Article *NIMHANS Journal*

# Negative Symptoms as Predictors in the Outcome of Major Depression

**Volume: 03 Issue: 02 July 1985 Page: 115-119**

Santosh K Chaturvedi &, - *Department of Psychiatry, National Institute of Mental Health & Neuro Sciences, Bangalore 560 029, India*
Sanjeev Sarmukaddam, - *Department of Psychiatry & Biostatistics, National Institute of Mental Health & Neuro Sciences, Bangalore 560 029, India*

## *Abstract*

Negative symptoms have been assessed in 34 cases of major endogenous depression (RDC) using the scale for assessment of negative symptoms after applying Friedman's test to assess inter sub-scale differences. Correlation between negative symptoms and improvement rated on 5-point CGI scale was determined by Spearman's rank correlation and Biserial correlation co-efficient techniques. Poverty of speech, affective flattening and avolition-apathy were found to be related significantly with poor outcome. Relationship between certain frequently occurring negative symptoms and clinical improvement was not significant. High total negative symptom scores predicted poor outcome highly significantly. The implications are in identifying negative depression cases and advocating appropriate therapy.

Key words -
**Negative symptoms**
**Predictability**
**Major depression**

Many negative symptoms can be observed in depression [1], [2] though detailed systematic studies on negative symptoms in depression have not been reported. Numerous studies have reported predictive factors in depressive disorders regarding treatment response and clinical outcome. Psychomotor retardation predicts good response to tricylics [4], [5], [6], [7] and [8] whereas anxiety [9] and paranoid symptoms [10] are associated with poor outcome. Kerr et al [11] in a 4 year follow up of depressive illness noted that 25 percent patients showed little improvement throughout three-quarters of the follow-up period. Other studies [12], [13] and [14] also have similar experience. Negative symptoms predict poor outcome in schizopherenics [15], [16], [17] and [18], but their predictive value in depression is yet to be explored. The objective of this study is to examine the extent to which negative symptoms are associated with clinical outcome and thus assess the predictive value of negative symptoms in depression.

## Method

Sample consists of patients, diagnosed as definite, endogenous major depressive disorder according to Research and Diagnostic Criteria [19] between 16-55 year of age, either sex, presenting for the first

time at the out patient clinic of the National Institute of Mental Health & Neuro Sciences, Bangalore, India. Consecutive cases fulfilling the above criteria were included. Patients with associated organic problems, alcoholism or drug abuse, past history of non-affective psychotic disorder, and those who have received treatment elsewhere for the present episode, were excluded. The cases were assessed using the scale of Assessment of Negative Symptoms [20] at the time of entry into the study. The scale has undergone inter-rater and test-retest reliability at this centre [21].

To assess internal consistency, non-parametric two-way analysis of variance by Friedman, on relative scores [22] has been applied. The outcome was rated on a 5-point Clinical Global Improvement Scale (CGI: recovered, moderate improvement, minimal improvement, no improvement, worsened). Outcome and repeat SANS were related 'blind' at the end of treatment or one year period, whichever was earlier. Treatment was not controlled and patients were treated according to the clinical practice.

Clinical and demographic details were recorded on an interview proforma. Percentage frequency distribution of various negative symptoms was examined. The correlation between the total negative symptom scores and sub-scale scores and clinical outcome were computed by Spearman's rank correlation coefficient with Lehman's correction [23] for ties and Biserial correlation coefficient [24]. Relationship between certain frequently occurring negative symptoms and clinical improvement was determined.

## Results

Thirty four cases fulfilling the criteria were included into the study. The distribution of sample and its demographic and clinical characteristics are given in Table 1. The duration of illness was less then 2 months in 41 percent, between 2 to 6 months in 35 percent, 6-12 months in 18 percent and more than one year in 6 percent. Friedman's test indicates significant differences between average sub-scale scores ($F\ 4, 132=13.938$; $P < 0.001$).

***Table I - Description of Sample (N=34)***

***Table I - Description of Sample (N=34)***

Analysis reveals that frequently occurring negative symptoms are inability to enjoy recreational interests and activities (76 percent), feelings of anhedonia - associality (64.7 percent), inability to enjoy sex (64.7 percent), inability to form friendships (55.9 percent) and physical anergia (55.9 percent). 7 cases (20.6 percent) received treatment for less than 2 months, 18 (52.9 percent) for 2-6 months and 9 (26.5 percent) for 6-12 months.

Regarding improvement rated on CGI 14 cases (41.2 percent) reported complete recovery and absence of any symptoms, 10 (29.4 percent) had moderate improvement and 10 (29.4 percent) had minimal or no improvement. No case worsened. Correlation between improvement and negative symptom scores shows significant correlation between total negative symptom scores and improvement. Presence of affective flattening, alogia and avolition-apathy significantly predict poorer outcome. Total negative symptom score is highly correlated ($P < .001$) to poorer outcome (Table II a, b). Anhedonia-associality and attentional impairment did not significantly relate with clinical outcome. On evaluating the relationship of certain commonly occurring negative symptoms with recovery no significant association was observed. Other less frequently occurring symptoms were not assessed for relationship

with outcome (Table III).

***Table IIa - Correlation between improvement and Negative Symptom scores by Spearmans Rank Correlation***

***Table IIa - Correlation between improvement and Negative Symptom scores by Spearmans Rank Correlation***

***Table IIb - Correlation between outcome and Negative Symptom scores by Biserial Correlation Co-efficient.***

***Table IIb - Correlation between outcome and Negative Symptom scores by Biserial Correlation Co-efficient.***

***Table III - Relationship of certain frequently occurring Negative Symptoms and Improvement.***

***Table III - Relationship of certain frequently occurring Negative Symptoms and Improvement.***

Significance tested by Chi Square analysis and Fishers Exact Test

## Discussion

The current research indicates that negative symptoms are relatively frequent in endogenous depression patients in contrast to the report by Pogue-Geile and Harrow [2] where they found mild negative symptoms in depressives. However this was during follow-up, during active phase, the vegetative signs of depression might by difficult to distinguish observationally from negative symptoms in schizophrenia. But, the systematic evaluation using an elaborate scale to measure negative symptoms has shown the presence of these symptoms to be much more than due to vegetative signs above.

There was no improvement in ten cases (29.4 percent) after a period of one year. This figure is comparable to 25 percent reported by Kerr [11] and 16 percent reported by Murphy et al [12]. Seven of these ten cases had very high scores on most sub-scales and also the total negative symptom score. Presence of certain negative symptoms as affective flattening, poverty of speech (alogia) and apathy markedly worsen the prognosis of depression is evident from the results. Hordern [25] had earlier reported that reduction of work and interests and retardation predicted a poor response to imipramine. On the contrary, many other studies [26] and [27] report retardation as a predictor of good response to tricyclics. Certain symptoms as decreased interest in work and activities, loss of energy, anhedonia, inability to feel and concentration difficulties measured by the negative symptom scale have already been described to be useful in measuring change in severity of depression [26], [27] and [28]. For depressives with blunted affect, emotional withdrawal and motor retardation a combination of amitryptaline and perphenazine has been found to be better [29]. Inter-episodic and post-depressive defects have now been described, the exact therapeutic management of which is not understood [30].

# Conclusions

Depressed patients also have negative symptoms to a variable degree [1], [2], [31]. The importance of studying negative symptoms in depressives is emphasised in this study. Negative symptoms clearly indicate a poor prognosis of depression and tend to make it chronic. The etiology of negative symptoms in depressives is unclear, but many negative symptoms clear, as the depression remits. However, certain negative symptoms remain for a much longer duration. There is definitely more need for research on depressives with predominant negative symptoms.


1.Andreasen N C, Negative symptoms in schizophrenia. Definition and reliability
*Archives of General Psychiatry* Page: 39: 784-788, 1982
2.Pogue-Geile M F & Harrow Martin, Negative and positive symptoms in schizophrenia and depression: a follow-up
*Schizophrenia Bulletin* Page: 10 (3): 371-387, 1984
3.Bielski R J & Friedel R O, Prediction of tri-cyclic antidepressant response - a critical review
*Archives of General Psychiatry* Page: 33: 1479-1489, 1976
4.Raskin A, Schulterbrandt J G, Reatig N et al, Differential response to chlorpromazine, imipramine and placebo
*Archives of General Psychiatry* Page: 23: 164-173, 1970
5.Paykel E S, Depressive typologies and response to amitryptaline
*British Journal of Psychiatry* Page: 120: 147-156, 1972
6.Paykel E S, Prusoff B A, Klerman G L et al, Clinical response to amitryptaline among depressed women
*Journal of Nervous & Mental Diseases* Page: 156: 149-165, 1973
7.Hollister L E & Overall J E, Reflections on specificity of action of anti-depressants
*Psychosomatics* Page: 6: 361-365, 1965
8.Overall J E, Hollister L E, Johnson M et al, Nosology of depression and differential response to drugs
*Journal of American Medical Association* Page: 195: 946-948, 1966
9.Kerr T A, Roth M & Schapira K, Prediction of outcome in anxiety states and depressive illness
*British Journal of Psychiatry* Page: 124: 125-133, 1974
10.Shobe F O & Brion P, Long term prognosis in manic-depressive illness
*Archives of General Psychiatry* Page: 24: 334-337, 1971
11.Kerr T A, Roth M, Schapira K & Guerney C, The assessment and prediction of outcome in affective disorders
*British Journal of Psychiatry* Page: 121: 167-174, 1972
12.Murphy G E, Woodruff R A, Herjanic M & Super G, Variability of the clinical course of primary affective disorder
*Archives of General Psychiatry* Page: 30: 757-761, 1974
13.Astrup C, Fossum A & Holmboe R, A follow up study of 270 patients with acute affective psychoses
*Acta Psychiatrica et Neurologica Scandinavica* Page: 34: Suppl. 35, 1959
14.Toone B K & Ron M , A Study of predictive factors in depressive disorders of poor outcome
*British Journal of Psychiatry* Page: 131: 587-591, 1977
15.Strauss J S & Docherty J, Sub-types of schizophrenia: descriptive models
*Schizophrenia Bulletin* Page: 5: 447-452, 1979
16.Andreasen N C & Oslen S, Negative vs positive schizophrenia
*Archives of General Psychiatry* Page: 39: 789-794, 1982

17.Chaturvedi S K, Michael A, Mathai P J & Gopinath P S, [Negative symptoms in chronic schizophrenia - a clinical study]
*NIMHANS Journal* Page: 3(1): 17-20, 1985
18.Chaturvedi S K, Gopinath P S, Mathai P J & Michael A, Negative symptoms and negative schizophrenia
*Indian Journal of Psychiatry* Page: 26: 200-205, 1984
19.Spitzer R, Endicott J & Robins E, *Research Diagnostic Criteria. New York State Psychiatric Institute, New York*1978
20.Andreasen N C, *Scale of Assessment of Negative Symptoms (SANS) The University of Iowa, Iowa City*1981
21.Mathai P J, Chaturvedi S K, Michael A & Gopinath P S, Evaluation of the reliability of the scale for assessment of negative symptoms
*Indian Journal of Psychological Medicine* Page: 7: 26-30, 1984
22.Conover W J, *Practical Non-parametric Statistics. 2nd Edition, John Wiley and Sons, New York*1980
23.Lehman E L, *Non-parametrics: Statistical tests based on ranks. Holdern-Day, Inc. San Francisco* Page: 297-303, 1975
24.Guilford J P, *Fundamental Statistics in Psychology and Education. 3rd Edition. McGraw Hill, New Y* Page: 301-305, 1956
25.Hordern A, Holt N F, Bust C G et al, Amitryptaline in depressive states
*British Journal of Psychiatry* Page: 109: 815-825, 1963
26.Nelson J C, Mazure C, Quinlan D M & Jatlow P I, Drug responsive symptoms in melancholia
*Archives of General Psychiatry* Page: 41: 663-668, 1984
27.Montgomery S S & Asberg M, A new depression scale designed to be sensitive to change
*British Journal of Psychiatry* Page: 134: 382-389, 1979
28.Bech P, Allerup P, Gram L et al, The Hamilton rating scale: evaluation of objectivity using logistic models
*Acta Psychiatrica Scandinavica* Page: 63: 290-299, 1981
29.Hollister L E, Alto Palo, Overall J E et al, Drug therapy of depression
*Archives of General Psychiatry* Page: 17: 486-493, 1967
30.Cossano G B, Maggini C & Akiskal H S, Short term, sub-chronic and chronic sequelae of affective disorders
*Psychiatric Clinics of North America* Page: 6 (1): 55-67, 1983
31.Andreason N C, & Akiskal H S, The specificity of Bleularian and Schneiderian symptoms: a critical reevaluation
*Psychiatric Clinics of North America* Page: 6 (1): 41-54, 1983