

# Prevalence of Negative Symptoms in Chronic Schizophrenia

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**Objective:** To determine the prevalence of Negative Symptoms among Chronic Schizophrenic Patients in Bahrain.

**Study Design:** A random sample of 40 out of 240 patients diagnosed as chronic schizophrenia according to DSM-IV classification.

**Setting:** Out-Patient Department at the Psychiatric Hospital in Bahrain.

**Results:** Items that measure the Negative Symptoms of "Anhedonia and Associability" scored strong correlation while items measuring "Attention and Intellectual function" scored moderately strong correlation.

**Conclusion:** Results showed that the Negative Symptoms occur in schizophrenia regardless of the stage of illness.

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Description of illnesses with some schizophrenia like features can be found in the classical literature, but it was not until the end of the 18th century that recognizable medical description appeared. In the 19th century, Kraepelin used the term "dementia praecox" to describe an illness in which delusions, hallucinations, disorders of thinking and emotional blunting developed a progressive deteriorating course. In 1911, the belief that dementia praecox was a disorder of the brain was challenged by Bleuler who was influenced by the ideas of Freud and was interested in the mechanism of symptom formation, believed that this condition had a psychological origin. He coined the term Schizophrenia "Split mind" and emphasized certain fundamental symptoms often known as the four A's (Ambivalence, Autism, Affective incongruity, loosening of Associations) rather than the more overt delusions and hallucinations. Although Bleuler's term is still in use, his symptoms are not<sup>1</sup>.

Chronic schizophrenia has different approaches in the two main classification systems ICD-10 and DSM-IV. In ICD-10, it is included under the residual type of schizophrenia. In DSM-IV it is related to longitudinal course not to the type of schizophrenia, and has a continuous course in which there are prominent psychotic features throughout the period of observation.

In 1980, Crow proposed two syndromes in schizophrenia, type I and type II. The type I syndrome consists of positive symptoms such as hallucinations and delusions, which occur in the acute illness, and are responsive to treatment with neuroleptics and not associated with intellectual impairment.

He proposed a neurochemical pathological process involving dopamine transmission. The type II syndrome comprised negative symptoms, principally flat affect, poverty of speech and loss of drive. These symptoms tend to be irreversible and are associated with poor outcome, failure of drug treatment, intellectual impairment and an underlying structural pathology. Later on, Crow (1985) expanded the syndrome to include behavioral deterioration and appearance of involuntary movements. The relationship between positive and negative symptoms has been the source of some controversy, although the bulk of the evidence does support Crow's notion that positive and negative symptoms are independent dimensions of pathology<sup>2</sup>.

Anderson and Olsen (1982), adopted a different view of the relationship between positive and negative symptoms, regarding them as characteristic of two different types of illnesses<sup>3</sup>.

In the early 1980's, some researchers developed scales to assess negative and positive aspects of schizophrenia. The three most important scales are the positive and negative symptom scale (PANSS)<sup>4</sup>, the scale for the assessment of Negative symptoms (SANS)<sup>5</sup>, and the negative symptoms rating scale (NSRS)<sup>6</sup>. These scales differ significantly in their content although contain certain cardinal items such as poverty of speech and flatness of affect.

In 1991, Norren Ring et al<sup>7</sup> studied the relationship between negative symptoms in chronic schizophrenia and the duration of illness. They found that the presence of negative symptoms

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was not significantly related to the duration of the illness or the number of episodes. They concluded that these findings do not support a model of negative symptoms being the consequence of schizophrenic relapse, but are in favour of them being an integral component of the schizophrenic syndrome as well as salient in the first as in later episodes.

Johnstone et al, studied the relative stability of positive and negative symptoms in chronic schizophrenia and found that the negative symptoms were more stable than the positive, but were not irreversible. They concluded that every feature examined was shown to resolve in some of the cases<sup>8</sup>.

The aim of the study is to delineate the segregation of Negative Symptoms in a sample of chronic Schizophrenics and determine their relationship to the duration of the illness.

### METHODS

The prevalence of negative symptoms was assessed using the "Scale for the assessment of negative symptoms" (SANS).

The study was carried out at the psychiatric hospital in Manama which is the only psychiatric hospital in Bahrain, serving a population of about 508,000 (Bahraini & non-Bahraini). Patients attend the OPD according to pre-arranged appointments .

Subjects were selected from the OPD attenders who fit the diagnosis of chronic schizophrenia according to DSM- IV and attend the OPD for follow up, usually every 2-4 weeks and on regular medications.

A random sample of 40 patients was studied. Age ranging between 18-60 years, sex, duration of illness, number of acute previous episodes, number of hospital admissions and neuroleptic medication are all recorded. Patients with doubtful diagnosis, history of organic brain disease, history of psychosis only during pregnancy or puerperium, drug or alcohol induced psychosis were all excluded. The subjects selected had to be at least one year free from any acute episode.

### RESULTS

A sample of 40 eligible subjects were studied. The sample consisted of 26 men and 14 women, aged from 21 to 55. None of these subjects were totally free from psychotic symptoms and all had several admissions. All patients were receiving psychotropic medication when surveyed.

In SANS, the various items measuring attention and intellectual function showed moderately strong correlations with the discriminant function measuring negative syndrome severity. In these items, there were 3 subjects who had no inattentiveness (7.5%), 10 subjects had moderate inattentiveness (25%) and 8 subjects had severe inattentiveness (20%) (Table 1).

In the Anhedonia / Associability subsection of the SANS, there are seven items which measure specific aspects of social function. In these items, 4 subjects had no anhedonia (10%), 5 subjects had moderate anhedonia (12.5%) and 13 subjects had severe anhedonia (32.5%). (Table 1).

**Table 1: Attention**

Global	No. of patients	Percentage
No indications of Inattentiveness	3	7.5
Questionable	4	10
Mild but definite Inattentiveness	8	20
Moderate Inattentiveness	10	25
Marked Inattentiveness	7	17.5
Severe Inattentiveness	8	20

### Anhedonia-Associability

Global	No. of patients	Percentage
No evidence of Anhedonia	4	10
Questionable evidence of Anhedonia	3	7.5
Mild evidence of Anhedonia	3	7.5
Moderate evidence of Anhedonia	5	12.5
Marked evidence of Anhedonia	12	30
Severe evidence of Anhedonia	13	32.5

### Alogia

Global	No. of patients	Percentage
Not at all	19	47.5
Questionable poverty of speech	9	22.5
Mild poverty of speech	5	12.5
Moderate poverty of speech	6	15
Marked poverty of speech	1	2.5
Severe poverty of speech	0	0

In the alogia subsection; 19 subjects had no alogia (47.5%), 6 subjects had moderate alogia (15%) and none had severe alogia. (Table 1).

In the avolition / apathy subsection; there are seven items which measure specific aspects of occupational function. In these items, 7 subjects had no avolition (17.5%), 13 subjects had marked avolition (32.5%) and 4 subjects had severe avolition (10%) (Table 2).

In the affective flattening or blunting subsection; 9 subjects had no blunting (22.5%), 9 subjects had marked blunting (22.5%) and 1 subject had severe blunting (2.5%) (Table 2).

**Table 2: Avolition - Apathy**

Global	No. of patients	Percentage
No avolition	7	17.5
Questionable	3	7.5
Mild, but definitely present	4	10
Moderate avolition	9	22.5
Marked avolition	13	32.5
Severe avolition	4	10

### Affective Flattening or Blunting

Global	No. of patients	Percentage
Not at all	9	22.5
Questionable decrease	10	25
Mild	5	12.5
Moderate	6	15
Marked	9	22.5
Severe	1	2.5



## DISCUSSION

The sample of the study consists of 26 men and 14 women. The excess of men may be partly explained by the evidence that men with schizophrenia tend to have a poorer prognosis than women, and are more likely to be readmitted to hospital<sup>9-11</sup>. Also, a study conducted in Bahrain<sup>12</sup> has attributed the greater number of men to the fact that they are the "bread winners" and need to be treated faster while women are not necessarily working since only 8.25% of women are working in Bahrain<sup>12</sup>, which allows for their stay at home in addition to over-protection of women in the Bahraini culture.

In a previous study Norren Ring, assessed the negative symptoms in an acute episode of illness and found no change in negative symptoms despite active treatment of their psychosis<sup>7</sup>. This study and that of Montague et al<sup>14</sup>, have demonstrated that negative symptoms occur throughout the course of chronic schizophrenia including the first episode and also that they are not related to the duration of the illness or to the number of relapses experienced. This supports the findings of Kay<sup>4</sup>, Norren Ring<sup>7</sup>, Johnstone<sup>8</sup>, and Mathai and Gopinath<sup>16</sup>, who found that negative symptoms occur throughout the course of chronic schizophrenia.

Similar to that of Mathai and Gopinath<sup>16</sup>, this study is a cross sectional and not a longitudinal assessment, therefore different patients were compared at different stages of their illness. However, it has the advantage that the representative group were all outpatients. It is well recognized that the loss of function characteristic of negative symptoms is difficult to measure reliably. Since it was not assumed that the items of an individual sub-scale could be taken as a measure of the single construct embodied in that sub-scale; a problem arose in the case of symptoms such as lack of volition, anhedonia and attentional impairment since they are also found in depression<sup>3</sup>. An additional problem is that these symptoms are represented in the SANS sub-scales consisting of items measuring self care, occupation and social function which might be regarded as a measure of performance in daily life rather than symptoms. The relationship between these items and negative symptoms is difficult to be assessed accurately due to certain reasons. First, it needs an informant with the patient which was not available with all the patients studied. Secondly, there is a cultural difference regarding the items of self care, occupational and social function. In the Arab culture, these items don't have the same significance as in Europe, where Arab patients are more likely to be cared for by their families who would also support them financially.

Marked flattening was not found except in one patient (2.5%) and this is similar to the findings of Johnstone et al<sup>8</sup>.

## CONCLUSION

**In this study sample of outpatient chronic schizophrenics the symptoms of inattentiveness, anhedonia, associability, a volition apathy and affective flattening were all markedly prominent. None of these negative symptoms were related to the duration of the illness.**

**It is advised that greater attention is given to the treatment of negative symptoms during the acute stage of schizophrenia in order to minimize its disabling effects in the chronic stage.**

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