

Prevalence of Anxiety in Schizophrenic Patients and its Impact on Quality of Life

Anita Kashinath Nagargoje¹, Mayur Kiran Muthe²

¹Assistant Professor, Department of Psychiatry, Dr. Ulhas Patil Medical College, Jalgaon, Maharashtra, India, ²Associate Professor, Department of Psychiatry, Dr. Ulhas Patil Medical College, Jalgaon, Maharashtra, India

Abstract

Introduction: Anxiety symptoms commonly co-occur in patients of schizophrenia and have significant deleterious influence on course of schizophrenic illness and overall prognosis.

Aim: To study prevalence of anxiety in patients suffering from schizophrenia.

Objectives: (1) To investigate, the prevalence of co-occurring anxiety and severity of anxiety in relation to schizophrenia. (2) To study, the impact of anxiety symptoms on quality of life (QOL) of schizophrenic patients.

Materials and Methods: The patients suffering from schizophrenia were randomly selected from outpatient and inpatient department of psychiatry from Medical College and Hospital. Sample size of 60 patients was administered different psychometric scales for profiling schizophrenic symptoms, measurement of anxiety symptoms, and measurement of QOL.

Results: Among the patients 66.67% patients were having at least one anxiety symptom. The prevalence of anxiety disorders was 48.33%. Anxiety disorders were more common in paranoid subtype (57.7%) as compared to non-paranoid subtype and were more commonly (62.06%) associated with early schizophrenia i.e., illness <2 year duration. The majority were having social anxiety 2nd common was panic disorder and followed by obsessive-compulsive disorder. Furthermore, overall QOL of schizophrenic patient was significantly impaired when co-morbid anxiety is detected.

Conclusion: It is clearly evident that the patients with schizophrenia have high prevalence of anxiety. Proper psychiatric screening and detailed evaluation is required, so that anxiety is detected early and treated for improvement of prognosis of schizophrenia and improving QOL of schizophrenic patients.

Key words: Anxiety, Prevalence, Prognosis, Quality of life, Schizophrenia

INTRODUCTION

Schizophrenia is a group of brain disorders characterized by symptoms such as hallucinations, delusions, disorganized communication, poor planning, reduced motivation, and blunted affect.¹ These symptoms cause major bulk of disability in such patients. Further adding to our confusion toward the clinical picture of schizophrenia, anxiety symptoms are also frequently observed.

Some studies have suggested that anxiety in schizophrenic patients might be associated with both positive² and negative³ symptoms. In addition, extrapyramidal symptoms that develop secondary to neuroleptic treatment may also be co-exist with anxiety symptoms.⁴

Anxiety symptoms or disorders in schizophrenic patients are significant, as they increase the risk of recurrence and suicide and impair social and professional functions and quality of life (QOL).^{5,6}

Comorbid anxiety disorders or symptoms such as obsessive-compulsive disorder (OCD), panic disorder, social phobia, and generalized anxiety disorder (GAD), and posttraumatic stress disorder (PTSD) can develop in schizophrenia in the same way as in patients with anxiety disorder only.⁷

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Corresponding Author: Dr. Anita Kashinath Nagargoje, Department of Psychiatry, Dr. Ulhas Patil Medical College and Hospital, NH6, Jalgaon - 425 309, Maharashtra, India. Phone: +91-9763182616. E-mail: aninagargoje@gmail.com

The purpose of this study is to add to knowledge about severity of anxiety symptoms in patients with schizophrenia and to guide the mental health professionals to better understand the diagnosis and treatment of anxiety symptoms in patients with schizophrenia.

Aim

To study, the prevalence of anxiety in patients suffering from schizophrenia.

Objectives

1. To investigate, the prevalence of co-occurring anxiety symptoms and their severity in patients suffering from schizophrenia.
2. To study, the impact of anxiety symptoms on QOL in patients suffering from schizophrenia.

MATERIALS AND METHODS

This observational study was cross-sectional in nature, carried out on 65 patients from September 2012 to September 2014 approximately for 2 years in Psychiatry Department of a Medical College Hospital. Schizophrenic patients reporting to Psychiatry Department were recruited after taking informed consent.

The study was approved by the Ethical Committee of Medical College and Hospital.

Inclusion Criteria

1. Patients diagnosed as schizophrenia according to Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision (DSM-IV-TR)
2. Patients of more than age of 18 years up to 60 years.

Exclusion Criteria

1. Patients with co-morbid medical illness
2. Patients with use of any psychotropic substances
3. Patients who have received electro convulsive therapy within last 6 months
4. Patients who have drug induced side effects.

The socio demographic profile and clinical variables were recorded in specific case report form prepared for this clinical study. All the patients underwent thorough clinical examination.

At the time of interview, following instruments or psychometric scales were administered for approximately 60-90 min session:

1. Duke health profile⁸
2. DSM-IV-TR criteria and Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I)⁹
3. Positive and negative syndrome scale (PANSS)¹⁰

The patients after administration of sociodemographic data and SCID-I were then administered Dukes health profile for screening of patients for anxiety. Then patients were divided according to score into anxiety screening positive patients and anxiety screening negative patients.

Patients who were positive on anxiety screening were then administered Hamilton anxiety (HAM-A)¹¹ to estimate severity of anxiety in these patients. After that WHO QOL-BREF,¹² scale was administered on all patients and data collected.

Each case was evaluated and discussed with senior psychiatrist and diagnose as per DSM-IV TR criteria. Furthermore as per DSM-IV-TR criteria patients were identified, and diagnosed as having specific subtype of schizophrenia. Then, relation of anxiety and severity of anxiety with all variable of schizophrenia were studied and evaluated. Furthermore relation of anxiety with socio demographic data of patients suffering from schizophrenia was evaluated. Medical data were obtained from subjects and from their medical records.

Statistical Analysis

The results obtained were analyzed using the Chi-square test, ANNOVA test and statistical methods. The Chi-square test was applied on obtained data to test the significance of difference between two proportions.

RESULTS

This study consisted of 65 patients out of that 5 patients refused to complete the psychometric scales and questionnaire. Thus, these 5 patients were eliminated, which left 60 patients in this study. Among the patients 66.67% (*n* = 40) patients were having at least one anxiety symptom and the prevalence of anxiety disorder was 48.33% (*n* = 29) (Table 1 and Graph 1).

Among 29 schizophrenic patients diagnosed with anxiety, majority, i.e., 57.7% (*n* = 23) had paranoid schizophrenia (Table 2 and Graph 2).

This study further divided patients according to degree of severity of anxiety by applying HAM-A scale and it was

Table 1: Anxiety distribution according to screening scale (Dukes health profile) among the patients suffering from schizophrenia

Anxiety on screening test	Number of patients	Percentage
Screening positive	29	48.33
Screening negative	31	51.66
Total	60	100

found that 26 out of 29 patients (89.65%) had moderate to severe degree of anxiety.

Anxiety disorders were found to be more prevalent in schizophrenic patients with predominant positive symptoms (Table 3 and Graph 3) and were more common in early schizophrenia, i.e., illness duration <2 years (Table 3).

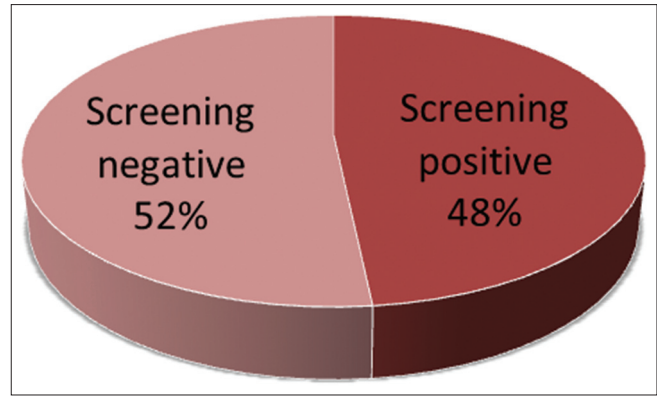
Overall QOL of schizophrenic patient was significantly impaired when co-morbid anxiety is detected (Table 4).

Total six types of anxiety disorders were found in 29 schizophrenic patients with co-morbid anxiety.

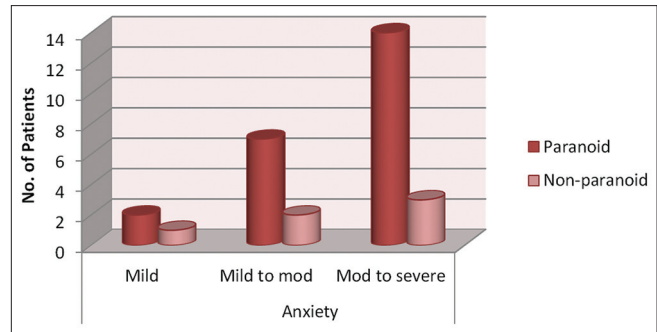
As in Table 5, majority schizophrenic patients were having social anxiety (31.03%), 2nd common was panic disorder (24.13%) and followed by OCD (20.68%).

DISCUSSION

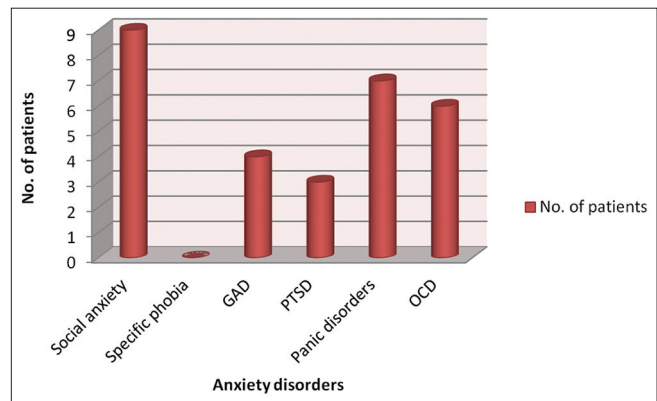
Though the recognition of co-occurrence of anxiety disorders in schizophrenia dates back to the early years of psychiatric nosology, the topic has long been neglected in both research, and clinical settings. Studies have demonstrated that anxiety disorders are commonly found in schizophrenic patients and they have significant influence on course of illness, its impact on day to day functioning of the patient and overall prognosis. Recognizing and



Graph 1: Number of patients by anxiety screening test



Graph 2: Severity of anxiety a/c subtype of schizophrenia



Graph 3: Anxiety disorders

Table 2: Anxiety and its severity distribution according to subtypes of schizophrenia among patients of schizophrenia

Schizophrenia subtypes	Anxiety (%)			Total patient having comorbid anxiety
	Mild	Mild to moderate	Moderate to severe	
Paranoid	2 (8.67)	7 (30.43)	14 (60.87)	23 (57.50)
Non-paranoid	1 (16.66)	2 (33.33)	3 (50)	06 (30)
Total	3 (10.34)	9 (31.03)	17 (58.62)	29

Table 3: Distribution of anxiety and its severity according to duration of schizophrenia and PANSS score among patients suffering from schizophrenia

Anxiety disorders (%)	Duration in years of schizophrenic illness			Total	PANSS score: Prominent symptoms		
	<2	3-10	>10		Points with predominant positive symptoms	Points with predominant negative symptoms	General psycho-pathology
Absent	8 (25.80)	13 (41.93)	10 (32.25)	31	10 (32.25)	12 (38.70)	09 (29.03)
Present	18 (62.06)	9 (31.03)	2 (6.89)	29	20 (68.96)	6 (20.68)	3 (10.34)
Mild	0	3 (100)	0	3	3 (100)	0	0
Mild-moderate	3 (33.33)	4 (44.44)	2 (22.22)	9	6 (66.66)	1	2 (22.22)
Moderate-severe	15 (57.69)	2 (2.81)	0	17	11 (36.67)	5	1 (5.88)
Total	26 (43.33)	22 (36.67)	12 (20)	60	30 (50)	18 (30)	12 (20)

Statistical analysis for association of anxiety and duration of schizophrenia: $\chi^2=9.851$, $d(f)=2$, $P=0.0072$. Statistical analysis for association of anxiety and PANSS score predominant symptom: $\chi^2=8.276$, $d(f)=2$, $P=0.015$, PNAS: Positive and negative syndrome scale

Table 4: Relation of co-morbid anxiety and QOL of patients suffering from schizophrenia

Anxiety	WHO QOL-BREF					
	Q1	Q2	D1	D2	D3	D4
Absent						
Mean	3.19	2.80	20.38	17.51	7.7	19.83
SD	1.20	1.30	4.81	3.74	1.34	3.23
Minimum	1	1	12	13	6	16
Maximum	5	5	27	24	11	27
Mild						
Mean	3.67	3.33	23.33	19	8.33	23.67
SD	0.58	1.15	5.68	5.57	2.08	4.04
Minimum	2	1	17	13	6	19
Maximum	5	5	28	24	10	26
Mild-moderate						
Mean	2.67	2.78	18.55	16.22	7.22	20.77
SD	1.23	1.20	4.79	4.43	1.39	2.728
Minimum	2	1	10	10	5	17
Maximum	5	5	24	22	10	25
Moderate-severe						
Mean	2.12	2.41	17.11	15.70	7.11	18
SD	1.27	1.22	5.09	3.38	1.16	2.12
Minimum	1	1	10	10	5	15
Maximum	4	5	25	21	9	22
P value	0.02	0.6	0.011	0.05	0.3	0.009

QOL: Quality of life, SD: Standard deviation

Table 5: Distribution of different type of anxiety disorders among patients of schizophrenia

Anxiety disorders	Number of patients	Percentage
Social anxiety	9	31.03
Specific phobia	0	0
GAD	4	13.79
PTSD	3	10.34
Panic disorders	7	24.13
OCD	6	20.68
Total	29	100

OCD: Obsessive-compulsive disorder, GAD: Generalized anxiety disorder, PTSD: Posttraumatic stress disorder

treating anxiety disorders when present in patients with schizophrenia spectrum could contribute to achieve more positive outcomes.^{13,14}

Clinical aspect of schizophrenia and prevalence of anxiety:

This study was supportive to many previous study results stating higher prevalence of anxiety in patients with schizophrenia. Among the patients, who were diagnosed as schizophrenia, we found 66.67% patients had at least one anxiety symptom.

This prevalence estimated was consistent with previous studies. In a study done by Huppert and Smith.¹⁵ 62% patients had at least one anxiety disorder. Tibbo *et al.*¹⁶ study done on 90 patients found 73% prevalence of anxiety disorder in schizophrenic patients.

We found that anxiety was more prevalent (57.5%) in paranoid patients than non-paranoid patients. The observed difference in prevalence was statistically significant. This finding was consistent with many other studies.^{15,17,18}

Furthermore, we added more systematic evaluation of relation of severity of anxiety with subtypes of schizophrenia. Moderate to severe degree of anxiety was more (60.87%) prevalent in paranoid type of patients than nonparanoid (50%) type of patients. Comparison of severity of anxiety was to our knowledge is done in our study first time.

In this study, out of 29 patients with co-morbid anxiety 18 (62.06%) were of <2 years duration of schizophrenia. Our study suggest that presence of anxiety is more common associated with lesser duration (acute illness) of schizophrenia illness. The association we found was statistically strongly significant ($P = 0.007 < 0.05$). No earlier study has included duration of schizophrenia as a variable in studying the relationship between schizophrenia and anxiety. The study of Achim *et al.*¹⁷ have given relation of anxiety with first episode and non-first episode schizophrenia, where he found first episode present with high rate of anxiety.

The relation between anxiety and predominant symptom of schizophrenia (a/c PANSS scale) suggests that out of 29 schizophrenic patients with co-morbid anxiety, 20 (68.96%) had predominantly positive symptoms. This association was statistically significant ($P = 0.015 < 0.05$). In a study conducted in Turkey, positive symptoms were higher in schizophrenic patients with panic symptoms.¹⁹

Anxiety and QOL of patients with schizophrenia:

Schizophrenia is a chronic condition with physical, psychological, emotional and cognitive deterioration. Anxiety and other co-morbidities further add to deterioration.

In this study, we co-related anxiety and its severity with QOL of patients with schizophrenia. We used WHO QOL-BREF QOL scale include six aspects of QOL.

- Q1- Self-perception about QOL
- Q2- Self-perception about general health
- Domain 1 - Physical health
- Domain 2 - Psychological health
- Domain 3 - Social relationship, and
- Domain 4 - Environment.

We found, lowest average score (i.e., poor QOL) for WHO QOL-BREF on self-perception of QOL ($P = 0.02 < 0.05$).

Physical health (D₁) was poorer in patients having moderate to severe co-morbid anxiety (mean = 17.11) as compared to those patients without anxiety (mean = 20.38).

Psychological health (D₂) perception was also impaired significantly ($P = 0.05$) in severe anxiety patients than other.

Environmental aspect (D₄) of QOL also showed significant deterioration due to presence of anxiety. This difference was strongly significant ($P = 0.009$) on statistical analysis.

This result was also replicated many times in previous studies. Dernovšek *et al.* study²⁰ estimated that anxiety symptoms have a significant negative impact on the QOL of patients with schizophrenia.

Relation of specific type of anxiety disorder with schizophrenia:

DSM-IV-TR based SCID-I-Clinician Version was used to confirm the diagnosis of anxiety disorders in patients who have co-morbid anxiety with schizophrenia. We found highest prevalence of social anxiety among of schizophrenic patients.

This finding was consistent with most of the earlier studies. Study of Achim *et al.*¹⁷ have shown pooled prevalence rates of 14.9% (CI 8.1-21.8%) for social phobia, 12.1% (7.0-17.1%) for OCD, 10.9% (2.9-18.8%) for GAD, 9.8% (4.3-15.4%) for panic disorders, and 12.4% (4.0-20.8%) for PTSD.

We found rate of panic disorder as 24.13% and this rate of this study was also consistent with the studies conducted by Tibbo *et al.*,¹⁶ and Braga *et al.*²¹

Strengths and Limitations of Study

In our study, the size of sample was sufficient and was corresponding to earlier studies to calculate prevalence. However to calculate exact relationship of various anxiety disorders larger sample size will be needed.

In our study, we compared two new variables of schizophrenia namely type of schizophrenia and duration of schizophrenia, with degree of severity of co-morbid anxiety, which, to our knowledge, were never studied in any of the previous studies.

This study being cross-sectional in design, did not check on persistence of anxiety symptoms. Furthermore failing to apply scales for specific anxiety disorders caused deficiency in determining detailed characteristics of that disorder.

The effect and side effect of anti-psychotics and other medications have not been considered in this study.

CONCLUSION

From the observations and discussion, it is clearly evident from this study that the patients with schizophrenia have high prevalence of anxiety.

Anxiety also leads to significant impairment of QOL of patients.

With proper screening and detailed evaluation, anxiety is required to be detected in early stages and treated, which can further improve the prognosis of schizophrenia.

These results emphasize the importance of determining anxiety symptoms and co-morbid anxiety disorders in the clinical diagnosis, prognosis and treatment of schizophrenia and propose new research in treatment approaches for the agenda. Thus, reducing the suffering and also improve the QOL of these patients.

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