RESEARCH ARTICLE

Pattern of positive, negative and general psychopathological symptoms among schizophrenia patients at primary care setting: A comparative study

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Abstract

Objective: To investigate the patterns of positive, negative and general psychopathology symptoms on the Positive and Negative Syndrome Scale among a variety of schizophrenia patients.

Methods: The cross-sectional study was conducted at the Institute of Behavioural Sciences, Dow University of Health Sciences, Karachi, in 2016-17, and comprised schizophrenia patients aged 18-52 years registered with the institute regardless of gender, socioeconomic class, marital status and severity of the diseases. The Positive and Negative Syndrome Scale was administered after one month of psychotropic medication. SPSS 21 was used for data analysis.

Results: Of the 104 patients, 62(59.6%) were males; 42(40.4%) were single; 45(43.3%) were married; 17(16.3%) were divorced/separated; 31(29.8%), belonged to low social class; 35(33.7%) to middle; and 38(36.5%) to upper class. Patients' scores were significantly different between in-door and out-door patients ($p<0.05$); between patients who had come with single or multiple episodes ($p<0.05$), and between patients with acute and chronic phases of illness ($p<0.05$) in terms of positive, negative and general psychopathology symptoms.

Conclusion: Out-door patients, those with multiples episodes and chronic illness were found more vulnerable compared to in-door patients, those with single episode and acute illness.

Keywords: Positive and Negative Symptoms, In-door and out-door setting, Acute and chronic, Single and multiple episodes, Schizophrenia patients. (JPMA 69: 361; 2019)

Introduction

Schizophrenia is a universal psychiatric disorder having significant impact on individual's quality of life, and its annual incidence is reported to be 0.16 to 1.00 per 10,000 people.[1,2] World Health Organisation (WHO) explored 0.4 prevalence rate of schizophrenia disorders in public.[3] The fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) calculated 0.3 to 0.7, lifetime prevalence of schizophrenia disorders.[4] Moreover, this rate has been found high in Middle Eastern and East Asian countries, while in Japan, Australia and the United States, it is comparatively low.[3] In the Asian region, for example, in Bangladesh, the incidence of schizophrenia disorders is calculated to be 1.10% in adults, 0.10% in children over the target sample, and 2.54/1000 in rural areas.[5,6] In India, schizophrenia occurrence rate is 3% out of 1000 individuals.[7] In Pakistan, this prevalence rate is 1.5 over the calculated sample.[8] Schizophrenia disorder has stronger co-morbidity with depressive disorders, such as 5 to 6 schizophrenia patients out of 100 in a study died because of suicide and 20% attempted suicide.[2] Another study reported suicidal tendency prevalence in schizophrenia patients at 20-50%.[9] A US longitudinal study of 19 years comprising schizophrenia patients reported that 40% of the sample perceived suicidal thoughts, 33% attempted suicide, 6.5% committed suicide and 1.5% had potential risk of suicide.[10]

Schizophrenia disorder is a miscellaneous psychiatric disorder which is usually treated with a combination of therapies. The collect approach actually increases the patients' chance of recovery and sometimes it significantly enhances the treatment efficacy and quality of patients' life because of comprehensive nature of treatment.[11] Sometimes, the response rate might be delayed because of patients' resistance when they perceive it as a social stigma and if the problems prolong lifetime challenges.[12,13] The clinicians may achieve the desired response with the use of combined treatment (i.e. psychotropic medications, psychotherapies, family support and rehabilitation facility).[14] Some other factors like treatment facility, immediate treatment and treatment planning are also important.[15] These factors usually increase the recovery process when patients come with initial

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onset as this process may be slowed down compared to cases when the patient comes with multiple episodes and chronicity with notable impairment in his/her cognitive and behavioural functioning. Therefore, in treatment of schizophrenia disorder, patients' care, setting and early treatment together increase the chances of recovery.[16] Schizophrenia patients avail out-door treatment facility usually, do not use medication properly and sometimes even skip medications because of their own choice.[17] In-door settings, along with integrated services, increase positive treatment outcomes and efficiency because of intense patient-care.[18,19]

The current study was planned to investigate the significance of in-door and out-door treatment facility, duration of illness and to find the role of frequency of episodes in the management of schizophrenia disorder.

Patients and Methods

The cross-sectional study was conducted at the Institute of Behavioural Sciences (IBS), Dow University of Health Sciences (DUHS), Karachi, in 2016-17, and comprised schizophrenia patients registered with the institute those included were IBS registered patients aged 18-52 years. The participants were taken from all socio-economic statuses. Both male and female participants with single, married and separated/divorce marital status were included. Participants' educational level was between matriculation and undergraduate. Acute phase was described as a period less than 6 months, and chronic phase as at least 12 months. Patients were enrolled with history of single and multiples episodes. All the subjects fulfilled DSM-V diagnostic criteria for schizophrenia. Those excluded were patients with co-occurring disorder or having any co-morbid illness such as physical or mental disability. Purposive sampling was used while raising the study sample.

The Positive and Negative Syndrome Scale (PANSS) 20 was administered after one month of psychotropic medication. PANSS is composed of 30 statements that measure the clinically significant psychopathological symptoms of schizophrenia. These 30 items are divided into three subscales. Positive symptoms subscale (item P1-P7) comprise delusions, conceptual disorganisation, hallucinations, hyperactivity, grandiosity, suspiciousness and hostility. Negative symptoms subscale (items N1-N7) is composed of blunted affect, emotional withdrawal, poor rapport, apathetic social withdrawal, difficulty in abstract thinking, lack of spontaneity and stereotyped thinking. General psychopathology subscale (G1-G16) measures common symptoms like anxiety, tension, depression, mannerism, unusual thought contents, degree of insight, judgment and disorientation.

Further, PANSS identifies the absence, existence and severity of symptoms. On PANSS item score, 1 indicates the 'absence' of symptom while 2 shows 'minimal existence' of symptoms. Score 3-5 reflects 'mild', 'moderate' and 'severe' existence of symptoms while score 6-7 shows 'severe to extreme' symptoms.

PANSS is formally administered in the form of clinical interview and it usually takes approximate 40-45 minutes per patient. The training of the interviewer is mandatory before the administration in order to reach satisfactory score. PANSS is considered more reliable measure to investigate positive and negative symptoms in schizophrenia patients in literature.[21]

For the current study, approval was obtained from the DUHS ethics research committee before data collection. Informed consent was obtained from the subjects and their caregivers after they were educated on the procedure. Besides, confidentiality of the data was maintained at all times. Clinical in-depth interviews were conducted, and clinical and relevant history of the problem was taken. The therapist established a working relationship with all patients, motivating them, providing guidance about medication, and doing the follow-up sessions. After initial procedure was completed, the patients were referred for medication to a psychiatrist. After one month of medication, they were assessed though PANSS to check symptom severity.

Data was scrutinised and scored according to standard manual instructions. SPSS 21 was used for statistical analysis. Independent sample t-test was used to investigate the scores' difference between in-door and out-door treatment settings, patients of single and multiple episodes, and between acute and chronic phases of illness.

Results

Of the 120 cases targeted, 104(86.66%) completed the study, while 16(13.33%) had to be excluded for lack of data.

Of the 104 subjects, 62(59.6%) were males; 42(40.4%) were single; 45(43.3%) were married; 17(16.3%) were divorced/separated; 31(29.8%) belonged to low social class; 35(33.7%) to middle; and 38(36.5%) to upper

Table-1: Difference between in-door and out-door patients with schizophrenia disorder on PANSS.

S. No.	Symptoms on PANSS	In-Door Patient (53) M(SD)	Out-Door Patient (51) M(SD)	t	p
P1	Delusion	2.94(1.88)	4.94(1.88)	-5.424	<0.001
P2	Conceptual distortion	2.51(1.76)	3.59(2.18)	-2.786	<0.001
P3	Hallucinatory behaviour	2.98(2.09)	4.55(2.17)	-3.757	<0.001
P4	Excitement	2.49(1.57)	2.76(1.95)	-0.793	>0.429
P5	Grandiosity	2.43(2.05)	2.92(2.25)	-1.160	>0.249
P6	Suspiciousness	3.21(1.90)	4.61(2.23)	-3.457	<0.001
P7	Hostility	3.42(2.20)	4.57(2.31)	-2.611	<0.001
N1	Blunted affect	1.45(0.97)	2.51(1.62)	-4.058	<0.001
N2	Emotional withdrawal	1.32(0.98)	3.25(1.86)	-6.695	<0.001
N3	Poor rapport	1.21(0.82)	2.98(1.79)	-6.525	<0.001
N4	social withdraw	1.53(1.07)	3.94(1.66)	-8.873	<0.001
N5	Difficulty in thinking	1.45(1.03)	3.78(1.89)	-7.852	<0.001
N6	Lack of spontaneity	1.83(1.32)	3.25(2.04)	-4.255	<0.001
N7	Stereotype thinking	2.47(1.96)	3.69(2.02)	-3.118	<0.001
G1	Somatic concern	2.19(1.55)	2.78(2.05)	-1.681	>0.096
G2	Anxiety	3.02(1.59)	2.84(1.44)	0.593	>0.555
G3	Guilt feelings	2.64(1.43)	3.20(1.77)	-1.763	>0.081
G4	Tension	2.74(1.96)	2.94(1.69)	0.687	>0.494
G5	Mannerism/d posturing	1.75(1.09)	1.65(1.09)	0.503	>0.616
G6	Depression	3.09(1.51)	2.76(1.61)	1.078	>0.283
G7	Motor retardation	1.77(1.02)	1.73(1.01)	0.243	>0.808
G8	Uncooperativeness	1.66(0.90)	1.53(0.88)	0.751	>0.454
G9	Thought content	2.30(1.78)	2.10(1.41)	0.646	>0.519
G10	Disorientation	2.28(0.91)	1.66(2.01)	0.048	>0.962
G11	Poor attention	1.66(1.33)	2.27(1.75)	-2.024	>0.046
G12	Lack of insight	2.66(2.01)	3.06(2.04)	-1.005	>0.317
G13	Disturbance of volition	3.53(2.02)	3.96(1.75)	-1.169	>0.245
G14	Poor impulse control	2.68(2.07)	3.29(1.95)	-1556	>0.123
G15	Preoccupation	2.85(1.97)	3.06(1.88)	-0.556	>0.580
G16	Active social avoidance	3.25(2.01)	3.76(2.01)	-1.319	>0.190

p value <.05
PANSS: Positive and Negative Syndrome Scale
SD: Standard deviation.

class. In terms of education, 29(27.9%) had not done matriculation, 35(33.7%) had done matriculation, 27(26%) intermediate and there were 13(12.5%) with undergraduate education. Patients living in joint family system were 30(28.8%) and those in a nuclear family setup were 74(71.2%). Overall, 53(50.96%) subjects were from the in-patient facility and 51(49.03%) were from the outpatients area. Patients with acute phase of illness were 47(45.2%) and 57(54.8%) had chronic illness. History of single episode was reported in 36(34.6%) cases, while 68(65.4%) had history of multiples episodes.

With respect to positive, negative and general psychopathological symptoms, there was significant difference between in-door and out-door patients (Table-1).

Also, the difference was significant between patients who had acute or chronic phases of illness (Table-2), and between those with history of either single or multiple episodes (Table-3).

Discussion

Findings of the current study reported a pattern of positive and negative symptoms that were found to be significantly different between in-door and out-door patients of schizophrenia. These findings are consistent with earlier findings.[23] Patients with schizophrenia disorder perceive the deficits of perceptual thinking, conceptual distortion and executive functioning and impairment in cognitive and behavioural domains[2]. Additionally, schizophrenia patients experience mood problems and somatic complaints, which significantly affect patients' quality of life.[22] In-door patient facility is preferable way of treatment compared to out-door facility. In-door patients can be monitored properly, and their problems might be addressed in time compared to

Table-2: Difference between schizophrenia patients with acute and chronic phase of illness on PANSS.

S. No.	Symptoms	With Acute Phase (47) M(SD)	With Chronic Phase (57) M(SD)	t	p
P1	Delusion	2.98(1.85)	4.70(2.03)	-4.490	<0.001
P2	Conceptual distortion	1.94(1.24)	3.95(2.13)	-5.730	<0.001
P3	Hallucinatory behaviour	2.74(1.91)	4.58(2.21)	-4.488	<0.001
P4	Excitement	2.17(1.28)	3.00(2.01)	-2.45	<0.001
P5	Grandiosity	1.98(1.72)	3.25(2.31)	-3.119	<0.001
P6	Suspiciousness	2.66(1.59)	4.91(2.07)	-6.128	<0.001
P7	Hostility	2.96(1.91)	4.82(2.29)	-4.452	<0.001
N1	Blunted affect	1.49(1.10)	2.37(1.59)	-3.278	<0.001
N2	Emotional withdrawal	1.47(1.28)	2.93(1.83)	-4.617	<0.001
N3	Poor rapport	1.47(1.18)	2.58(1.81)	-3.633	<0.001
N4	social withdraw	1.66(1.34)	3.58(1.74)	-6.192	<0.001
N5	Difficulty in thinking	1.83(1.62)	3.23(1.91)	-3.978	<0.001
N6	Lack of spontaneity	1.83(1.54)	3.11(1.89)	-3.725	<0.001
N7	Stereotype thinking	2.72(2.18)	3.35(1.94)	-1.550	>0.124
G1	Somatic concern	2.15(1.66)	2.75(1.92)	-1.702	>0.092
G2	Anxiety	3.00(1.63)	2.88(1.42)	0.411	>0.686
G3	Guilt feelings	2.74(1.52)	3.28(1.62)	-2.618	<0.001
G4	Tension	2.68(1.94)	2.56(1.74)	0.332	>0.741
G5	Mannerism/d posturing	1.70(1.06)	1.70(1.12)	0.002	>0.999
G6	Depression	3.28(1.44)	2.65(1.61)	2.074	<0.041
G7	Motor retardation	1.98(1.07)	1.56(0.91)	2.150	<0.034
G8	Uncooperativeness	1.83(0.97)	1.40(0.78)	2.501	<0.014
G9	Thought content	2.45(1.71)	2.00(1.50)	1.421	>0.158
G10	Disorientation	2.51(0.86)	2.09(0.89)	2.450	<0.016
G11	Poor attention	1.79(1.53)	2.11(1.60)	-1.028	>0.306
G12	Lack of insight	2.55(1.88)	3.11(1.12)	-1.393	>0.167
G13	Disturbance of volition	3.47(1.94)	3.96(1.84)	-1.339	>0.183
G14	Poor impulse control	2.68(2.04)	3.23(2.01)	-1.375	>0.172
G15	Preoccupation	2.55(1.81)	3.28(1.96)	-1.952	>0.054
G16	Active social avoidance	3.30(2.03)	3.67(2.01)	-0.929	>0.355

p value <.05
PANSS: Positive and Negative Syndrome Scale
SD: Standard deviation.

their counterparts. At an in-door treatment facility, patients avail collaborative treatment such as psychotropic, psychological, and vocational simultaneously.[23] Although the out-door facility is less expensive, more attractive and sometime might be effective, this also vary from case to case, but the gaps like patients' monitoring and follow-up is probably not perfect and chances of reoccurrence and relapse are observed frequently in out-door patients.[22]

Schizophrenia patients with acute illness were found to be significantly different from patients with chronic illness on the scale of positive and negative symptom scale. These findings are consistent with the findings of previous studies.[24] It is observed that patients in the acute phase responded better than the therapeutic interventions, and their symptoms started to get managed and the recovery process was faster. In fact, the acute phase starts with the onset of symptoms with less severity, but if it could not be managed, it changes into chronic nature and probability of deficits increases. Likewise, the symptoms and problems can be managed easily and therapeutic modalities pave the way for an efficient change.[25] Frequent relapses or chronicity among patients with schizophrenia disorders slowly but surely causes impairment in cognitive and behavioural functioning and make therapeutic process slow or even inactive. As therapeutic interventions work, they highlight the relevance of improved social and cognitive functioning alongside subjective well-being, optimism and empowerment among patients.[26]

Findings showed schizophrenia patients with multiple episodes scored higher compared to patients with single episode on patterns of positive and negative symptoms scale. It was observed that schizophrenia patients with

Table-3: Difference between schizophrenia patients with single episode and multiples episodes on PANSS.

S. No	Symptoms	With-Single Episode (36) M(SD)	With-Multiples Episodes (68) M(SD)	t	p
P1	Delusion	2.69(1.69)	4.57(2.05)	-4.722	<0.001
P2	Conceptual distortion	1.50(0.91)	3.85(2.01)	-6.684	<0.001
P3	Hallucinatory behaviour	2.14(1.52)	4.60(2.13)	-6.173	<0.001
P4	Excitement	2.19(1.28)	2.85(1.94)	-1.838	>0.069
P5	Grandiosity	1.78(1.66)	3.15(2.24)	-3.233	<0.001
P6	Suspiciousness	2.44(1.45)	4.66(2.11)	-5.647	<0.001
P7	Hostility	2.83(1.98)	4.59(2.26)	-3.927	<0.001
N1	Blunted affect	1.25(0.61)	2.35(1.52)	-4.025	<0.001
N2	Emotional withdrawal	1.08(0.50)	2.90(1.86)	-5.724	<0.001
N3	Poor rapport	1.00(0.00)	2.65(1.79)	-5.523	<0.001
N4	Passive social withdraw	1.33(0.76)	3.44(1.83)	-6.629	<0.001
N5	Difficulty in thinking	1.22(0.64)	3.32(1.96)	-6.253	<0.001
N6	Lack of spontaneity	1.36(0.76)	3.15(1.95)	-5.279	<0.001
N7	Stereotype thinking	1.89(1.51)	3.69(2.06)	-4.628	<0.001
G1	Somatic concern	2.44(1.86)	2.50(1.82)	-0.147	>0.883
G2	Anxiety	3.14(1.66)	2.82(1.43)	1.014	>0.313
G3	Guilt feelings	2.86(1.69)	2.94(1.59)	-0.239	>0.812
G4	Tension	2.64(2.03)	2.60(1.72)	0.095	>0.924
G5	Mannerism/posturing	1.81(1.04)	1.65(1.12)	0.706	>0.482
G6	Depression	2.78(1.48)	3.01(1.61)	-0.735	>0.464
G7	Motor retardation	1.89(1.01)	1.68(1.12)	1.028	>0.306
G8	Uncooperativeness	1.61(0.84)	1.59(0.92)	0.125	>0.901
G9	Thought content	2.31(1.81)	2.15(1.50)	0.478	>0.653
G10	Disorientation	2.33(0.96)	2.25(0.87)	0.449	>0.654
G11	Poor attention	1.75(1.25)	2.07(1.72)	-1.000	>0.320
G12	Lack of insight	2.69(2.10)	2.94(1.99)	-0.590	>0.556
G13	Disturbance of volition	3.75(2.12)	3.74(1.77)	0.038	>0.970
G14	Poor impulse control	2.78(2.13)	3.09(1.98)	-0.741	>0.461
G15	Preoccupation	2.67(1.87)	3.10(1.94)	-1.105	>0.272
G16	Active social avoidance	3.17(2.18)	3.68(1.92)	-1.231	>0.221

p value <.05
PANSS: Positive and Negative Syndrome Scale
SD: Standard deviation.

single episode responded better on pharmacotherapy compared to patients with multiple episodes. These findings are consistent with earlier findings.[24] Schizophrenia patients with single episode may recover faster if they respond well again on medication and psychotherapy. Sometimes the intensity of single episode might be severe, but probably it still causes less severity when it is addressed the way it should be. Multiple episodes of schizophrenia cause severe deficits and dysfunctions that prolong the recovery process, and sometimes they cause termination as the patient refuses to engage with the treatment process.[27] Generally, the number of episodes increases the severity of problems, particularly cognitive, behavioural and social. Therefore, patients with multiple episodes perceive more cognitive deficits, distortion and occupational impairment. Patients with multiple episodes experience more intensity and severity due to lengthy duration of illness. Delay in the recovery process and continued impairment in social and occupation functioning may cause the issue of taking medication across the lifetime.[28]

In terms of limitations, the current study had a small sample with limited demographic characteristics at a single primary care unit. Further, only patients with schizophrenia disorders were studied. Multi-centre large-scale study is required for more elaborate and comprehensive findings.

Conclusion

Out-door patients, those with multiple episodes and chronic schizophrenia were found to be more vulnerable compared to in-door patients, those with single episode

and having acute illness. Dealing with schizophrenia patients entails considering the setting, identifying chronicity and exploring the phase of illness as important factors.

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