

A Cross-sectional Study on Depression, Anxiety, and Stress Among Persons suffering from Schizophrenia in Tamil Nadu

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Abstract:

Introduction:

Schizophrenia, a complex and chronic mental disorder, profoundly affects the quality of life for those afflicted. In the individuals who were diagnosed with schizophrenia, there is a co-morbidity of depression and anxiety complaints which makes them susceptible to relapse of their symptoms.

Aim: This study aims to find out the relationship between depression, anxiety, and stress among people who have schizophrenia. The objectives are to understand the relationship between the selected socio-demographic conditions and the levels of depression, anxiety, and stress.

Method: Descriptive research design is used for the present study. This present study was in the outpatient department of a neuropsychiatric hospital in-between February 2022 to April 2022. The individuals both males and females aged 18-45 who were on regular medication and had no change of medication for the past month were included in this study. 378 people who were diagnosed with schizophrenia fulfilling both inclusion and exclusion criteria were selected as samples for the study, through simple random sampling. The 21-item Depression Anxiety Stress Scale (DASS), the 18-item Brief Psychiatric Rating Scale, and a semi-structured interview schedule were administered. SPSS 26.0 was used for analysis.

Result: The result indicates that there is a relationship between depression, anxiety, and stress among people who have been diagnosed with schizophrenia.

Conclusion: There exists a relationship between depression, anxiety, and stress among people who have been diagnosed with schizophrenia. This study helps to create awareness and promote understanding about depression, anxiety, and stress among people who have been diagnosed with schizophrenia.

Keywords: Anxiety, Depression, Schizophrenia, Stress

Introduction:

Schizophrenia is a serious mental illness characterized by incoherent or illogical thoughts, bizarre behavior and speech, and delusions or hallucinations, such as hearing voices.^[1] The impact is multifaceted, encompassing emotional, social, and occupational dimensions. Individuals with schizophrenia often grapple with severe disruptions in thought processes, leading to distorted perceptions of reality. This cognitive disarray can result in intense emotional distress, exacerbating feelings of isolation and anxiety.

Social relationships bear a heavy toll as schizophrenia may strain connections with family and friends. Stigmatization and misunderstanding of the disorder can contribute to social withdrawal, leaving individuals with schizophrenia feeling alienated. Employment opportunities may dwindle due to cognitive impairments and the unpredictable nature of the illness, compounding economic hardships and hindering financial independence. The treatment journey also poses challenges, with medications' side effects, therapy adjustments, and the enduring struggle to find an optimal balance. The pervasive impact on daily

functioning, coupled with societal stigma, can lead to lowered self-esteem and a diminished sense of purpose.

The diagnosis of schizophrenia significantly influences an individual's psychological well-being, introducing a complex interplay of emotions, cognitive disruptions, and coping challenges. The realization of a chronic and severe mental illness can evoke profound distress, anxiety, and a sense of loss for the individual.^[2] The uncertainty associated with the course of the illness and the potential impact on one's future can contribute to heightened psychological distress.^[3] Moreover, the stigma attached to schizophrenia can exacerbate psychological strain, affecting self-esteem and self-efficacy.^[4] Individuals diagnosed with schizophrenia may grapple with the societal perception of their condition, leading to self-isolation and a reluctance to disclose their mental health status.^[5] The subjective experience of symptoms, such as hallucinations and delusions, can further challenge an individual's perception of reality, contributing to heightened psychological turmoil.^[6]

Research shows that 80% of schizophrenic patients may go through depressive episodes at least once in the course of the initial phase of the disease.^[7] Depressive disorder occurrence can be as high as 40% in schizophrenic patients and may be reflected in any disease stage.^[8,9] Also, the prevalence of schizophrenia with co-morbid anxiety disorders (panic disorder, social anxiety disorder, and OCD) is significantly higher in the general population whereas the onset of anxiety disorder commonly precedes the onset of schizophrenia.^[10] For people who are living with schizophrenia, stress has a unique impact because experiencing excessive stress can become a cause for a relapse of psychotic symptoms. Individuals with schizophrenia are more sensitive to stress and hence they need to monitor their stress levels post diagnosis. The presence of anxiety and depression in schizophrenia can affect the outcome of treatment^[11] in terms of functional improvement and compliance to treatment. Hence is essential to evaluate the presence of depression and anxiety in those suffering from schizophrenia

There are limited studies present that investigated the relationship between Depression and anxiety among people with schizophrenia^{[9,12-}

^{14]} and there are no studies in India regarding this. The present focus is on finding the levels of depression, anxiety and stress among persons suffering from schizophrenia.

Methodology:

Study Design:

This is a descriptive study done in the outpatient department of a single neuropsychiatric hospital. Individuals who have been diagnosed with schizophrenia were approached to participate in this study. This study was conducted between February 2022 to April 2022. For the data collection process, the purposive sampling technique was used. The institutional ethics committee Radianz health care approved it. The individuals in the age group of 18-45, who were on regular medication and had no change of medication for the past one month were included on this present study, and the individuals with late onset, who were diagnosed with mood disorders or having a co-morbidity Obsessive Compulsive Disorder or other Neuro psychiatric illness were excluded for this study.

Assessments

- The semi-structured questionnaire was given to collect the socio-demographic details regarding the respondent's age, gender, birth order, place of living, educational qualification, primary caregiver, marital status, occupational status, type of occupation, socioeconomic status, area of living, sole income earner of the family.
- The 18-item Brief Psychiatric Rating Scale (BPRS) is a clinician-rated scale designed to assess the severity of schizophrenia which uses a 7-point Likert scale.^[15] The response includes both observation and the Patient's verbal report. The scale has a reliability of 0.95.
- The 21-item Depression anxiety stress scale (DASS) is a self-report scale that is a reliable and valid tool for measuring the levels of stress, anxiety, and depression.^[16] The scale has a reliability of 0.74. The English and Tamil version were used for the study.

Procedure

Persons who fulfilled the inclusion and exclusions criteria were identified by the psychiatrist and referred for the study. A team of psychologists were involved with collecting the information using the questionnaires consisting of consent form, demographic information, BPRS scale and DASS questionnaire. The sample consisted of 426 participants. Of 426 participants, 48 were excluded because complete information could not be obtained hence the forms were incomplete, and a total of 378 responses were taken for analysis.

Statistical analysis

The researcher analyzed the collected data by using the statistical package for social sciences software SPSS, Version 26.0. The sociodemographic variables were checked for normalcy. Simple percentage analyses were used. The Pearson correlation method was used to find the relationship between variables. A One-way ANOVA was calculated to find out the difference between study variables and demographic variables with a 95% confidence level, and $p < 0.05$ was considered statistically significant.

RESULTS:

All the socio-demographic variables were normally distributed. From the collected data 52%

(N=198) belonged to the early adulthood, 39% (N=150) belonged to the middle adulthood and 8% (N=30) belonged to the Late adulthood or Old age categories. In regards to gender, 54% (N=204) participants belonged to the female and 46% (N=174) participants belonged to the Male. Majority of the participants that 35% (N=134) completed their UG and 24% (N= 90) completed their high school. Results shows that 52% (N=198) married and 37% (N= 38) were Unmarried and also 39% (N=144) of the participants were homemakers, 37% (N=138) were unemployed, 16% (N=60) were employed and 10% (N=36) were students. Regarding the working status among the participants, 81% N= 306 were not working, 5% (N=18) were Daily wagers and 14% (N=54) were working in the private sector. Result also indicates that 78% belonged to middle economic status, 15% were low, and 8% were high economic status. Results revealed that 54% N=204 were from Urban and 46% 174 were from rural backgrounds and also 8% N= 30 patients were the sole earners of the family, 33% were spouses and 33% N=126 were fathers.

Table 1 shows that there is a positive relationship between BPRS scores, depression, anxiety, and stress (significance at $p < 0.01$).

Table 1: Distribution of relationship between variables.

<i>Variables</i>	1	2	3
<i>BPRS</i>			
<i>Depression</i>	.667**		
<i>Anxiety</i>	.683**	.995**	
<i>Stress</i>	.687**	.988**	.994**

P is significant at $P < .01$

When the scores in BPRS and DASS were compared with the socio-demographic details, it was found that there is a significant difference between BPRS scores in age, birth order, and employment status as shown in Table 2.

Table 2: Distribution of Relationship between variables based on sociodemographic details

Factors	N	BPRS			Depression			Anxiety			Stress			
		M±SD	F	p	M±SD	F	p	M±SD	F	p	M±SD	F	p	
Age	18-40	198	52.91±12.16			30.21±10.72			30.06±10.69			28.52±9.434		
	41-65	150	57.64±14.95	6.13	.002*	30.80±11.17	3.54	.030*	31.08±11.13	3.17	.043*	29.16±10.395	2.95	.054
	65 and above	30	50.80±19.01			25.00±11.56			25.60±10.81			24.40±9.291		
Gender	Male	174	54.79±13.06			31.48±8.3			31.45±9.83			29.66±8.917		
	Female	204	54.47±15.02	.04	.825	28.79±11.86	5.63	.018*	28.97±11.70	4.86	.028*	27.41±10.523	4.90	.027*
Birth order	Firstborn	108	57.50±19.21			32.28±14.33			32.39±14.29			30.39±13.091		
	second born	168	54.29±12.25			31.86±7.39			31.71±7.27			29.79±6.530		
	Third born	42	49.00±8.46	3.83	.010*	19.71±10.63	17.98	.000**	20.14±10.79	16.65	.000**	20.00±10.208	14.45	.000**
	More than that	60	54.30±9.70			28.10±8.65			28.50±8.58			27.10±7.320		
Educational Qualification	Not Educated	12	40.50±6.79			17.50±7.61			19.00±3.13			19.00±2.089		
	Primary	66	59.55±13.46			31.82±5.61			32.18±5.88			30.45±5.441		
	High school	90	55.07±15.09			31.40±12.26			31.20±12.13			29.47±11.052		
	UG	132	52.95±14.74	4.72	.000**	29.32±11.61	4.29	.001**	29.50±11.46	3.65	.003*	27.68±10.451	3.37	.005*
	PG	30	53.40±8.30			32.00±12.22			31.80±12.16			29.60±10.890		
	Others	48	55.88±12.85			28.88±11.28			28.63±11.34			27.50±9.811		
Primary caregiver	Mother	150	50.20±11.74			30.32±11.27			30.08±11.00			28.44±9.843		
	Father	12	69.50±14.10			35.00±8.35			35.00±9.40			33.50±7.833		
	Spouse	162	54.22±13.83	17.92	.000*	28.59±11.28	2.00	.094	29.00±11.30	1.66	.159	27.33±10.266	2.01	.092
	Others	24	69.50±17.17			32.00±14.04			32.00±14.04			30.50±12.728		
	Children	30	61.00±9.86			32.80±3.11			32.80±2.83			30.80±2.074		
Marital status	Married	198	53.64±13.00			28.36±10.81			28.67±10.90			27.06±9.826		
	Unmarried	138	55.57±16.26			31.43±12.46			31.26±12.21			29.61±11.017		
	Separated	12	44.00±2.08	4.97	.002*	34.50±2.61	3.60	.014*	34.00±2.08	2.80	.040*	32.00±2.089	3.07	.028*
	Widow	30	61.00±9.86			32.80±3.11			32.80±2.83			30.80±2.074		
Employment	Employed	60	51.60±10.43			31.60±7.13			31.80±7.14			29.60±6.768		
	Unemployed	138	54.87±14.88			29.78±12.65			29.65±12.52			28.39±11.404		
	Homemaker	144	57.38±15.33	5.87	.001*	29.21±11.21	.95	.414	29.54±11.17	.83	.475	27.88±10.057	.47	.702
	Student	36	47.67±6.64			31.67±8.83			31.33±8.41			29.00±6.727		
So c Low	54	56.78±7.56	.84	.432	29.11±5.75	.22	.799	29.56±5.53	.08	.922	28.22±5.565	.15	.853	

<i>Middle</i>	294	54.14±15.23	30.16±11.89	30.20±11.79	28.39±10.633
<i>High</i>	30	55.40±11.67	30.40±9.68	30.20±9.76	29.40±8.101

N – Total number of samples

M – Mean, SD – Standard deviation

*p significant at <.05, **p significant at <.001

People who belong to the age of 41-65 have higher mean values. Results also revealed that there is a significant difference between DASS score with gender and all these variables people who belonged to the male category have a higher mean value. Results added that there is a significant difference between BPRS score; DASS score regarding birth order, with these four variables people who belonged to the first order has higher mean value. Results stated that there is a significant difference between BPRS score; DASS score regarding educational qualification, with these four variables people who belonged to the Primary level of qualification has higher mean value. Results added that there is a significant difference between BPRS score regarding primary caregiver, with these variables father having higher mean value. Results show that there is a significant difference between BPRS score, DASS score regarding marital status, with these variables people where the widow has higher mean value on BPRS score and people who were separated have higher mean value on DASS score. Results stated that there is significant differences between BPRS score regarding occupational status, with all these variables homemakers have higher mean value. Results added that there is a significant difference between BPRS score, DASS scores regarding place of living, with these four variables people who belonged to the urban background have higher mean value.

DISCUSSION:

Researchers found that most of the participants were in early adulthood and most of them were female from nuclear families who completed their undergraduate degree were married, unemployed those who were from middle class families and urban backgrounds.

Researchers found that there is a positive significant relationship between scores of BPRS and DASS. Schizophrenia, depression, and

anxiety are all mental health disorders that can co-occur. It might be due to the fact that symptoms of schizophrenia, depression, and anxiety which can sometimes overlap. For example, individuals with schizophrenia may experience negative symptoms such as a lack of motivation or pleasure, which can resemble symptoms of depression and also anxiety symptoms like excessive worry or restlessness of anxiety symptoms can also be present in schizophrenia. A study by Peter F Buckley found that the prevalence and impact of co morbid psychiatric disorders, including depression and anxiety, in individuals diagnosed with schizophrenia which highlights the increased rates of co morbidity between schizophrenia and mood and anxiety disorders, emphasizing the importance of addressing these co morbidities in clinical management.

Researchers found that there is a significant difference between BPRS score, DASS score regarding gender with these three variables. People who are female have higher mean values. It might be due to the fact that there may be differences in the ways that men and women cope with stress and manage their emotions, which can affect their mental health outcomes. Regarding the gender differences in psychological health, previous research has shown mixed results. For example, a study by Piccinelli observed that women have higher rates of depression and anxiety than men,^[17] while another study by Mclean found no significant gender differences in depression or anxiety.^[18]

Researchers found that there is a significant difference between BPRS score, depression, and anxiety regarding age group with these three variables. People who belong to the age of 41-65 have higher mean values. It might be due to that older people may have more psychological maturity and coping skills that enable them to withstand stressors better than

younger people. Therefore, younger people may experience greater mental health challenges in response to stressors such as financial difficulties or social isolation. A study by Beekman found that the prevalence of depression in adults over the age of 55 was nearly double that of younger adults.^[19]

Researchers found that there is a significant difference between BPRS scores and DASS score regarding birth order that belonged to the first order has higher mean value. This may be due to the fact that first-borns have less access to emotional and social support from their parents, as their parents may be more focused on their younger siblings' needs.

Researchers found that there is a significant difference between BPRS scores and DASS score regarding educational qualification that belonged to the Primary level of qualification has higher mean value. This is because individuals with lower levels of education may face significant stressors, such as financial instability and job insecurity, which can contribute to increased levels of depression and anxiety. A study by Lorant found that individuals with lower levels of education had higher levels of psychological distress.^[20] Additionally, a meta-analysis by Cook found that lower levels of education were associated with higher levels of depression.^[21]

Researchers found that there is a significant difference between BPRS score regarding primary caregiver, with these variables father having higher mean value. This might be because the father may have more involvement in the care of the patient, such as providing emotional or financial support, administering medication, or accompanying the patient to doctor visits. On the other hand, a study by Steca by found that family structure was significantly associated with depression and anxiety, with individuals from single-parent families experiencing higher levels of these symptoms compared to those from two-parent families.^[22] This opposes the finding that there was no significant difference between depression, anxiety, and stress regarding family type.

Researchers found that there is a significant difference between BPRS score and DASS score regarding marital status, the widow

has higher mean value on BPRS score and people who were separated have higher mean value on DASS score. This could be because individuals who live without a partner due to loss of a spouse or separation may have different life experiences that could impact psychological well-being. Another study by Conklin found that separated individuals had higher levels of depression and anxiety compared to those who were married or single.^[23]

Researchers found that there is a significant difference between BPRS score regarding occupational status, with homemakers having higher mean value, which could be due to several factors such as social isolation, lack of stimulation, and reduced opportunities for interpersonal interaction, which can impact their mental well-being. A study by Li found that homemakers had higher levels of depression compared to employed individuals, which supports the finding of the current study.^[24] However, another study by Zeng found no significant association between occupation and depression.^[25]

Researchers found that there is a significant difference between BPRS score and DASS score regarding place of living, people who belonged to the urban background have higher mean value. This is because despite living in crowded cities, people from urban backgrounds may experience social isolation due to the fast-paced lifestyle and lack of community support. This can also lead to increased anxiety and depression.

Conclusion:

The study examines the relationship between demographic variables and mental health outcomes such as DASS score, and BPRS scores. The results show that there is a significant difference in mental health outcomes regarding gender, age, birth order, educational qualification, primary caregiver, marital status, occupational status, and place of living. Females, older individuals, first-borns, those with a primary level of qualification, fathers as primary caregivers, homemakers, and those from urban backgrounds had higher mean values for mental health outcomes. However, there was no significant difference in mental health outcomes regarding

family type. The study concludes that demographic factors are important in understanding mental health outcomes, and interventions need to consider these variables.

Comprehensive therapeutic interventions, including psychosocial support and pharmacological treatments, play a pivotal role in mitigating the psychological impact of schizophrenia. Building a therapeutic alliance, promoting self-empowerment, and addressing stigma through education are essential components of interventions aimed at bolstering psychological well-being in individuals grappling with a schizophrenia diagnosis.

Limitations:

- The study only included participants from a specific demographic, which limits the generalizability of the findings to other populations.
- The study relied on self-reported measures, which may be subject to response bias and may not accurately reflect the true levels of psychological distress.
- The study did not control for other factors that could contribute to psychological distress, such as medical conditions, substance use, or previous trauma.
- The study may have lacked statistical power due to the small sample size, which could affect the reliability of the results.
- The study only measured depression, anxiety, stress, and overall psychiatric symptoms using the BPRS scale. Other aspects of mental health, such as resilience or well-being, were not assessed.
- The study relied on purposive sampling, which could lead to selection bias and limit the representativeness of the sample.

Suggestions:

- Mental health professionals should consider gender and age when assessing patients for depression, anxiety, and stress. Women and older adults may be more likely to experience these mental health conditions.
- First-born children may be at higher risk of developing mental health issues, and mental health professionals should

consider birth order when assessing patients.

- Individuals with lower levels of education may be more susceptible to depression and anxiety, and mental health professionals should consider educational qualification when assessing patients.
- Fathers may play an important role as primary caregivers, and mental health professionals should consider the role of fathers in the care of patients.
- Mental health professionals should be aware of the impact of widowhood and separation on mental health, and assess patients for these factors.
- Homemakers may be at higher risk of developing depression and mental health professionals should consider occupation when assessing patients.
- People from urban backgrounds may be at higher risk of developing mental health issues, and mental health professionals should consider the place of living when assessing patients.

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