An Original Article

Positive versus negative symptoms of Schizophrenia in a tertiary level hospital in Bangladesh

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Summary

This was a cross sectional, analytical and descriptive study done in a tertiary care hospital located in the capital of Bangladesh. Sample size was 78 outpatiants. The structured clinical Interview for DSM-IV (SCID-I) and pre designed socio demographic questionnaire was applied. Positive and negative symptoms were assessed by using the Positive and Negative Symptom Scale (PANSS). Statistical analysis was done through SPSS version 17. Among 78 patients schizophrenic with positive symptoms (57.7%) were predominant over schizophrenic with negative symptoms (42.3%). Delusion (64.1%) and blunted affect (55.1%) were the most frequent positive and negative symptoms respectively. Negative symptoms were significantly associated with poverty, unemployment and lack of education.

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Background

The prevalence of schizophrenia ranges from 0.5 to 5.0 per 10,000 people. In Bangladesh, the prevalence of schizophrenia is 1.10% in adult population (Firoz et al. 2006) and 0.10 % in children (Rabbani et al 2009).

Schizophrenia is a universal disorder having great impact on the quality of life. According to the Global Burden of Disease Study, schizophrenia causes a high degree of disability accounting for 1.1% of the total DALYs (Disability-Adjusted Life Years) and 2.8% of YLDs (Years Lived with Disability). Evaluation of positive and negative symptom patterns of schizophrenia is necessary for the assessment of prognosis and treatment outcome. As per the researcher's knowledge, no reported studies in Bangladesh have yet been observed about positive and negative symptoms of schizophrenia. In 1989, one study was done in the OPD of former IPGMR to find out the frequency of First Rank Symptoms (FRS) in patients with psychotic illness. According to that study, somatic passivity was the most frequently occurring first rank symptom followed by thought broadcasting, made impulse and made volitional act (Alam et al. 1989). Another study done in 1994 in the psychiatry OPD of Chittagong Medical College, showed that among the first rank symptoms, somatic passivity was the most frequent followed by thought broadcasting, made volitional act, delusional perception and voices arguing (Alam et al. 1994). In Bangladesh, it has been observed that majority of the patients with schizophrenia attending psychiatric hospitals suffers from positive symptoms. Patients with negative symptoms visit clinicians less frequently because their caregivers are not aware of the negative symptoms.

Aims

1. To find out positive or negative symptoms to be present predominantly.
2. To find out the frequency distribution of positive and negative symptoms.
3. To find out association of socio demographic and relevant variables with positive and negative symptoms.

Methods

This is a cross sectional, analytical and descriptive study done in Bangabandhu Sheikh Mujib Medical University (BSMMU), a tertiary care hospital in Dhaka, Bangladesh.

Inclusion Criteria

a) Diagnosed cases of schizophrenia aged 18 years or above of either sex attending the Out Patient Department (OPD) of Psychiatry of BSMMU, Dhaka as they show both positive and negative symptoms.
b) Patients having symptoms duration for at least one year or above.

Exclusion Criteria

a) Patients with any physical illness from that he/she is unable to communicate with the researcher/interviewer.
b) Inpatients of Psychiatry of BSMMU, Dhaka as they show mainly positive symptoms.

Sampling technique

By purposive sampling method, 90 consecutive patients who fulfilled the selection criteria were interviewed

during the study period. from July 2009 to June 2011 but 12 patient's information was not adequate for analysis, so finally 78 samples were taken.

Research Instruments

The SCID-I and pre designed socio demographic questionnaire was applied. Positive and negative symptoms were assessed by using the PANSS. Statistical analysis was done through SPSS version 17.

Results

Among the patients with schizophrenia positive symptoms (57.7%) were predominant over negative symptoms (42.3%). The most frequent positive symptom was delusion (64.1%), the most frequent negative symptom was blunted affect (55.1%) and the most frequent

general psychopathology symptom was lack of judgment and insight (87.2%). 63.6% illiterate patients showed negative symptoms and 66.1% literate patients showed positive symptoms (p-value=.017). 62.5% unemployed patients showed negative symptoms and 57.7% literate patients showed positive symptoms (p-value=.003). 71.4% patients with 20,001-30,000 taka monthly income showed positive symptoms, 56.5% patients with 10,001-20,000 taka monthly income showed negative symptoms and 54.5% patients with <10,000 taka monthly income show negative symptoms. These results are statistically significant (p-value=.036).

Tables and charts

Table 1: Number of symptoms among the subjects according to PANSS (n=78)

Number of symptoms	Positive		Negative		General Psychopathology	
	n	%	n	%	n	%
0	25	32.1	30	38.5	0	0
1	2	2.6	5	6.4	2	2.6
2	2	2.6	6	7.7	3	3.8
3	4	5.1	1	1.3	23	29.5
4	10	12.8	5	6.4	24	30.8
5	18	23.1	4	5.1	16	20.5
6	12	15.4	22	28.2	10	12.8
7	5	6.4	5	6.4	0	0
Total	78	100.0	78	100.0	78	100.0
Average Score	19.60±16.78		18.49±18.32		24.60±7.73	

Table 2: Frequency distribution of symptoms among the subjects according to PANSS (n=78)

| Variables	N	%
Positive symptoms		
Delusion	50	64.1
Conceptual disorganization	37	47.4
Hallucinatory behavior	28	35.9
Excitement	37	47.4
Grandiosity	19	24.4
Suspiciousness/ persecution	42	53.8
Hostility	42	53.8
Negative symptoms		
Blunted affect	43	55.1
Emotional withdrawal	36	46.2
Poor rapport	39	50.0
Apathetic social withdrawal	34	43.6
Difficulty in abstract thinking	35	44.9
Lack of spontaneity and flow of conversations	30	38.5
Stereotyped thinking	10	12.8
General psychopathology symptoms		
Mannerism and posturing	6	7.7
Motor retardation	3	3.8
Uncooperativeness	35	44.9
Unusual thought content	24	30.8
Disorientation	16	20.5
Poor attention	63	80.8
Lack of judgment and insight	68	87.2
Disturbance of volition	49	62.8
Poor impulse control	37	47.4
Preoccupation	11	14.1
Active social avoidance	1	1.3

Table 3: Association of education with positive and negative syndrome groups (n=78)

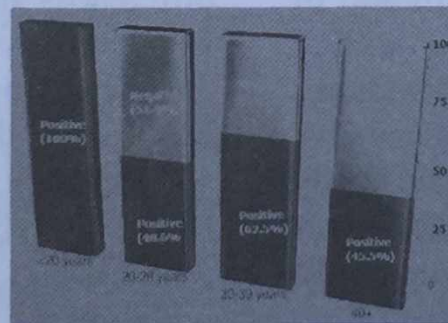| Education	Positive syndrome	Negative syndrome	Total	P-value
Illiterate	8	14	22	
	.0%	100.0%	100.0%	
Literate	30	12	56	P=0.017
	71.4%	28.6%	100.0%	
Total	45	33	78	
	57.7%	42.3%	100.0%	

Table 4: Association of monthly income with positive and negative syndrome groups (n=78)

| Monthly income (TK.)	Positive syndrome	Negative syndrome	Total	P-value
>30,000 (Higher)	0	2	2	
	.0%	100.0%	100.0%	
20,001-30,000 (Middle)	30	12	42	
	71.4%	28.6%	100.0%	
10,001-20,000 (Lower)	10	13	23	P=0.036
	43.5%	56.5%	100.0%	
<10,000 (Lowest)	5	6	11	
	45.5%	54.5%	100.0%	
Total	45	33	78	
	57.7%	42.3%	100.0%	

Chart 1: Predominating symptoms among the subjects according to PANSS (n=78)
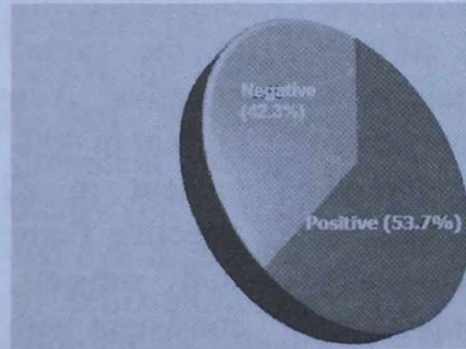
Chart 2: Association of age with positive and negative syndrome groups (n=78)

Chart 3: Association of employment status with positive and negative syndrome (n=78)
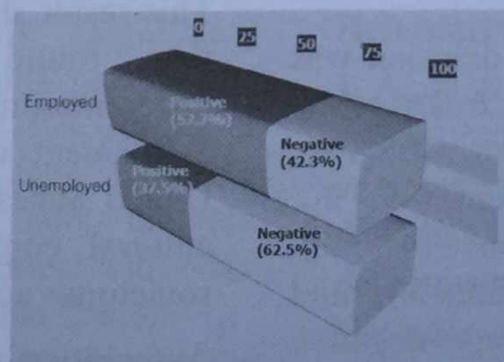
Discussion

This study finds that 44.9% of the patients were 20-29 years old and 30.8% are 30-39 years old. 67.9% of the patients are male and 32.1% were female. 61.5% of the patients came from rural areas and 38.5% from urban areas of Dhaka city. 52.6% of the patients came from anuclear family and 47.4% from joint family.

Most of the patients were unemployed (41.0%) followed by housewives (16.7%), students (15.4%), cultivators (10.3%), household workers (6.4%), service holders (5.1%), self-employed (2.6%), business persons (1.3%) and menial workers (1.3%). 33.3% of the Patients were married. 53.8% of the patients earned 10001-20000 taka per month and 14.1% earned more than 30000 taka per month. Mean age of onset of schizophrenia was 22.14 years with a standard deviation of 5.828; mean age of first psychiatric treatment was 23.60 years with a standard deviation of 5.521.

Positive and negative symptoms of schizophrenia

In the present study positive symptoms were predominant (57.7%) over negative symptoms (42.3%). In an Indian study conducted by Srinivasan (2005) it was also found that positive symptoms were more predominant.

Frequency distribution of positive and negative symptoms

Among positive symptoms delusion was the most frequent (64.1%) followed by suspiciousness/ persecution (53.8%), hostility (53.8%), excitement (47.7%), conceptual disorganization (47.7%), hallucinatory behavior (35.9%) and grandiosity (24.4%). Among negative symptoms blunted affect was the most frequent (55.1%) followed by poor rapport (50.0%), emotional withdrawal (46.2%), difficulty in abstract thinking (44.9%), apathetic social withdrawal (43.6%), lack of spontaneity and flow of conversations (38.5%), and stereotyped thinking (12.8%). In Lahore, Pakistan, a study conducted in 2006 on 140 diagnosed schizophrenic patients to evaluate evolution of symptoms by using PANSS revealed that delusion was the most frequent (58%) positive symptom and hallucinatory behaviour was present in 32% of patients (Suhail et al. 2006). These findings were very much consistent with our current study results. In the same Pakistani study, among negative symptoms, avolitoin was present in 40% study subjects, alogia was present in 22% study subjects, and affective flattening was present in 39% study subjects. These findings were not consistent with our current study results. This may be due to socio cultural differences in observational analysis of negative symptoms. Another study conducted in the United States in 2010 by Bobes showed that among 1,108 schizophrenic patients, the most frequent negative symptom items were social withdrawal (45.8%), emotional withdrawal (39.1%), poor rapport (35.8%), and blunted affect (33.1%). This result shows some differences with that found in our study. The differentiating factor might be that, assessment of social passivity in the United States was more specific. In our cultural context social withdrawal is sometimes under evaluated.

Association of socio demographic and

relevant variables with positive and negative symptoms of schizophrenia

The current study shows that negative symptoms were more frequent (63.6%) in illiterate patient group and positive symptoms are more frequent (66.1%) in literate patient group. This result is statistically significant. In deficit schizophrenia cognitive impairment may lead to poor educational achievement.

In this study it was found that negative symptoms were more frequent (62.5%) in unemployed patients and positive symptoms were more frequent (57.7%) in employed patients. This result was statistically significant (p-value=.003). In a similar study in the U.S.A. by Bobes (2010) it was found that negative symptoms were more prevalent among unemployed/inactive patients (P< .001). An Indian study also found that disability in social functioning in schizophrenia was related to work functioning, securing and maintaining jobs (Srinivasan 2005).

The present study result also depicts that positive symptoms are more frequent (71.4%) in the 20,001-30,000TK monthly income group of patients, negative symptoms are more frequent in the lower monthly income groups of patients, that is 56.5% in the 10,001-20,000TK monthly income group and 54.5% in the <10,000TK monthly income group. This result was statistically significant (p-value=.036). This results may reflect the truth that poor social functioning of schizophrenia patients with negative symptoms also lead to poor monthly income which is also consistent with other study findings like Srinivasan (2005).

Negative symptoms are intrinsic to the pathology of schizophrenia and are associated with significant deficits in motivation, verbal and nonverbal communication, affect, cognitive and social functioning. For a long time, clinical attention was focused on the improvement of positive symptoms as they are directly related to the safety of the patient and the caregivers. Negative symptoms are now a days getting more importance because they are associated with poor social functioning and occupational impairment.

Limitations

The study was carried out in a single center and its sample size was small. This study was cross sectional, so the researchers could not provide the cause-effect relationship between symptoms and other variables longitudinally. Due to the same reason temporal course of positive and negative symptoms along with treatment outcome could not be evaluated.

Conclusions

The present study demonstrates that schizophrenic patients with positive symptoms frequently visit clinicians because positive symptoms are more visible and easily draw attention to the caregiver or relatives of the patients but illiteracy, poverty and unemployment associate more with negative symptoms.

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