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Cognitive Deficits in Relation to Quality of Life in Chronic Schizophrenics

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Abstract

This study was carried out on 120 chronic schizophrenic patients to assess their cognitive functions in relation to their demographic variables and quality of life. The main tools used for assessment were, Minimental status examination, Quality of life scale, Scale for Assessment of Positive Symptoms and Scale for Assessment of Negative Symptoms. Sixty-three per cent of the patients had their age range between 30 to 45, 81% were from rural background and 61% hailed from nuclear family. The cognitive deficits were significantly greater in those without employment and those from the rural background. The cognitive deficits were more in those with predominant negative symptoms and the cognitive deficits were found to add to the poor quality of life of schizophrenics.

Key words -

Chronic schizophrenia,
Quality of life,
Cognitive deficits,
Positive and negative symptoms

Clinically, schizophrenia is a dynamic disorder marked by a variety of courses in symptom expression [1]. Delusion and hallucination appear to dissipate over time [2]. Schizophrenia is also characterised by a variety of cognitive dysfunctions. The study of cognitive aspects of this illness provides an important way of understanding the other crucial aspects of the illness [3]. These cognitive functions help one to determine the other psychological, and biological determinants of schizophrenia and help one to plan for their cognitive rehabilitation.

There has been a lot of interest to study the schizophrenics symptomology in relation to the cognitive functions. This interest was stimulated by Crow's assertion about the relationship between negative symptoms and cognitive deficits [4].

Recent studies also suggest that negative symptoms are closely associated with cognitive deficits. Mathai and Gopinath [5] found out that cognitive functions as measured by Minimental status examination was impaired in many of them. Also this score was found to have a significant association with negative symptoms and environmental poverty [5].

The present study was carried out as a part of the major research project titled "Quality of life of chronic schizophrenia" in the Departments of Psychiatry and Rehabilitation at NIMHANS, Bangalore . This paper focuses on the cognitive deficits in the chronic schizophrenic subjects. The aim of this report is to explore the relationship between cognitive deficits, Quality of life and other related clinical variables.

Material and Methods

Subjects were included form the Out-patient Department of Psychiatry and day-care centre of Rehabilitation Department, NIMHANS, Bangalore . Total sample size was 120. Both male and female patients of age range 18-45 and who satisfied the criteria for chronic schizophrenia as per the DSM III-R, with a duration of illness more than two years were included in the study after obtaining informed consent from them. Patients who had any history of organic illness and psychoactive substance abuse over previous one year were excluded. Patients who were not cooperative were also excluded from this study.

Instruments used

A proforma for collecting the socio-demographic variables and other illness related history was used. For assessing clinical variables, the Scale for Assessment of Positive Symptoms (SAPS) [6] and the Scale for Assessing the Negative Symptoms (SANS) [7] were used. The quality of life was assessed using Quality of Life Scale [8]. This scale has 21 items rated on a 7 point scale, in a semistructured interview. The 4 subscales are Intrapsychic foundation, Interpersonal relations, Instrumental role and Common objects and activities. Higher score indicates normal functioning and a low score indicates poor quality of life [8]. The Minimental Status Examination (MMSE) [9] was used for evaluating the cognitive functions of the patients. It has subcategories of Orientation, Registration, Attention, Calculation, Recall and Language, Higher Scores indicate normal functioning whereas lower scores indicate impaired cognitive functioning.

Procedure

After the initial screening and seeking informed consent, patients were administered the above questionnaires in one or two sessions, by a single researcher.

Analysis

Means and standard deviations of the scores on MMSE scale were derived and the significance of difference between the different demographic variables were analysed. Correlation coefficients were derived between scores on SAPS, SANS, QOL and MMSE scores.

Results

Table I presents the socio-demographic distribution of the 120 patients. There was 37% from 18-30 years of age and 63% from 30-45 years. Sixty-eight per cent of the patients were males; and 68% were

literate. Fifty-five per cent of the patients were from the urban background and 61% of the patients hailed from nuclear family background.

Table I - Socio-demographic variables

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Seventy-one per cent of the patients had Paranoid schizophrenia and 77% had their duration of illness for more than 5 years. Thirty-two per cent had a positive family history of mental illness and in 18% there was a precipitating factor present (Table II).

Table II - Clinical variables

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In Table III the mean MMSE scores among the various demographic variables have been presented along with the testing of significance of differences. Significantly lower scores on the cognitive functions were noted among patients from the rural background when compared to those from the urban background. Also, those patients who were not employed had significantly more impairments in comparison to those who were employed.

Table III - Mean MMSE scores using the different socio-demographic groups

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NS - Not Significant

Table IV gives the correlation between different clinical features with the Minimental status examination scores.

Table IV - Correlations between different clinical variables and MMSE scores

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Discussion

The study made an attempt to relate the cognitive functions of the chronic schizophrenics patients to some important clinical variables like the Quality of life, Negative symptoms and the Positive symptoms. The MMSE was considered appropriate and adequate to obtain an understanding of the cognitive functioning of the individual rather than a detailed neuropsychological battery, though the latter would have provided much more detailed information.

The patient's background had a significant relationship with the cognitive dysfunctions, in that the patients hailing from an urban background showed significantly better cognitive functioning than the patients from a rural background. This may be due to the fact that patients who are from the urban background may have a better enriched and stimulated environment than those from a rural background. Also patients who were employed seemed to have significantly better cognitive functioning than those who were not employed. Being in an employment of some kind may help the chronic patients to be in better touch with their surrounding or help them to be more aware of things around.

The cognitive deficits cannot be attributed to chronicity of schizophrenia as the deficits were comparable in those with longer or shorter duration of illness. It is likely that patients from rural background and those unemployed could have had low cognitive functioning even prior to the onset of illness, but this could not be confirmed.

The cognitive dysfunction was also significantly correlated to the negative symptoms but not to the positive symptoms. In other words, higher the negative symptoms (deficit state), lower was the cognitive functioning. This is an line with an earlier study (Mathai and Gopinath [5]) reporting an association between severity of negative symptoms and cognitive dysfunction.

The quality of life was found to be significantly correlated with the cognitive functioning of the individual. The MMSE was positively correlated to all the scales of QOL. Better the Quality of life, better was the cognitive functioning. This indicates that a patient inspite of the chronic illness, has his cognitive abilities well preserved, may have a better quality of life and social functioning. Helping the patients to overcome or improve his cognitive functions may help in elevating the Quality of life and better day-to-day functioning. This suggests that the chronic schizophrenic patients may benefit from cognitive remediation which in turn may improve their Quality of life.

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