-blown symptomatology of schizophrenia, schizophrenia in remission accompanied by substance use (excluding nicotine), post-schizophrenic depression, and patients unable to participate in the trial due to a major medical ailment. The study comprised patients of both genders, between the ages of 18 and 65, with a DCR-10 diagnosis of schizophrenia and in remission (Clinical and Functional). Patients with a concomitant drug use disorder (excluding nicotine) or schizoaffective disorder who were physically unfit or reluctant to give consent were excluded from the trial. Written consent was obtained from all participants in the current study; also, the research ethics committee at the Government T.D Medical College, Alappuzha approved the study.

Study instruments

Researchers carried out the assessment using a set of standardized evaluation procedures after receiving proper training in the administration and scoring of all study instruments. In the current study, the Diagnostic Criteria for Research Accompanying the ICD-10 (DCR-10) were utilized for the diagnosis of patients with schizophrenia in asymptomatic remission (WHO 1992).

Definition of remission

When a patient with schizophrenia is asymptomatic or has low levels of psychopathology for at least 6 months, they are said to be in clinical remission. Additionally, the Positive and Negative Syndrome Scale [PANSS], a 30-item, 7-point (1–7) rating scale, was used to ensure remission. The PANSS (positive and negative symptoms scale) score of 3 on items 1–3 of the positive subscale; 1, 4, and 6 of the negative subscales; and 5 and 9 of the general psychopathologies’ subscales were deemed to indicate low severity of symptoms or clinical remission [26]. The Personal and Social Performance Scale (PSP) was used to assess functioning [27]. The PSP is a single-item rating scale with a total of 100 points divided into ten equal intervals. The ratings are primarily based on an evaluation of the patient’s functioning in four areas: (1) socially helpful activities, (2) personal and social interactions, (3) self-care, and (4) unsettling and aggressive

behaviors. A total score of 80 or greater implies a state of “functional remission.” Internal consistency reliability ($\alpha = 0.76$) was adequate.

Quality of life

WHO QOL-BREF was used to assess quality of life. The WHO QOL-BREF consists of 26 questions in total. To provide a broad and complete assessment, one item from each of the WHO QOL-100's 24 components has been included. In addition, two elements from the aspect of Overall Quality of Life and General Health have been incorporated [28].

Coping styles

The revised Ways of Coping Checklist (WCC), which consists of 66 items measuring cognitive and behavioral strategies for coping with stressful experiences, was utilized. Confrontive coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful issue solving, and positive reappraisal are the coping subscales evaluated on a 4-point scale. The sum of the item scores yields the score on each subscale. With a Cronbach's alpha value of 0.89, this checklist is highly reliable [29].

Stress scale

The Perceived Stress Scale (PSS) developed by Cohen, Kamarck, and Mermelstein [30] consisting of 14 items (0 = never; 1 = almost never; 2 = sometimes; 3 = fairly often; 4 = very often) was used. Scores 0–18 show that there is low stress, 19–37 moderate stress, and 38–56 high perceived stress. The reliability of the scale is $r = .78$ [30].

For this study, all the scales were translated into Malayalam using the World Health Organization's translation approach of translation-back-translation. This was done to make use of this particular questionnaire, more meaningful in our context where a large portion of the population is predominantly Malayalam speaking.

Data collection process/procedure

The study was explained to patients and relatives, and signed informed consent was obtained in each case. A complete history, general examination, systemic physical examination, mental status examination, necessary laboratory tests, and psychometric evaluation were performed on all participants. Psycho-socio-demographic and other clinical characteristics were obtained for each subject by completing a specifically constructed proforma. The DCR-10 criteria were used to make the diagnosis. A consultant from the Department of Psychiatry reviewed each case and verified the diagnosis.

Because 48 patients met the inclusion and exclusion criteria, 48 people were chosen as the study sample. The WHO Quality of Life [WHOQOL] questionnaire was then administered to the subjects, followed by the Ways of Coping Checklist - Revised (WCC) to measure the repertoire of coping abilities. These scales were specifically applied to each subject. During the trial, there was no interference with the patients' treatment. Additionally, PANSS and PSP scales were used to ensure remission and functioning respectively. All findings were documented in a particular proforma for the present study.

Statistical analysis

Data was entered in a Microsoft Excel spreadsheet. Continuous variables were summarized as mean and standard deviation. Categorical variables were summarized as percentages. Chi-square test was used to test independence between two categorical variables. Spearman correlation was computed to assess the relationship between perceived stress and domains of quality of life. Mann-Whitney U test was used to compare differences between two independent groups of patients. A p value of less than 0.05 was considered statistically significant. All statistical analysis was done using SPSS 16.0.

Results

Socio-demographic and clinical profile of patients is described in Table 1. Majority of the patients were male and of age 40 or above, educated up to intermediate level. Most of them were unemployed from rural background belonging to lower socioeconomic status. Most of them were married and stayed in nuclear families. The age of onset was more than 20 years. Onsets of illness in majority of the study subjects were between 21 and 40 years. The duration of illness in majority of the study subjects were up to 20 (± 11) years. Table 2 indicates correlation between Ways of Coping and Quality of Life (QOL) among the patients of schizophrenia in asymptomatic remission. Findings revealed that distancing and seeking social support were positively related with G1 (Physical Domain) of QOL. Spearman correlation was computed to assess the relationship between perceived stress and domains of quality of life in patients of schizophrenia in asymptomatic remission. Table 3 reveals that there is a significant negative relationship of perceived stress with physical health and social relationships. The results are significant at the level of 0.05. The results also indicate that there is a trend of negative relationship of perceived stress with psychological health and environment. However, the findings were not statistically significant.

Mann-Whitney U test was used to compare differences between two independent groups of patients of schizophrenia in remission based on duration of illness.

Table 1 Sociodemographic status of studied population

Age	Male	Female	Total
Below 40	8	13	21
40 and above	19	8	27
Total	27	21	48
Education	Education	F	%
	Illiterate and primary	17	35.4
	Middle, high, and intermediate	22	45.8
	Graduate, post graduate, professional	9	18.8
	Total	48	100
Marital status	Marital status	F	%
	Single	12	25.0
	Married	33	68.8
	Separated	1	2.1
	Divorced	2	4.2
	Total	48	100.0
Socio economic status	Socio economic status	F	%
	Upper and middle	16	33.3
	Lower	32	66.7
	Total	48	100
Duration of illness	Duration of illness	F	%
	Up to 20 years	33	68.8
	21 to 40 years	15	31.2
	Total	48	100.0
Age of onset	Age of onset	F	%
	Up to 20 years	14	29.2
	21 to 40 years	34	70.8
	Total	48	100.0

Table 2 Spearman correlation between Ways of Coping Checklist—Revised (WCC) and Quality of Life (WHOQOL-BREF)

	WCC							
	Confrontive coping	Distancing	Self-controlling	Seeking social support	Accepting responsibility	Escape avoidance	Planful problem solving	Positive reappraisal
WHO-BRIF								
WHOQOL-BREF physical health	.147 (.311)	.512 (.000)	.219 (.135)	.656 (.000)	.306 (.053)	-.036 (.808)	.147 (.711)	.147 (.371)
WHOQOL-BREF psychological health	.077 (.601)	.566 (.709)	.542 (.601)	.339 (.711)	.240 (.101)	.056 (.736)	.496 (.312)	.372 (.312)
WHOQOL-BREF social relationships	.024 (.871)	.317 (.082)	.643 (.530)	.628 (.000)	.231 (.114)	.055 (.709)	.0595 (.652)	.489 (.512)
WHOQOL-BREF environment	.053 (.721)	.540 (.316)	.579 (.231)	.383 (.007)	.267 (.66)	.109 (.461)	.518 (.407)	.418 (.503)

The findings in Table 4 indicate that the patients with the duration of illness up to 20 years had usage of self-controlling, accepting responsibility, and planful problem

solving as coping skill strategies. The findings were statistically significantly higher than the patient’s group with the duration of illness of 21 to 40 years. However, the

Table 3 Spearman correlation between Perceived Stress Scale (PSS) and quality of life (QoL)

QOL facets* PSS	Perceived Stress Scale	p value
WHOQOL-BREFd physical health	– .318	0.01*
WHOQOL-BREF psychological health	– .257	0.08
WHOQOL-BREF social relationships	– .464	0.01*
WHOQOL-BREF environment	.025	0.08

*p value < 0.05 significant

Table 4 Mann-Whitney U test for duration of illness (DUI) and “ways of coping in patients of schizophrenia with symptomatic remission”

Scales	Mean rank (DUI)		p value
	Up to 20 years	21 to 40 years	
Confrontive coping	25.23	22.90	.54
Distancing	26.56	19.97	.11
Self-controlling	27.58	17.73	.01*
Seeking social support	26.64	19.80	.11
Accepting responsibility	28.05	16.70	.01*
Escape-avoidance	23.23	27.30	.05*
Planful problem-solving	27.80	17.23	.01*
Positive reappraisal	25.91	21.40	.27

*p value < 0.05 significant

Table 5 Mann-Whitney U test for “age-groups” and “ways of coping in patients of schizophrenia with asymptomatic remission”

WCC	Mean rank		p value
	Age below 40	Age 40 and above	
Confrontive coping	24.69	24.35	.92
Distancing	26.9	22.63	.27
Self-controlling	28.36	21.50	.08
Seeking social support	27.95	21.81	.12
Accepting responsibility	29.17	20.87	.02*
Escape-avoidance	22.5	26.06	.06
Planful problem-solving	29.33	20.74	.02*
Positive reappraisal	27.31	22.31	.19

**p value < 0.05 significant

other group with the duration of illness of 21 to 40 years had involvement of escape-avoidance as a coping skill. The results were significant ($p < 0.05$). Mann-Whitney U test was used to compare differences between two independent groups of patients of schizophrenia in asymptomatic remission based on age, i.e., below 40 and above 40 years of age as shown in Table 5. The findings indicate

Table 6 Median and interquartile (IQ) range of Ways of Coping Checklist (WCC)

Scale	Median	Inter quartile range
Confrontive coping	0	0–1
Distancing	17	11–18
Self-controlling	20	15–21
Seeking social support	12	10–14
Accepting responsibility	12	8.25–12
Escape-avoidance	0	0
Planful problem-solving	17.5	12–18
Positive reappraisal	20	18–21

that the patients with the age below 40 years had usage of accepting responsibility and planful problem solving as coping skill strategies. The findings were significantly higher than the patient’s group with the age above 40 years. The results are significant at $p < 0.05$. There were non-significant differences between the groups on confrontive coping, distancing, self-controlling, seeking social support, escaping avoidance, and positive reappraisal. Table 6 describes the highest median and interquartile (IQ) range of Ways of Coping Checklist (WCC). It was found that the highest median was found in self-controlling and positive reappraisal coping skills next to planful problem-solving in patients of schizophrenia in asymptomatic remission.

Discussion

This is the first study to use the stress-vulnerability-coping model on Indian patients with schizophrenia. Previous Indian research have focused solely on QOL [31, 32]. Grover et al. [33] investigated religiosity and spirituality as coping mechanisms. The majority of Indian studies on coping have been undertaken on carers rather than patients [33–36]. This underscores the neglect of the latter demographic in Indian research, despite the fact that they have been extensively studied in the west. Because most patients are expected to achieve remission and live a long life as a result of contemporary medicines and rehabilitation programs, it is sensible to address the quality of their lives [37]. Because the majority of these patients are of average intellect, understanding their coping mechanisms can be beneficial during psychotherapeutic sessions.

The sociodemographic profile has been similar with findings from previous Indian and Asian studies on schizophrenia [22, 33, 35].

Schizophrenia is a severe mental disorder that has a terrible impact on both the patient and his or her family.

This is because the condition is chronic and frequently causes long-term disability. Positive symptoms such as aggressive behavior, delusions, and hallucinations cause problems for patients, as do negative symptoms such as low motivation and inadequate self-care [38]. The potential for social relationships is frequently decreased, as are career options. Modern treatment methods have assisted a huge number of patients in controlling positive symptoms and greatly improving, but many continue to exhibit deficiencies in numerous areas of functioning [20]. As a result, persistent mental illness places a significant strain on the patient, his or her family, and the community.

Distancing, seeking social support, accepting responsibility, and positive reappraisal have all been proven to aid in stress management, as have prior studies [39]. Seeking social support affected both the physical and social dimensions of QOL. Indian society has recently seen a shift from extended-joint families to nuclear families, which may have been caused by migration, acculturation, and modernity [40]. Seeking social skills in such a situation might be tough. In rural India, the traditional concept of extended families may be the norm, and hence, a study comparing different societal strata may reveal variances in coping techniques. Distancing was discovered to be crucial in maintaining physical QOL. According to the findings of this study, perceived stress has a detrimental and significant impact on physical, psychological, and social domains. Similarly, in a Spanish study, perceived stress was found to mediate poor QOL in schizophrenic individuals [41]. Furthermore, QOL in schizophrenia patients is lower when compared to health controls, which may worsen the situation [41]. As a result, its evaluation becomes critical in day-to-day clinic practice. This may also explain the significance of strengthening clinician skills in reducing perceived stress, as demonstrated in a Korean study [42]. Only local interventional studies could determine whether such an application would improve QOL.

Quality of life and coping techniques appear to be inextricably linked. Utilizing negative coping methods was connected with a lower quality of life, whereas using positive coping strategies was associated with a higher quality of life [23]. In this study, both types of coping techniques were adopted by asymptomatic patients, dispelling the prevalent idea that psychopathology is the primary determinant of QOL. The adoption of positive and negative coping mechanisms is also linked to a subjective assessment of the severity of the illness. According to Ritsner MS et al. [21], 62.2% of patients' coping patterns stayed stable over time, 19.6% of patients' coping patterns became unfavorable, and 18.2% of patients' coping patterns became favorable. Each temporal coping type is associated with a distinct pattern of clinical and

psychosocial variable changes. Schizophrenia patients utilize a variety of coping strategies to alleviate their distress. Controlling for intake symptom severity and impairments in adaptive coping (acceptance, planning, and seeking help) predicted a proportionate increase in schizophrenia symptoms over time.

Coping refers to a person's continually shifting cognitive and behavioral efforts to manage a stressful encounter. Problem-solving methods and emotion-processing strategies are two types of coping strategies. The former refers to issue-solving procedures, whereas the latter refers to methods through which an individual regulates his or her emotional response to a problem scenario. Emotion-focused coping techniques are more likely to be used in cases of chronic stress and schizophrenia. Identifying and resolving such coping strategies might assist the doctor in tailoring cognitive strategies [21, 43].

Healthy coping methods like as self-control, accepting responsibility, and planned problem-solving were found to be much more prevalent during the early stages of the illness. This represents how younger schizophrenia patients adapt and cope with their circumstances. Those who have been demonstrated to have greater QOL are more likely to be employed and earning [22]. In our study, patients with advanced illness, on the other hand, tended to avoid or flee settings. This suggests that cognitive therapies aimed at increasing self-efficacy and social support are likely to improve patients' psychological well-being. Rehabilitation programs may be able to help with this.

Culturally, younger people, particularly men, are expected to work in order for their families to survive. As a result, younger patients were seen to exhibit positive coping abilities such as taking duties and problem-solving planning. Folsom et al. 2009 discovered that elderly patients had higher mental health QOL. It is critical that these patients commit to treatment in order to improve such positive coping abilities.

This study does have some drawbacks. This is a cross-sectional study from a single center with a limited sample size. This cannot be applied to the entire Asian or national population.

Conclusions

The ability to cope with distress substantially contributes to the quality of life in the patients.

The supportive and psychoeducation strategies, coping skill training, rehabilitation programs, and cognitive-behavioral therapy focused to manage psychotic symptoms, enhance self-efficacy, and decrease distress could help patients to employ more adaptive coping strategies and improve their quality of life.

Abbreviations

QOL: Quality of life; WHO: World Health Organization; ICD: International Classification of Diseases; WCC: Ways of Coping Checklist; DUL: Duration of illness; PSS: Perceived Stress Scale; IQ: Interquartile.

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Authors' contributions

SS: conceptualization, formal analysis, methodology, writing—original draft, data curation, validation, Visualization, investigation, project administration, resources, supervision, writing—review and editing. SD, AKG, and TS: conceptualization, formal analysis, methodology, writing—original draft, data curation, validation, visualization. SMS: conceptualization, data curation, formal analysis, methodology, writing—review and editing, investigation, project administration, resources, supervision. The authors read and approved the final manuscript.

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Declarations

Ethics approval and consent to participate

All ethical considerations related to scientific research in humans have been taken into account in accordance with the Declaration of Helsinki [44]. Written consent was obtained from all participants in the current study; also, the research ethics committee at the Government T.D Medical College, Alappuzha, approved to conduct the current research dated [2012-15].

Consent for publication

The consent for publication has been given by all the authors who contributed in the study.

Competing interests

The authors declare that there are no competing interests.

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