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Original Article

Psychiatry Section

Symptomatic Remission in Schizophrenia and its Relationship with Functional Outcome Measures in Indian Population

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ABSTRACT

Introduction: Schizophrenia is a chronic mental disorder with disabling symptoms and variable outcome. Outcome is a multidimensional construct that depends on description of clinical and social domains. Symptomatic remission is one such clinical domain which can determine the outcome of illness.

Aim: The study aimed to assess functional outcome in symptomatic remitted schizophrenia patients compared to unremitted patients in Indian population.

Materials and Methods: This cross-sectional observational study was conducted at the Institute of Mental Health, Chennai, India. Remitted (symptom free in preceding six months) and unremitted patients were assessed by Positive and Negative Symptom Scale (PANSS), Personal and Social Performance (PSP) scale, World Health Organization-Quality of Life BREF (WHOQOL-BREF) and Global Assessment of Functioning (GAF). There were 30 patients in each group. All statistical analysis was done using SPSS version 20.0 statistical software.

Results: Patients in symptomatic remission were found to have better quality of life in personal, environmental and social domains ($p<0.01$). Their personal and social performance is significantly better in remission group. The overall functioning was assessed by GAF, was better in patients with symptomatic remission ($p<0.001$).

Conclusion: Symptomatic remission may be a good indicator of better clinical status, personal and social functioning and quality of life.

Keywords: Mental health, Quality of life, Social functioning

INTRODUCTION

Schizophrenia is a chronic and severe mental disorder that affects how a person thinks, feels and behaves. It affects 1% of population world-wide [1]. Though it is not a common mental illness, the symptoms are often chronic and debilitating [2].

Outcome of schizophrenia is determined by clinical variables and level of social functioning [3]. Severity of symptoms is one such clinical variable that determines the outcome. Independent living, maintenance of social relationships and employment are few other variables that define social functioning of an individual. These variables are often interlinked. The level of outcome (good, intermediate or poor) was in part mainly dependent on generosity in definition of these variables for an outcome study [3]. Thus, a study with lenient definition of symptom status or social functioning found 56% of patients to be in good outcome category [4], while a study with stringent definition had 59% in poor outcome category [5].

For decades, the major hindrance for comparison of studies measuring outcome is the non-availability of uniform definition of remission in schizophrenia. In the year 2005, the Remission in Schizophrenia Working Group (RSWG) put forth definition for symptomatic remission and set specific operational criteria for its assessment [6]. The criteria consist of two elements:

1. A symptom-based criterion: They correspond to eight items in the PANSS and these item score should be ≤3 to classify them as remitted. The items are delusions, unusual thought content, hallucinatory behaviour, conceptual disorganisation, mannerisms, blunted affect, social withdrawal and lack of spontaneity.
2. A time criterion requires remission to be persistent for a minimum of six months.

It was pointed out, however, that the validity of these criteria and the relationship to outcome measures required further research [7]. Hence, this study aimed to investigate whether the symptomatically remitted patients presented with better quality of life and social functioning compared to unremitted patients.

MATERIALS AND METHODS

The study was a cross-sectional observational study, conducted at the Institute of Mental Health, Chennai, India, in the year 2012 for three months. Ethical committee approval was obtained from Institutional Ethics Committee, Madras Medical College. Schizophrenia patients who were attending the outpatient department for review were to be screened randomly for the study. Patients' symptom status was reviewed once in four weeks in review outpatient department. Those patients who were mentioned to be symptom free in preceding six months, in records were taken for remitted group. Other patients who were symptomatic in records were considered as unremitted patients. Thirty consecutive patients who fulfilled RSWG remission criteria formed the first (remitted) group. The other consecutive 30 patients who did not fulfilled remission criteria formed the second (unremitted) group.

Inclusion Criteria

Consenting individuals of 18–50 years of age, with diagnosis of schizophrenia according to International Classification of Diseases-Tenth Revision (ICD 10), having clinically stable symptoms since the last six months were included in the study.

Exclusion Criteria

History of any other psychiatric illness, concurrent neurological illness or systemic illness known to impair functioning, any substance dependence in preceding six months were excluded in the study.

Tools Employed

1. A semi structured proforma for socio-demographic data and

relevant clinical data;

2. Clinical characteristics of patients including age of onset of illness, duration of untreated psychosis, total duration of illness;
3. Positive and Negative Symptom Scale (PANSS) to assess symptom severity [8];
4. Personal and Social Performance scale (PSP) to assess social functioning [9];
5. World Health Organization-Quality of Life BREF (WHOQOL-BREF) [10];
6. Global Assessment of Functioning (GAF) [11].

STATISTICAL ANALYSIS

All statistical analysis was done using SPSS version 20.0 statistical software. Chi-square test was used to compare socio-demographic variables and student t-test (unpaired) for other variables. Level of significance was kept at p<0.05 and highly significant if p<0.01.

RESULTS

Income per month was divided arbitrarily with the prevailing socioeconomic conditions and the range of income reported by the patients into three groups for comparison. Both the groups comprised of males predominantly but no gender difference was observed between the groups for comparison. There was no significant difference between the groups regarding marital status. There was a significant difference between the groups regarding education, employment and income per month with remitted group having better education, employment and income per month [Table/Fig-1].

There was a significant difference between groups in duration of untreated psychosis and total duration of illness. There was no significant difference between groups in age, age of onset of illness, number of hospitalization in the past. PANSS positive, PANSS negative, PANSS general psychopathology and PANSS total score had significant difference between the groups which is expected, as we divided the groups based on PANSS items [Table/Fig-2].

Patients in symptomatic remission were found to have better quality of life. Their personal and social performance is significantly better in remission group. The overall functioning was assessed by GAF, was better in patients with symptomatic remission [Table/Fig-3].

Sociodemographic Variables		Group		Total	p-value
		Remitted	Unremitted		
		n (%)	n (%)	n (%)	
Sex	Male	24 (80)	22 (73.3)	46 (76.7)	0.542
	Female	6 (20)	8 (26.7)	14 (23.3)	
Education	School	10 (33.3)	18 (60)	28 (46.7)	0.040*
	College	20 (66.7)	12 (40)	32 (53.3)	
Occupation	Unemployed	8 (26.7)	23 (76.7)	31 (51.7)	<0.001*
	Employed	22 (73.3)	7 (23.3)	29 (48.3)	
Income/ Monthly	No income	10 (33.3)	23 (76.7)	33 (55)	0.001*
	Low income (<Rs 5000)	3(10)	1 (3.3)	4 (6.7)	
	Middle income (Rs 5001-Rs 10000)	13 (43.3)	6 (20)	19 (31.7)	
	High income (>Rs 10001)	4 (13.3)	0 (0)	4 (6.7)	
Marital Status	Divorced	2 (6.7)	1 (3.3)	3 (5)	0.384
	Married	14 (46.7)	15 (50)	29 (48.3)	
	Unmarried	14 (46.7)	11 (36.7)	25 (41.7)	
	Separated	0 (0)	3 (10)	3 (5)	
Religion	Hindu	28(93.3)	25 (83.3)	53 (88.3)	0.506
	Christian	1 (3.3)	3 (10)	4 (6.7)	
	Muslim	1 (3.3)	2 (6.7)	3 (5)	
Area	Urban	22 (73.3)	20 (66.7)	42 (70)	0.064
	Semi urban	8 (26.7)	5 (16.7)	13 (21.7)	
	Rural	0 (0)	5 (16.7)	5 (8.3)	

[Table/Fig-1]: Comparison of socio-demographic profile of remitted and unremitted schizophrenic patients.
*p<0.05 significant

Illness Parameter	Mean±SD		p-value
	Remitted	Unremitted	
Age (yr)	34 (6.314)	36.1 (8.43)	0.279
Age of onset of illness (yr)	25.97 (4.979)	24.03 (4.4999)	0.120
Duration of untreated psychosis (yr)	2.87 (1.548)	4 (1.93)	0.015*
Total duration of illness (yr)	8.03 (5.555)	12.07 (7.634)	0.023*
No. of hospitalization in past	1.93 (1.799)	1.87 (1.074)	0.862
PANSS positive	7.8 (3.809)	17.97 (4.263)	<0.001*
PANSS negative	11.47 (3.589)	26.23 (5.11)	<0.001*
PANSS general psychopathology	19.83 5.663)	35.2 (7.097)	<0.001*
PANSS total score	39.1 (8.695)	79.4 (10.858)	<0.001**

[Table/Fig-2]: Comparison of illness parameters.
*p<0.05 significant

Outcome Measures	Mean±SD		p-value
	Remitted	Unremitted	
WHO-QOL physical	59.47 (10.595)	51.83 (8.579)	0.003**
WHO-QOL psychological	62.03 (11.874)	57.77 (12.204)	0.175
WHO-QOL social	60.97 (10.115)	44.73 (15.373)	<0.001**
WHO-QOL environmental	63.8 (8.475)	42.67 (12.609)	<0.001**
PSP Self care	1.87 (0.819)	2.8 (1.031)	<0.001**
PSP Social relationship	1.97 (1.129)	3.1 (0.995)	<0.001**
PSP Useful activities	1.53 (0.973	3.5 (1.432)	<0.001**
PSP Aggression	1.4 (0.621)	2.57 (1.331)	<0.001**
PSP Total Score	65.57 (9.335)	50 (12.999)	<0.001**
GAF	63.03 (8.779)	48.73 (11.176)	<0.001**

[Table/Fig-3]: Comparison of functional outcome.
**p-value <0.05 is significant

DISCUSSION

The study had tried to reflect the outcome of schizophrenia patients based on symptom status in a tertiary care institutional setup. The prognostic factors for favourable outcome reported by previous studies were been married, later age of onset of illness, higher education, good premorbid functioning and shorter duration of untreated psychosis [12]. This study found no difference among the gender and marital status, but found that the remitted patients had significant better education, employment status, income/ month, later age of onset of illness and shorter duration of untreated psychosis compared to unremitted patients. Similar to this study, a retrospective analysis of Calgary Early Psychosis Program found symptomatically remitted patients had good premorbid functioning, shorter duration of untreated psychosis and increased changes in symptoms over time [13].

In our study, there was significant difference between the groups in physical (p-value 0.003), psychological (p<0.001) and environmental domain (p<0.001) WHOQOL score. A similar study found remitted patients presented significantly better social functioning, better self-reported quality of life, insight, and lower levels of depressive symptoms. They also showed a non-significant trend for better executive function, processing speed and verbal memory [14]. Another study applied the criteria to a naturalistic cohort and found

those who were in remission were found to have better insight in their disorder, a higher level of global functioning and functioned better with respect to daily living task [15].

The social functioning of remitted group was significantly better than the unremitted group as measured by GAF and PSP score. Remitted group was also significantly better in all four domains of personal and social performance scale. GAF score of 61 and above was found to have mild symptoms or no symptoms/difficulties [11]. GAF score above 80 was considered as adequate functioning [16]. Since none of our sample reached GAF score of 80, a cut off of 60 was chosen for comparison of adequacy of functioning. In remitted group, 46.66% was found to have adequate functioning with mild symptoms and only 16.66% was found to have adequate functioning with mild symptoms. PSP score of 71 and above was found to have mild or no difficulty in social functioning [9]. Only 20 percent of remission group was found to have adequate social functioning and none in unremitted group.

Though there was significant difference between the groups, the measure of adequate functioning in each group was less. A similar finding has been reported in a study where a significant better level of functioning was measured for remitted versus non-remitted patients. But remitted patients still showed areas with an inadequate level of functioning. Functional deficits were most often seen in social relations (40%), work (29%) and daily life activities (17%). Best functioning was assessed for self-care, self-control, health management and medical treatment. A moderate to severe level of disorganization and emotional distress was observed in 38% and impaired subjective well-being in 29% of patients defined as being in symptomatic remission [17].

Though there are significant differences between the groups in GAF and PSP score, symptom remission alone is not adequate for social functioning. This finding makes us to think about an integrated approach with more emphasis on psychosocial rehabilitation for better social functioning.

LIMITATION

Study was conducted in tertiary care centre where more resistant cases are referred. Study sample was selected from review outpatient department. Patients who came to review outpatient department were either more functional or more symptomatic. Hence, it may not represent the cases in between these two extremes. Results may not be generalized for schizophrenia population.

Addition of a control group would have allowed better understanding of real life functioning of remitted group if they were compared. Effect of medication and depression was not taken into account. Study would have been better if more factors like family history, drug compliance, drug attitude, pre morbid functioning, expressed emotions and insight were analyzed as it might have thrown some light over predictors of remission [18].

CONCLUSION

Symptomatic remission in schizophrenia is found to have better outcome in terms of WHO-QOL, GAF and PSP. Early treatment with pharmacotherapy in achieving symptom remission will improve the functional outcome, reduce the pessimistic view about schizophrenia and when combined with psychosocial rehabilitation will help better social functioning. Hence, achieving symptomatic remission should be kept as one goal for attaining recovery. Future studies should analyze the predictors of symptomatic remission and factors required for adequate real life functioning.

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