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Depressive Symptoms in Frist Episode Schizophrenia

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I. Introduction

Depressive symptoms occur in different phases of schizophrenia including prodromal[5,6], acute[7], and post psychotic phases[8,9]. They have been regarded as intrinsic to schizophrenia psychopathology, similar to positive, negative, and disorganised symptom clusters[10]. Depression in the chronic course of schizophrenia often appears to be an unfavourable sign and has been associated with a greater risk for suicide[13]and relapse. Nevertheless, contradictory reports indicated that depression during the acute phase of schizophrenia may be associated with favourable prognosis and remission.

Depressive symptoms in schizophrenia are important not only because they contribute significantly to the suffering caused by the illness, whether 'positive' psychotic symptoms are active or quiescent, but also because they exacerbate deficits in psychosocial functioning and commonly precede attempted and completed suicide.Depressive symptom in schizophrenia is frequently associated with high morbidity and mortality and hence needs to be diagnosed early and adequately differentiated from other symptoms. Intervention should be promptly initiated in all the patients once diagnosed, to reduce further deterioration of illness and help the patients improve their quality of life.

Only a few studies have included patients experiencing their first episode of schizophrenia, and these patients were either not analysed separately from the other patients or evaluated only at one or two time points.

This study therefore examined the prevalence and prognostic significance of depressive symptoms during their FES and then followed prospectively.

II. Aims And Objectives

1) To determine the prevalence of depressive symptoms in first episode schizophrenia.
2) Compare the clinical outcome in patients with and without depressive symptoms in first episode schizophrenia.
3)

III. Hypothesis

Depressive symptoms in first episode schizophrenia are common and have negative effect on clinical outcome of schizophrenia.

IV. Materials And Methods

Study Design: Prospective study.
Study Setting: Government Hospital for Mental care, Visakhapatnam
Study population: 70 subjects.
Study Period December 2014 to December 2015.
Inclusion Criteria:
1. Patients diagnosed Schizophrenia according to ICD-10 Research criteria.
2. Age between 15 to 35 years.
3. Patients who gave informed consent and agreed to come along with their informants for regular follow-up visits.

Exclusion Criteria:
1. Age: above 35 years.
2. Presence of any neurologic disorder and other medical illnesses.
3. History of substance abuse.
4. Antipsychotic side effects.
5. Negative symptoms of schizophrenia.

Informed consent to be obtained from all the participants after explaining the details of the study.

V. Data Collection

First episode schizophrenia patients who attended the OPD in Government Hospital for Mental Care, Visakhapatnam were taken into study. Inclusion was based on the time from the first onset of positive psychotic symptoms (the first week with a PANSS score of 4 or more on Positive Scale Items 1, 3, 5, 6 or General psychopathology Scale item 9) to the start of first admission to the study. Patients with previous treatment with antipsychotic medication in adequate dosage for more than 12 weeks were not considered in this study.

PANSS Negative score >21 and Simpson- Angus extrapyramidal side effects scale >20 are excluded, as these may confound the depressive symptoms.

Description of assessment tools

All patients were subjected to a semi structured questionnaire consisting the socio demographic variables like age, gender, address, religion, marital status, economic activity and literacy details were noted according to Indian census. The definition of literacy had been 'both ability to read and write in any language. The definition of economic activity had been whether working or dependant.

Ethical Issues: permission was granted by the Institutional ethics committee, Andhra Medical College for conducting the study.

VI. Procedure

The subjects were evaluated at baseline, after hospitalization and before the institution of neuroleptic medication. The subjects were divided into two groups, group A(those with depressive symptoms) and group B (without depressive symptoms). Depression was assessed using the Calgary Depression Scale for Schizophrenia (CDSS). The cut-off score for depression varies between three and nine in the different studies. In this study a cut-off score of equal and/or above 9, was considered in line with some of the previous studies. They were evaluated biweekly during acute stage and every 3 months till one year (3,6,9,12 months). The data of the dropouts were included in their last follow up.

VII. Results And Observations

The total patients recruited were 70, baseline and 3 month scores of all the patients were available. At 12 months follow up, scores of 55 patients were available. During the study period 10 patients with extra pyramidal symptoms with scores >20 and 5 patients with negative scores >21 are excluded.

Prevalence of depressive symptoms:

Of the total 70 study population, at baseline 55 (78.6 %) had depressive symptoms and 15 (21.4 %) had no depressive symptoms.Of the study population, at 3 months follow up 20 (28.6 %) have depressive symptoms and 50 (71.4 %) have no depressive symptoms.Of the study population 70 of first episode schizophrenia, at 12 months of follow up only 55 patients scores are available, in those 9 (16.4 %) have depressive symptoms and 46 (83.6%) have no depressive symptoms.

The median of CDSS score in patients with DS baseline was 11.The median of CDSS score in patients with DS at 3 months follow up was 10. The median of CDSS score in patients with DS at 12 months follow up was 9.

AGE DISTRIBUTION:

The mean age of study population is 24.49 years, standard deviation is 3.84 years. The mean age of FES patients with depressive symptoms is 24.11 years.The mean age of FES with no depressive symptoms is 25.87 years.The p value being 0.541 which is greater than 0.05, so the groups do not differ significantly in terms of mean age. The prevalence of depressive symptoms is high between the age group 15-30 years, about 80%, whereas in age group 30-35 years is about 57.1%.

GENDER DISTRIBUTION:

Of the population study 70 first episode schizophrenia patients, 51 (72.9%)are males and 19 (27.1%) are females.Of the 51 male population of the sample 78.4% have depressive symptoms and 21.6% have no depressive symptoms.

GENDER	N	DS	NDS	SIGNIFICANCE
MALE	51	40(78.4%)	11(21.6%)	0.96
FEMALE	19	15(78.9%)	4(21.1%)	
Total	70	55	15	

: Distribution of study population based on marital status.

Marital status	N	DS	NDS	Significance
Married	15	10(66.7%)	5(33.3%)	0.20
Unmarried	55	45(81.8%)	10(18.2%)	
TOTAL	70	55	15	

: Distribution of study population based on employment status

Employment status	N	DS	NDS	significance
Employed	20	17(85%)	3(15%)	0.40
Unemployed	50	38(76%)	12(24%)	
Total	70	55	15	

Distribution of study population based on religion

Religion	N	DS	NDS	Significance
Hindu	58	47(81%)	11(19%)	0.023
Muslim	2	0	2(100%)	
Christian	10	8(80%)	2(20%)	

Distribution of study population based on literacy

Literacy	N	DS	NDS	Significance
Literate	43	38(88.4%)	5(11.6%)	0.012
Illiterate	27	17(63%)	10(37%)	
Total	70	55	15	

: Correlation between PANSS positive scores and CDSS scores.

		CDSS SCORE
Positive score	Pearson correlation	0.916
	Sig (2-tailed)	0.104
	N	70

The correlation between positive scores and CDSS score is not significant.

Correlation between PANSS negative scores and CDSS scores.

		CDSS score
Negative scores	Pearson correlation	-0.028
	Sig (2-tailed)	0.816
	N	**70**

This table shows the negative correlation between negative scores of PANSS and CDSS scores. The correlation between negative scores and CDSS score is not significant.

DEPRESSIVE SYMPTOMS AND OUTCOME:-

25 patients expressed suicidal ideas during the study period and 15 of them expressed at baseline evaluation. Of the 15 at baseline, 5 of them have persistent depressive symptoms on CDSS after 1 year follow up. Two of the patients attempted suicide at their first admission and are rated as depressed on CDSS at the time of their attempt. One patient made a suicide attempt 3 months after the resolution of depressive symptoms.

VIII. Discussion

The current study was conducted to study the prevalence, socio demographic profile and to compare the prognostic significance of depressive symptoms in patients of first episode schizophrenia attending government hospital for mental care, Visakhapatnam. It was a longitudinal investigation of depressive symptoms among patients experiencing their first episode of schizophrenia. This study, unlike others, evaluated a relatively pure study group not confounded by negative symptoms, extrapyramidal side effects, long-term medication or chronic illness. This study excluded negative symptoms, extrapyramidal side effects, substance abuse because these may confound the assessment of a primary depression.

SOCIO-DEMOGRAPHIC DETAILS: The mean age of the study population was 24.49 years and the mean age of those with DS was 24.1 years SD: 3.69 and NDS was 25.87 years, SD: 4.19, p value 0.541 which is not statistically significant (table 2). This study results were consistent with study conducted by Koreen[(48)] et al, mean age at study entry 24.3 years, SD: 6 and study conducted by S.M. Cotton[(63)] et al, mean age at study entry was 20.9 (SD:3.7).,In those with DS mean age is 21.0 (SD:4.4)and NDS is 20.9 (SD:3.4).

In this study 72.9 %(51) are males and 27.1%(19) are females . In males, DS are found in 78.4% (40) and NDS are found in 21.6%(11). In females, DS are found in 78.9%(15) and NDS are found in 21.1%(4). No difference between gender in prevalence of depression is found in this study. The results of this study compared with study conducted by S.M. Cotton[(63)] et al are consistent, the Males in total study population are 68.6% (278) and in 106 of those with DS: 62.3 % are males, and 299 of those NDS: 70.9% are males.

In this study 21.4%(15) are married and 78.6%(55) are unmarried. In 15 married population 66.7%(10) had DS and 33.3%(5) have NDS, in the unmarried population 81.8% (45)had DS and 18.2% (10) have NDS. The study results are similar to study conducted by Koreen[18] et al in which 80% of their study population is unmarried.

In this study 20(28.6%) are employed and 50(71.4%) are unemployed. In the employed study population 85%(17) had DS and 15%(7) had NDS, In the unemployed 76%(38) had DS and 24%(12) had NDS.

In this study 58(82.9%) were Hindus, 2(2.9%) were Muslims and 10(14.3%) were Christians. in Hindus 81%(47) had DS and 19%(11) had NDS, in Muslims 100% had NDS which may be due to small representation in the study population. In Christians 80%(10) had DS and 20%(2) had NDS which may be due to small representation in study population.

In this study 43(61.4%) were literates and 27(38.6%) were illiterates. In literates 88.4%(38) had DS and 11.6(5) had NDS, in illiterates 63%(17) had DS and 37%(10) had NDS. The p value is 0.012. The study results are similar to the study conducted by Koreen[48] et el in which literates are about 61%

PREVALENCE OF DEPRESSIVE SYMPTOMS:

Of the 70 study sample, in this study, the prevalence of depressive symptoms 78.6%and 21.4% have no depressive symptoms in the first episode schizophrenia at baseline evaluation. In this study, level of depression in schizophrenia is assessed using CDSS, as it shown to be reliable and valid and it measures depression separate from negative or extrapyramidal symptoms, compared to other scales used to measure depression. The scores of greater than or equal to 9 on CDSS are considered as depressed. The depressive symptoms in this study are mild to moderate in severity.

In this study, the patients with depressive symptoms at baseline 27.27% have suicidal ideas, and with decrease in depressive symptoms the suicidal ideas decreased this is similar when compared to Koreenet al study in which 34%(24) patient's had expressed depressive symptoms during the study period and of those 50%(12) expressed at baseline. But as the patients depressive symptoms remitted the no patients with suicidal ideas decreased.

Strengths of study:

- The study had excluded the confounding factors such as negative symptoms and extrapyramidal side effects of antipsychotics.
- The definition of depression based on the CDSS scores is more reliable and valid for schizophrenia compared to any other scale used to measure depression in previous studies.

LIMITATIONS

- The sample size small and hence is not representative of entire population so the results cannot be generalised.Duration of untreated psychosis is not considered, and it had role in evaluating functional outcome.Insight of patient is not considered in this study, but some studies stated that depression and insight are closely relative.

Summary

- Depressive symptoms were very prevalent in patients experiencing their FES and occurred primarily in acute phase.Whether the depressive symptoms actually represent a core part of acute illness or occur as a subjective reaction to the experience of a psychotic decompensation is not yet known clearly.The suicidal ideas are most commonly associated with depressive symptoms and resolve as the depressive symptoms decrease over the period.As schizophrenia most likely represents a heterogeneous disorder, depression in patients with schizophrenia may also be heterogeneous. Biological, psychological and environmental factors need to be fully assessed.

IX. Conclusion

Depression is so prevalent in FES, a very distressing illness associated with suicidal ideas, a careful evaluation of secondary etiologies (e.g., medication and organic) needs to be made.As depressive symptoms resolve with neuroleptic treatment of psychosis, and as antidepressant medication may actually retard the antipsychotic response to neuroleptic medication in acutely psychotic schizophrenia, addition of antidepressant therapy should be limited to patient's whose depression persists in the postpsychotic period.

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