NEGATIVE SYMPTOMS AND NEGATIVE SCHIZOPHRENIA

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SUMMARY

This study determines the frequency distribution of prominent negative symptoms in a group of chronic, hospitalised schizophrenics. Thirty chronic Schizophrenic (D.S.M. III) patients were rated on the scale for Assessment of Negative Symptoms (SANS) and the prominent negative symptoms were correlated with age, sex and certain illness variables. Majority (80%) of patients had some or the other negative symptom, except thought blocking which was found in none. The subjective awareness of the symptoms was poor. Most negative symptoms were present to a severe degree in about 40% of cases. However, no significant correlation was found between severe negative symptoms and age or sex. Similarly, duration of illness, duration of hospitalisation or current medications did not influence negative symptoms to any appreciable degree. The implications are discussed.

Schizophrenia researchers have recently expressed renewed interest in the assessment, etiology and treatment of negative symptoms (Andreasen, 1982; Andreasen and Oslen, 1982; Strauss and Carpenter, 1974; Crow, 1980; Lewine et al., 1983). Negative symptoms, defined as deficits or losses in function are emphasized as important features of the schizophrenic syndrome. They are common in chronic schizophrenia (Andreasen, 1982). Current thinking about the phenomenology of schizophrenia stresses the importance of distinguishing between positive and negative symptoms (Crow, 1980; Strauss and Carpenter, 1974). Schizophrenics presenting with predominant negative symptoms have been variously called as Negative Schizophrenia (Andreasen and Oslen, 1982), type II Syndrome (Crow, 1980), Clinical Poverty Syndrome (Wing, 1978) or Defect State (Crow et al., 1979). These so-called negative or unproductive symptoms are described as typical of schizophrenic deterioration (Ciompi, 1983).

The exact etiopathogenesis of negative symptoms is unclear. Negative symptoms might be a consequence of positive symptoms that occur over extended periods, a result of social or institutional responses to these symptoms or relatively intrinsic to the individual personality structure (Strauss and Docherty, 1979). Biological and organic factors as structural brain lesions are also implicated as being responsible for these negative symptoms (Johnstone et al., 1976; Andreasen et al., 1982; Crow, 1980). Social understimulation and Institutionalisation are other factors considered as influencing production of negative symptoms (Wing, 1978; Bhaskaran et al., 1972). Or it could be a multi-determined state which occurs mainly after, but sometimes before the acute productive schizophrenic manifestations (Ciompi, 1983).

Preliminary research suggests negative symptoms may be useful in predicting long term outcome and response to treatment, in distinguishing between

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The negative symptoms in these patients were rated using the scale for Assessment of Negative Symptoms "SANS" (Andreasen, 1981) by two clinical psychiatrists. The scale has undergone tests for reliability, internal consistency and validation (Andreasen and Oslen, 1982). We have also evaluated the inter-rater and test-retest reliability of the scale and found it applicable in our setting (Mathai et al., 1984). The rating of each of the components was made based on multiple sources of information including direct observation by the investigators and the nurse incharge of ward, and from reports of the patients. Patients were rated on all the five sub-scales, Affective flattening, Alogia, Avolition-apathy, Anhedonia -asociability and Attentional impairment. For this study, patients having marked to severe degree of the negative symptoms on more than two sub-scales, have been correlated with the patients' age, sex and certain illness variables as duration of illness, duration of hospitalisation and status of current medication.

MATERIAL AND METHOD

This study was conducted at the National Institute of Mental Health and Neuro Sciences, Bangalore. Thirty patients diagnosed as Chronic Schizophrenia as per DSM-III (A. P. A., 1980) were selected at random as the sample. For the purpose of this study patients between the ages of 20 and 55 years and who were long stay inpatients (more than one year ) of this hospital were selected. Patients with Epilepsy, Mental Retardation, Organic Mental disorders and major physical diseases were excluded from the study. To remove any bias in selection, a list of cases meeting the above criteria was prepared, from which thirty cases were selected randomly. The sample consisted of 7 males and 23 females.

RESULTS

Table I gives the distribution of the sample studied. The patient percentage distribution on various scales and sub-scales according to severity are given in Table II. Majority of patients have some negative symptoms to be present definitely except blocking, which we found in none of our patients. The common negative symptoms are found to be unchanging facial expression, imper sistence at work, inability to feel intimacy and closeness and asociability in about 80% of patients. Lack of sexual interest and activity and poverty of speech was reported in 35-40% of cases. However the subjective complaints or awareness
### Table I. Distribution of Sample

|                  | Sex |   | Age (in years) |   | Duration of Illness (in years) |   | Current Medication |   | Subjective rating of Alogia |   | Global rating of Alogia |   |
|------------------|-----|---|---------------|---|------------------------------|---|-------------------|---|---------------------------|---|--------------------------|---|
|                  | Male| 7 | 20—29         | 7 | 5—9                         | 9 | Yes               | 21|                           |    |                         |    |
|                  | Female| 23 | 30—39         | 8 | 10—15                       | 11| No                | 9 |                           |    |                         |    |
|                  |     |   | 40—55         | 15| More than 15                |   |                    |   |                           |    |                         |    |

### Table II. Frequency of patients with varying severity of negative symptoms.

| Symptom                      | Mode-Definitely | Severe | Intensity | Percentage of patients |
|------------------------------|-----------------|--------|-----------|------------------------|
| **Affective flattening or blunting** |                 |        |           |                        |
| Unchanging facial expression | 80.0            | 60.0   | 20.0      |                        |
| Decreased spontaneous movements | 73.3             | 56.6   | 13.0       |                        |
| Paucity of Expressive Gestures | 66.6             | 46.6   | 6.6        |                        |
| Poor Eye contact             | 66.6             | 50.0   | 13.3       |                        |
| Affective Non-Responsivity   | 70.0             | 43.3   | 10.0       |                        |
| Inappropriate Affect         | 56.6             | 40.0   | 16.6       |                        |
| Lack of vocal infections     | 66.6             | 30.0   | 10.0       |                        |
| Subjective rating of Affective Flattening | 3.0               | 0.0    | 0.0        |                        |
| Global rating                | 83.3             | 60.0   | 33.3       | 0.0                    |

**Alogia:**
- Poverty of speech 50.0 40.0 10.0
- Poverty of content of speech 73.3 63.3 26.6
- Blocking 0.0 0.0 0.0
- Increased latency of Response 40.0 20.0 0.0
- Subjective rating of Alogia 6.6 0.0 0.0
- Global rating of Alogia 76.6 53.3 13.3

**Avolition-Apathy:**
- Grooming and Hygiene 70.0 43.3 13.3
- Impersistance at work or school 80.0 56.6 16.6
- Physical Anergia 73.3 46.6 16.6
- Subjective complaints of avolition-apathy 23.3 13.3 0.0
- Global Rating of Avolition-apathy 80.0 46.6 23.3

**Anhedonia-Associability:**
- Recreational interests and activities 76.6 56.6 10.0
- Sexual interest and activity 36.6 26.6 13.3
- Ability to feel intimacy and closeness 80.0 46.6 23.3
- Relationships with Friends & Peers 70.0 60.0 30.0
- Subjective Awareness of Anhedonia-Associability 16.6 13.3 0.0
- Global rating of Anhedonia Associability 83.3 53.3 26.6

**Attentional Impairment:**
- Work Inattentiveness 73.3 40.0 10.0
- Inattentiveness during Mental Status Testing 63.3 53.3 43.3
- Subjective complaints of Inattentiveness 3.3 0.0 0.0
- Global rating of Inattentiveness 70.0 53.3 30.0
of various negative symptoms is very poor in most cases.

Twenty cases (66.7%) have marked to severe negative symptoms on more than two subscales. The comparison between patients with negative symptoms on more than two subscales and those with minimal or absent negative symptoms in relation to age, sex, and certain illness variables are given in Table III.

**DISCUSSION**

This report shows that a large majority (84%) of patients have definite negative symptoms and in about two-thirds these were present to a marked or severe degree and fulfill the criteria of negative schizophrenia as described by Andreasen and Oslen (1982). None of the patients had any positive symptoms dominating the clinical picture. The extensive prevalence of these symptoms justifies the subtyping as negative schizophrenia as has been done by certain researchers (Andreasen, 1982; Crow, 1980). The exact frequency of negative symptoms in schizophrenia is not reported in literature, hence a comparison with the present results cannot be attempted. Symptoms like flatness of affect, other negative and non-specific symptoms were reported from all centres of the International Pilot Study of Schizophrenia and its 2-year follow-up (WHO, 1974; WHO, 1979). Certain disabling negative symptoms as inattentiveness, inability to feel intimacy, inadequate social relations, poverty of speech and affective flattening present in a severe intensity in almost 25% of the patients in this study, were noticed to be present in many subjects in Owens and Johnstone's (1980) study. Negative symptoms as apathy and withdrawal were difficult to treat in another report (Strauss and Docherty, 1979).

Interestingly, there is no significant correlation between negative schizophrenia and age or sex. Bhaskaran et al. (1972) reported more severe deficits in females and positive relationship between age and deficits was reported by Owens and Johnstone (1980) and Johnstone et al. (1981). The difference

| Variable                  | Number of Patients | Negative symptoms of Patients | Absent | Marked | Minimal | Severe |
|---------------------------|--------------------|--------------------------------|--------|--------|---------|--------|
| Sex                       |                    |                                |        |        |         |        |
| Male                      | 7                  |                                | 3      | 4      |         |        |
| Female                    | 23                 |                                | 7      | 16     |         |        |
| Age (in years)            |                    |                                |        |        |         |        |
| 20—30                     | 7                  |                                | 2      | 5      |         |        |
| 31—40                     | 8                  |                                | 3      | 5      |         |        |
| 41—55                     | 15                 |                                | 5      | 10     |         |        |
| Duration of Illness (in years) |                   |                                |        |        |         |        |
| 5—10                      | 9                  |                                | 4      | 5      |         |        |
| 11—15                     | 11                 |                                | 2      | 9      |         |        |
| More than 15              | 10                 |                                | 4      | 6      |         |        |
| Duration of hospitalisation (in years) |               |                                |        |        |         |        |
| Less than 2               | 8                  |                                | 3      | 5      |         |        |
| 2—5                       | 8                  |                                | 2      | 6      |         |        |
| 6—9                       |                    |                                |        |        |         |        |
| More than 10              | 14                 |                                | 5      | 9      |         |        |
| Current Medication        |                    |                                |        |        |         |        |
| Given                     | 21                 |                                | 6      | 15     |         |        |
| Not given                 | 9                  |                                | 4      | 5      |         |        |
is probably due to the nature of the sample. Owens and Johnstone examined mainly elderly patients with mean age 60 years. Similarly, duration of illness and duration of hospitalisation have no significant association with severe negative symptoms in this study as was noticed by Bhaskaran et al. (1972) also. Some clinicians believe that negative symptoms increase as illness becomes more chronic (Strauss and Docherty, 1979; Johnstone et al., 1981) and some implicate hospitalisation and hospital environment to be responsible for causing deficits and negative symptoms as avolition or apathy (Wing and Brown, 1961; Wing and Brown, 1970; Bhaskaran, 1970; Bhaskaran et al., 1972; Strauss and Docherty, 1979). The present study does not lend support to this opinion as there is no significant differential distribution of patients with negative schizophrenia in relation to duration of illness of hospitalisation. Similar results were reported by Andreasen and Olsen (1982).

The role of continuing medications in chronic schizophrenics has been a controversial area. Some surveys found no difference of outcome between patients discontinuing medications and those continuing (Johnson, 1976; Johnson, 1979; Johnson et al., 1983). Andreasen and Olsen (1982), Wing and Brown (1970) and Owens and Johnstone (1980) reported that neuroleptic medication as such does not contribute to development of deficits or negative symptoms. This study also has found no difference in severity of negative symptoms between patients continuing or not continuing medications. These patients were not on any medication for more than two years as the clinical status, had been stable and the symptoms were not showing even slightest improvement. Other patients were receiving long term depot preparations (Fluphenazine decanoate).

Probably, additional investigation is required to determine the frequency of negative symptoms in a relatively larger sample of schizophrenic patients, their possible predictive validity and possible remedial measures. This study certainly proves that negative symptoms are very common in chronic schizophrenia as was reported by Andreasen (1982) also. Also, it makes clearer the absence of role of duration of illness, hospitalisation, medication, age or sex in producing negative symptoms. The area of research is interesting and more work from the Indian Culture and background as well as cross-cultural studies would prove to be illuminative.

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