

Comparison of Depressive Symptoms in First Presentation of Schizophrenia with Normal Healthy Subjects: a hospital based study

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ABSTRACT

Aims: To determine the severity of depressive symptoms in patients with first presentation schizophrenia in comparison with the normal subjects. Another important objective was to see the relationship between severity of depressive symptoms with positive and negative symptoms of schizophrenia, gender and age.

Design: Co-relational study with cross sectional research design.

Duration and place of study: It took one year to complete the data collection, analyze the results and report writing. The data was collected from both indoor and outdoor psychiatric department of Lahore General Hospital Lahore Pakistan.

Method: A non-probability purposive sample of 100 patients with schizophrenia and 100 controls, age ranging from 15-65 years. Measures for data collection were demographic questionnaire, PANSS and Hamilton Depression Rating Scale.

Results: The results of present study show that depressive symptoms are common in patients with schizophrenia than in general population. Moreover the depressive symptoms are significantly associated with positive symptoms derived from PANSS. The study does not show any statistically significant relationship with age and gender.

Conclusion: Schizophrenic illness has many domains and associated problems and depression is one important associated problem that most of the patients suffering.

Keywords: Schizophrenia, depression, positive and negative symptoms.

INTRODUCTION

Schizophrenia is a devastating disorder, which is usually chronic, and is one of the most distressing medical illnesses affecting 5%-1% of people round the world¹. According to a local research the prevalence of schizophrenia in Pakistan is 1.5%². There is little difference in incidence and prevalence of this illness in developed and developing countries³.

Both men and women are affected equally. It begins at younger age between 15-30 years⁴. Patients with schizophrenia presents with disturbance of thinking, perception, catatonic features, social withdrawal, social and occupational turn downs. Common schizophrenic symptoms are delusions, hallucinations, disorganized speech and behavior. Affective symptoms are also part and parcel of schizophrenia⁵.

As schizophrenia affects many areas of functioning, people with illness often lead an isolated and marginalized existence in poor housing, with low income, little education and poor vocational and social skills⁵. The decline in social scale associated with unemployment and poorer financial conditions once the illness is established is common⁶.

Depression is frequently occurring symptom in schizophrenia. The frequency of depressive symptoms in schizophrenia ranges from 20-80%⁷. Most common depressive symptoms are mainly lack of pleasure in nearly all the activities, persistent low mood, decrease motor activity, poor attention, insomnia, hopelessness and suicidal thoughts. Studies revealed that depressive symptoms usually correlated with both positive and negative symptoms⁸.

According to Lindenmayer JP the commonly recognized domains of schizophrenic illness are the positive, negative, cognitive, depression and excitement. However, many studies show schizophrenia is a syndrome with five dimensions and it contains positive symptoms, negative symptoms, disorganization, depression, and cognitive symptoms⁹.

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In one of the largest study of gender differences in schizophrenia is conducted in a Chinese population it is found that schizophrenia onset occurred in male and significantly earlier in age as compared to females whereas late onset was significantly more common in female patients. Female patients showed a different pattern of symptoms expression and severity level, more severe and persistent positive and affective symptoms, and a great number of suicidal attempts whereas male patients were more likely to show negative symptoms with severe deterioration over time^{10,11}.

In female patients, depression was independently related with higher negative symptoms and younger age where as in males positive symptoms and short hospitalization were the foremost common factors allied with depression¹¹.

Depression symptoms are common feature of schizophrenic disorders, a fact that has become increasingly noticeable over last two decades. They can be interpreted associated or co morbid, depending on the conceptual perspective applied of particular clinical relevance. These symptoms of depression contribute significantly to the suffering caused by the illness. The positive psychotic symptoms are active, they aggravate deficits in psychosocial functioning and proved a risk factor of attempted or completed suicide¹².

Zisook conducted a study to find out pattern of depressive symptom. He found the most depression was main associated problem in schizophrenia and all of its domains can be observed e.g., psychological aspects including depressed mood, lethargic appearance, feelings of anxiety and cognitive aspects including shame & guilt, helplessness, hopelessness, thought disturbance and somatic aspects including insomnia, lack of appetite or over eating, lack of interest in sexual activities, somatic anxiety and psychomotor retardation or agitation¹³.

Depressive symptoms are common in prodrome of schizophrenia prior to acute psychotic episode¹⁴. The frequently mentioned symptoms by patients and their families were symptoms of loss of appetite, having trouble in concentration, having trouble in sleep, depress mood and social withdrawal. Depressive symptoms are most frequently associated with the acute phase of schizophrenia. Such symptoms are most prevalent before medication is given, during first episode, relapses but falls noticeably during the course of illness¹⁵.

Lower rates of depressive symptoms are seen in chronic phase of the illness with a mean of 13.3%¹⁶ and positively related with positive symptoms. In a study done on middle-aged schizophrenic patients shows they have Sub Syndromal Depression (SSD).

SSD was associated with increase in pathology as well as positive and negative symptoms¹⁷.

Suicide risk scores and actual suicidal behavior was prominent in adolescents. Depression was significantly correlated with suicidal risk and awareness of disease¹⁸.

Those with first episode psychosis are at high-risk of suicide and depressive symptoms are associated with it¹⁹. A literature review shows that the life time risk of suicide in schizophrenia is 9-13% which is 15-20 times greater than general population²⁰.

Schizophrenics have poor Quality of Life (QOL)²¹. In first episode of schizophrenia subjects experience poorer QOL and depressive symptoms and reasons identified were; a greater degree of insight and their attribution of troubles to poor health, lack of social support and depressing environment²².

Conely RR compares people with schizophrenia and concurrent depressive symptoms and non-depressed schizophrenic. He concluded that people with schizophrenia have poorer quality of life, greater use of mental health services, and high risk involvement with law enforcement agencies²³.

METHODS

It was a co relational study with cross sectional research design. It was conducted in indoor and outdoor departments of Lahore general Hospital Lahore. It took one year to collect data, analyze the results and report writing. Hundred patients of schizophrenia diagnosed by International Classification of Diseases (ICD10) were selected along with hundred healthy subjects matched on age gender and socioeconomic status. It was a purposive non probability sampling. Sample was divided into two groups. Group A consisted of diagnosed schizophrenic patients and Group B included healthy subjects. Both male and female individuals between the age of 15-62 years were included in the study. Patients with comorbid psychiatric disorders and having chronic medical conditions were excluded from the study.

Data collection procedure: Hundred patients of schizophrenia diagnosed by ICD 10 were selected from indoor and outdoor department of Lahore general hospital. A group of healthy subjects matched on age, gender and socioeconomic status was selected from the relatives of the patients. To rule out the bias that first degree relative may have depressive symptoms because of burden of diseases on them only second or third degree relatives will be included. A written informed consent from the participants will be taken. Socio economic and demographic variable including age, sex, marital

status, employment status, educational status, family history of mood disorder, family history of schizophrenia was collected. Positive and negative symptoms scale (PANSS) was administered for rating positive and negative symptoms in patients with schizophrenia. Hamilton Depression Rating Scale was administered on both groups to find out severity of depressive symptoms. All the information was recorded on a Performa.

Data Analysis Procedure: The collected information was entered and analyzed through statistical package for social sciences (SPSS) Version 10. For demographic variables descriptive statistics were applied. The scores of Hamilton depression rating scale of two groups were presented separately and compared for significance statistically. Since the outcome will be qualitative data chi square test will be applied. A p value of 0.05 or less will be taken as significant. The magnitude of depressive symptoms in schizophrenic group will be compared by age, gender and symptoms and any association is found by applying chi square test.

RESULTS

The data was analyzed both descriptively and analytically. Important results were tabulated into different tables and interpreted in this section. Results show that about 57% of schizophrenia patients lie in first age group (15-16) which is highest percentage among the other groups. Among the total 100 patients of schizophrenia males were 63(63%) higher than females 37(37%). It was found that there were about 56% unmarried. There is no statistically difference in the educational status of both groups. Laborers were high in percentage that is 36%. It was found that 86% of cases have no history of mood disorder. There were 72% with absent family history of schizophrenia. It was found that in patient group percentage of mild depression is 42% which is highest.

PANSS scores are presented for cases only which resulted that 62% of patients were with positive symptoms. Association of sex and severity of depression in cases only was analyzed by this cross tab and chi-square test of independence.

Table 1: Demographic Description of Participants (n=200)

Characteristics	Group I n=100	Group II n=100	P
	f (%)	f (%)	
Group			>-.05
15-16	57(57%)	60(60%)	
27-38	25(25%)	17(17%)	
39-50	12(12%)	14(14%)	
51-60	6(6%)	9(9%)	
Gender			>-.05
Male	63(63%)	63(63%)	
Female	37(37%)	37(37%)	
Marital Status			
Unmarried	56(56%)	45(45%)	
Married	41(41%)	50(50%)	
Divorced	1(1%)	4(4%)	
Widow	2(2%)	1(1%)	
Educational status			>-.05
Uneducated	5(5%)	9(9%)	
Primary	16(16%)	19(19%)	
Middle	58(58%)	44(44%)	
Graduation	19(19%)	18(18%)	
Masters	2(2%)	11(11%)	
Occupational status			>-.05
Laborer	36(36%)	31(31%)	
Officer	13(13%)	15(15%)	
Professional	5(5%)	7(7%)	
Business man	5(5%)	8(8%)	
Unemployed	41(41%)	39(39%)	
Family History of Mood Disorder			
Yes	14(14%)	30(30%)	
No	86(86%)	70(70%)	
Family History of Schizophrenia			
Yes	28(28%)	37(37%)	
No	72(72%)	63(63%)	
Severity of Depressive Symptoms			>-.05
No depression	19(19%)	59(59%)	
Mild Depression	42(42%)	29(29%)	
Moderate	37(37%)	10(10%)	
Severe	2(2%)	2(2%)	

Table 2: Frequency of positive and Negative symptoms according to PANSS score in patient group n=100

Type of symptoms	F (%)
Positive symptoms	62%
Negative symptoms	38%

Table 3: Correlation between Gender and Severity of Depressive symptoms in group 1

Gender	Severity of Depressive Symptoms				Total	p >-.05	x ² 2.847	df 3
	No depression Frequency %	Mild Frequency%	Moderate Frequency%	Severe Frequency%				
Male	15(23.8%)	24(38.1%)	23(36.5%)	1(1.5%)	63(100%)			
Female	4(10.8%)	18(48.6%)	14(37.8%)	1(2.7%)	37(100%)			

Table 4: Correlation between severity of depressive symptoms and age groups in group1

Age Group	Severity of Symptoms				Total	p	χ ²	df
	No depression	Mild	Moderate	Sever				
	Frequency %	Frequency %	Frequency %	Frequency%				
15-26	12(21.1%)	22(36.6%)	21(36.6%)	2(3.5%)	57	.860	4.693	9
27-28	4(16%)	13(52%)	8(32%)	0(0%)	25			
39-50	3(25%)	4(33.3%)	5(41.7%)	0(0%)	12			
51-60	0(0%)	3(50%)	3(50%)	0(0%)	0			

Table 5: Severity of depressive symptoms and PANSS Score in Group 1

Severity of Symptoms	PANSS		p	χ ²	df
	Positive symptoms	Negative Symptoms			
	Frequency%	Frequency%			
No depression	5(8.1%)	14(36.8%)	.860	4.693	9
Mild	28(46.2%)	14(36.85)			
Moderate	28(45.2%)	9(23.7%)			
Severe	1(1.6%)	1(2.6%)			
Total	62(100%)	38(100%)			

DISCUSSION

The results of present study show that a high proportion of schizophrenic patients were male(63%) as compared to female (47%). Wheeler (2007) conducted a study based on hospital population and his study showed that out of schizophrenic population 66% were male²⁴. The results of his study are comparable with present study.

This study shows that majority of schizophrenic population that is 57% lies in younger age group of 15-26 years. Wheeler (2007) reported mean age of schizophrenic patient is 39 years. These results of previous studies concluded that 67% of schizophrenic patients are never married⁴⁷. The present study found that about 56% of schizophrenic patients are unmarried, 41% married, 1% divorced and 2% widow. The relative higher percentage of unmarried and married and lower percentage of divorced in the present study is because most of the study population is consisted of younger age group. These findings are in line with previous studies.

Present study shows that major proportion of patients is unemployed that is 41%. Previous studies also show similar results^{5,6,24,25}. Previous studies also show that most of schizophrenic patients are laborers or semiskilled workers²⁶. the results of this study are comparable to previous studies as it shows that majority of schizophrenic works as laborers.

Present study shows that depression is more common in schizophrenia than general population and is a frequently occurring features in schizophrenic patients, thus it confirms the findings of previous studies^{27,28,29}. previous studies found depressive symptoms in range of 20-80%. Studies of first episode schizophrenia found that 71% of sample has depressive symptoms.

The results of current study confirm these previous studies showing that 81% of schizophrenics

have depressive symptoms. However many studies found a lower depressive symptoms. Katariz et al (2007) in his study found that 44.9% of schizophrenics have a comorbid anxiety or affective disorder³⁰. Researchers have found depression in fifty percent of schizophrenic patients³¹. Similarly another study shows that depression is present in 56% of sample.

This study also shows high frequency of depressive symptom in control population as compared to general population¹.The control sample comprised mainly the family members of patients. The relatively high percentage of depressive symptoms may be due to the fact that schizophrenic patients pose a great burden on their families. Secondly control sample has a strong family history of mood disorder that may be a factor for relatively high percentage of depressive symptoms in the healthy population.

Present study shows that gender were not statistically significantly related to depression in schizophrenia. This is in line with previous study which shows that comparable percentages of males and females have depressive symptoms³².

The present study shows a statistically significant correlation with positive symptoms. This is in line with study conducted by Drake DJ who conducted a study between paranoia, insight and depressive symptoms in early schizophrenia and found that paranoia is a strong predictor of depressive symptoms³³.

A study conducted by Zisook S shows that sub syndromal depressive symptoms are associated with both positive and negative symptoms³⁴. However the study is conducted on chronic Schizophrenic patients hence the study group is different from the present study shows that depressive symptoms are not related to statistically significantly to any age group. These results are confirmed by many other studies showing that depressive symptoms are present in

almost all age groups. These studies used different methodologies, scales and outcomes measures but they show that depression is present in adolescence, middle age and older age^{13,17,34,18}.

Limitations: The present study has some limitations, which include

- It is a hospital based study so the results cannot be generalized to whole population.
- It was a cross sectional study. The patients are assessed only once when they are presented for the first time. The possibility of assessing the symptoms in other phases cannot be assessed.
- The sample is convenient sample. Sample size is not large. A large sample size makes the results more reliable.
- The study is not blinded one. Both the subjects and the researcher are aware of objectives.
- The scale used for assessment of depressive symptoms though widely used in a non-specific scale.
- Impact of demographic and social variables on depressive symptoms cannot be assessed.

CONCLUSION

In conclusion the results confirmed the hypotheses concerning greater occurrence of depressive symptoms in schizophrenic illness than in age, gender and socioeconomically matched normal comparison subjects. The second hypothesis was not confirmed in this study; neither younger age nor female gender was consistently associated with depressive symptoms. It is present in both negative and positive symptoms though it has a statistically significant relationship with positive symptoms.

SUGGESTION

Present study findings would be helpful in assessment of depressive features in patients with schizophrenia. It would also be helpful in intervention of these secondary symptoms along with primary ones. Early detection and intervention would prove a positive factor in prognosis as well as speedy recovery of patients. Hence it is suggested that more research, either population based or a multi centered studies should be carried out. An important next step is to extend the findings of entire range of patients with schizophrenia, to assess the course and consequence of symptoms of depressive symptoms in low, moderate, and high levels of psychotic symptom. Moreover physicians and psychiatrist involved in the care of schizophrenic patients be vigilant to assess the depressive symptoms.

REFERENCES

1. Glider M, Mayour, Cowen P editors. Short text book of psychiatry. 5th edition. India: Oxford university press;2001.
2. Gadit AA: sub threshold mental disorder. JPMA.org.pk/viewarticle/view article. aspXID=81-26k.
3. Haider AN. Schizophrenia: A concept. J Pak Med Assoc 2008;58:133.
4. Islamabad Psychiatry Clinic-Schizophrenia Epidemiology of schizophrenia.htm-12k.
5. Kaplan H, Sadock B editors. Synopsis of psychiatry. 7th ed. Baltimore: Wiliam and Wilkins; 1994.
6. Connolly M, Kelly. C. lifestyle and physical health inschizophreni. Advances in Psychiatry treatment 2005: 11:125-132.
7. Hafner H, Maurer K, Trendler G, Heiden A, Schmidt M. schizophrenia and depression: challenging the paradigm of two separate diseases. A controlled study of schizophrenia and healthy control. Schizophr Res 2005; 77:11-24.
8. Fitzgerald PB, Rolfe TJ, Brewer K, Filla K, Colins J, Filla S et al. Depressive, positive and negative Parkinsonian symptoms in schizophrenia. Aust NJZ of psychiatry 2002; 36: 340-6.
9. Lindenmayer JP, Harvey PD, Khan A, Kirkpatrick B. Schizophrenia measurements of psychopathology. Psychiatry Clin North Am 2007; 30:339-63.
10. Tang YL, Gillespie CF, Epstein MP, Mao PX, Jiang F, Chen Q. Gender differences in 542 Chinese in patients with schizophrenia. Schizophr Res. 2007; 10; (Epub ahead of prints).
11. Maric N, Krabbendam L, Volleberg W, De Graff R, Van Os J. Sex difference in symptoms of psychosis in non-selected, general population sample. Schizophr Res 2003; 63:89-95.
12. Nordentof M. prevention of suicide and attempted suicide in Denmark. Epidemiological studies of suicide and intervention studies in selected risk groups. Den Med Bull 2007; 54:306-69.
13. Zisook S, Nyer M, Kasckow J, Golshan S, Lehman D, Montross L. Depressive symptom patterns in patients with chronic schizophrenia and subsyndromal depression. Schizophr Res. 2006; 86:226-33.
14. Hafner H, Maurer K, Trendler G, An der Heiden W, Schmidt M. the early course of schizophrenia and depression. Eur Arch Psychiatry ClinNeurosci 2005; 225:167-73.
15. Maurer K, Tendler G, Schmidt M, An der Heiden W, Konnecke R, Hafner H. Schizophrenia and depression. Nervenartz 2006; 77:809-22.
16. Baynes D, Mulholand C, Cooper J, Montgomery RC, Macflynn G, Lynch G et al. Depressive Symptoms in stable chronic schizophrenia: prevalence and relationship to psychopathology and treatment. Schizophrenia research 2000; 45:47-56
17. Zisook S, Montross L, Kasckow J, Mohamed S, Palmer BW, Patterson TL et al. Subsyndromal depressive symptoms in middle aged and older persons with schizophrenia. Amj 114 Geriatr psychiatry 2007; 15:1005-14
18. Schwartz-Stav O, Apter A, Zalsman G. Depression, suicidal behavior and insight in adolescents with

- schizophrenia eur Child adolesc Psychiatry. 2006; 15:352-9.
19. Bertelsen M, Jeppensen P, Petersen L, Thorup A, Qhenschlaeger J, le Quach Pet al. Suicidal behavior and mortality in first-episode psychosis: the OPUS trial . Br J Psychiatry 2007; 51:140-6.
 20. Pinikahana J, Happel B, Keks NA. Suicide and schizophrenia: a review of literature for the decade (1990-1999) and implications for mental health nursing. Issues Ment Health Nurs 2003; 24:27-43.
 21. Norholm V, Bech P. Quality of life in schizophrenic patients: association with depressive symptoms. Nord J Psychiatry 2006; 60:32-7.
 22. Sim K, Mhendran R, Siris SG, Heckers S, Chong SA. Subjective quality of life in first episode schizophrenia spectrum disorders with comorbid depression. Psychiatry Res 2004; 129:141-7.
 23. Conley RR, Ascher-Svanum H, Zhu B, Faries DE, Kinon BJ. The burden of depressive symptoms in long-term treatment of patients with schizophrenia. Schzophr Res. 2007; 90:186-97.
 24. Wheeler A. Sociodemographic, functional and clinical correlates in outpatients with schizophrenia: comparison with affective disorders. Aust N Z J psychiatry. 2007; 41:809-18.
 25. Nordt C, Muller B, Rossler W, Lauber C. predictors and course of vocational status, income, and quality of life in people with severe mental illness: a naturalistic study. SocSci Med 2007; 65:1420-9.
 26. Marwaha S, Johnson S, Bebbington P. Rates and correlates of employment in people with schizophrenia in the UK, France and Germany. bjm 2007;191:30-37.
 27. Bottlender R, Hample H, Sievers M, Moller HJ. Diagnostic and therapy of depressive symptoms in schizophrenic patients. MMW Fortschr Med 2005; 147spec No 2:59-62.
 28. Waters FA, Badcock JC, Maybery MT. Selective attention for negative information and depression in schizophrenia. Psychol Med. 2006; 106:83-96.
 29. Hausmann A, Flieschhacker WW, Delacrausaz P, Ullino D, Baumann P. Differential diagnosis of depressed mood in patients with schizophrenia: a diagnostic algorithm based on a review. ActaPsychiatrScand 2002; 106:83-96.
 30. Karatzias T, Gumley A, Power K, O'Grady M. Illness appraisals and self-esteem as correlates of anxiety and affective comorbid disorders in schizophrenia. Compr Psychiatry 2007;48:371-5
 31. Ginsberg DL, Schooler NR, Buckley PF, HarveyPD, Weiden PJ. Optimizing treatment of schizophrenia. Enhancing affective/cognitive and depressive functioning. CNS Spectr 2005;10:1-13.
 32. Bustamente S, Maurer K, Loffler W, Hafner H. Depression in the early course of schizophrenia. FortschrNeurolPsychiar 1994;62:317-29.
 33. Drake RJ, Pickles A, Bentall RP, Kinderman P, Haddock G, Terrier N et al. the evaluation of insight, paranoia and depression during early schizophrenia Psychol Med 2004; 34:285-92.
 34. KarimS, overshot R, Burns A. Older people with chronic schizophrenia. Aging Ment Health 2005;9:315-24.