Positive and Negative Symptoms in Cross-Sectional Diagnosis of Schizophrenia and Schizoaffective Disorders

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The value of positive and negative symptoms for cross-sectional differential diagnosis was studied on a sample of 52 consecutively admitted patients with schizophrenia and Schizoaffective psychosis. Subjects were diagnosed by DSM IV criteria and classified as schizophrenic, depressive Schizoaffective and manic Schizoaffective disorders. The scale for the assessment of positive symptoms (SAPS) and scale for the assessment of negative symptoms (SANS) were used. Our findings showed that both positive and negative symptoms were relevant to differential diagnosis between schizophrenia and other psychotic disorders. However, negative symptoms presented higher significant differences between diagnostic groups than positive symptoms.

Certain symptoms were found to be of higher severity in only one diagnostic group. They were as follow: Pressure of speech for manic Schizoaffective disorder; guilt for depressive Schizoaffective; high scores on negative symptoms for depressive Schizoaffective and schizophrenic disorders; inappropriate affect for schizophrenic disorder; and three (Psychomotor retardation) symptoms of the affective flattening subscale of SANS (unchanging facial expression, decreased spontaneous movements, and paucity of expressive gestures) for depressive Schizoaffective disorder.

(Egypt.J.Psychiat., 1998, 21 :239 - 247).

INTRODUCTION

It has long been assumed that there are no specific symptoms for schizophrenia (Pope and Lipinski, 1978). Schneider, (1959) Proposed his first rank symptoms (FRS) as specific for schizophrenia and FRS have been included in the most widely used Psychiatric diagnostic criteria. However, they have frequently been found in affective psychoses (Taylor and Abrams, 1973). Due to this lack of specifity for diagnosis, schizophrenic symptoms have not been used as an exclusive validate or of specific mental disorders. In most recent classifications of mental disorders, aspects other than symptomatology have been included (e.g., in DSM- IV deteriorating course, 6-month duration of symptoms and exclusion of affective or Schizoaffective disorders (American Psych. Association, 1987).

In recent decades, schizophrenic symptoms have been reconceptualized and incorporated within a new framework: Positive and negative symptomatology. (Andreasen and Olsen, 1982). This positive and negative conceptualization has stimulated a growing number of reports on schizophrenia research. However, what is of great use to clinicians in routine practice is to know the value of these positive and negative

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symptoms for differential diagnosis. Few reports have tested the specific value of positive and negative symptoms in differential diagnosis of mixed population of psychotic patients. Higher intensity has been reported for certain positive symptoms in manic than in schizophrenic psychosis (Andreasen, 1979 & Harvey et al., 1994), and Lower intensity has been reported for same negative symptoms in bipolar disorders of poor outcome than in schizophrenics (Reddy et al., 1992). Morever, Walker et al. (1988) suggested that there were differences in positive and negative symptom profiles between manics and schizophrenics. Other studies have found a higher prevalence of negative symptoms in depressed patients than in schizophrenics (Kulhara and Chadda, 1987). Only one comparative study has included schizoaffective patients (Kitamura and Suga, 1941), they found higher negative symptoms in depressive Schizoaffectives than in schizophrenics and higher negative symptoms in schizophrenics than in depressive affectives.

SUBJECTS AND METHODS

A sample of 52 patients was recruited from consecutive admissions to Mansoura university psychiatric department. Their mean age was 33.69, age at onset was 25.63, and number of previous admissions was 4.19- 25 patients were male (49.5%) and 27 female (50.5%) all patients were drug free on admission up to the end for their assessment and evaluation of their symptoms.

A semistructured interview for schizophrenia and related psychoses was used (Landmark, 1982), DSM IV criteria were used to diagnose patients and to make 3 subgroups 19 patients were schizophrenics (36%), 17 manic Schizoaffective disorder (33%) and 16 depressive Schizoaffective disorder (31%).

Axis V of DSM IV, Global Assessment of functioning in the past year (GAFP) was used as indicator of social and occupational functioning.

Schizophrenic symptoms were evaluated in the first days of admission with Andreasens Scales for the assessment of positive and negative symptoms (SAPS and SANS), (Andreasen, 1984). Results on SAPS and SANS were obtained by the raters before any definite diagnosis has been achieved.

RESULTS

Sociodemographic characteristics of diagnostic subgroups are Listed in table Depressive Schizoaffectives were significantly older, and their onset of illness was significantly later than those of schizophrenics and manic Schizoaffectives (tables 1 & 2). Depressive Schizoaffectives were found to have significantly lower number of previous admissions than the other two groups (table 3). GAFP scores (table 4) were significantly lower in schizophrenics than depressive and manic Schizoaffectives.

Global ratings of SAPS on delusions and hallucinations were similar in the three groups (table 5). Schizophrenics had higher levels of bizarre behavior than Schizoaffective depressives, but these levels were higher than for manic Schizoaffectives. The later group had higher levels of bizarre behavior than depressive Schizoaffectives. Formal thought disorder was found to be higher in schizophrenic and manic Schizoaffectives than in depressive Schizoaffectives. SAPS total score was lower in depressive Schizoaffectives than in the two other psychotic groups (table 5).

Table 1
Age (In Years) In Different Diagnostic Categories

Schizophrenia		Schizoaffective (Manic)		Schizophrenia		Schizoaffective (Dep)		Schizophrenia		Schizoaffective (Dep)	
Mean	+/-SD	Mean	+/-SD	Mean	+/-SD	Mean	+/-SD	Mean	+/-SD	Mean	+/-SD
29.9	26.7667	30.1	39.8778	29.9	26.7667	41.2	63.7	30.1	39.88	41.2	63.7
t = - 0.0775		p=0.46955		t= 3.4484		p = 0.00143*		t= 3.4484		p = 0.00143*	

* Significant

Table 2
Age of Onset (In Years) In Different Diagnostic Categories

Schizophrenia		Schizoaffective (Manic)		Schizophrenia		Schizoaffective (Dep)		Schizophrenia		Schizoaffective (Dep)	
Mean	+/-SD	Mean	+/-SD	Mean	+/-SD	Mean	+/-SD	Mean	+/-SD	Mean	+/-SD
22	24.22	32.6	14.04	22	24.2222	23.2	19.2889	23.2	39.88	32.6	14.0444
t = - 5.4187		p=0.00001*		t= -0.5753		p = 0.28611		t= 5.1486		p = 0.00003*	

* Significant

Table 3
No. of Admissions in the Different Groups

Schizophrenia		Schizoaffective (Manic)		Schizophrenia		Schizoaffective (Dep)		Schizophrenia		Schizoaffective (Dep)	
Mean	+/-SD	Mean	+/-SD	Mean	+/-SD	Mean	+/-SD	Mean	+/-SD	Mean	+/-SD
4.6	4.71	4.7	2.01	4.6	4.71	1.5	1.61	4.7	2.01	1.5	1.61
t = - 0.122		p=0.45214		t= 3.89876		p = 0.00053*		t= 5.32		p<0.05*	

* Significant

Table 4
Gafp Scores in the Different Groups

Schizophrenia		Schizoaffective (Manic)		Schizophrenia		Schizoaffective (Dep)		Schizophrenia		Schizoaffective (Dep)	
Mean	+/-SD	Mean	+/-SD	Mean	+/-SD	Mean	+/-SD	Mean	+/-SD	Mean	+/-SD
55	36.44	65	26.22	55	36.4444	63.8	17.7333	65	26.22	63.8	17.7333
t = - 3.9947		p= 0.00042*		t= - 3.7807		p = 0.00068*		t= - 0.57237		p= 0.28708*	

Gafp: Global assessment of functioning in the past year Dep" Depressive * Significant

Table 5
Saps Global Rating Scores in Different Diagnostic Groups

Symptoms	Statistics	Schizophrenia	Schizoaffective (Manic)	Schizoaffective (Depressive)
Hallucinations	Mean +/- SD	2.04 0.031	2.07 0.042	2.07 0.042
	Significanc	f= 2.39	p = 0.11	
Delusions	mean +/- SD	3.25 0.516	3.65 0.498	3.07 0.420
	Significance	f= 1.84	p = 0.178	
Bizarre Behavior	mean +/- SD	3.05 0.056	2.87 0.082	1.75 0.036
	Significance	f=85.27	p = <0.05*	
Positive F. Th. Dis.	mean +/- SD	3.15 0.109	2.88 0.048	1.13 0.076
	Significance	f=154.5	p = <0.05*	
Total	mean +/- SD	11.49 1.34	11.47 0.55	8.19 0.443
	Significance	f=461.1	p = <0.05*	

Table 6
Sans Global Rating Scores in Different Diagnostic Groups

Sans Item	Statistics	Schizophrenia	Schizoaffective (Manic)	Schizoaffective (Depressive)
Affective Flattening	Mean +/- SD	2.52 0.1595	2.07 0.061	3.12 0.053
	Significanc	f= 129.7	p <0.05*	
Alogia	mean +/- SD	2.01 0.0743	0.24 0.0116	2.33 0.12
	Significance	f= 184.5	p<0.05*	
Anhedonia-Asociality	mean +/- SD	3.32 0.086	1.05 0.045	1.75 0.036
	Significance	f=187.3	p = <0.05*	
Avolition-Apathy	mean +/- SD	2.65 0.273	1.46 0.287	2.88 0.141
	Significance	f=24.8	p = <0.05*	
Attention	mean +/- SD	2.16 0.196	2.43 0.158	2.06 0.212
	Significance	f=1.94	p = 0.16	
Total	mean +/- SD	12.8 0.491	6.04 0.74	13.59 0.999
	Significance	f=232.7	p = <0.05*	

* Significance

Table 7
Saps Symptom Socores with Statistically Significant Differences Between Different Groups

Sans Item	Statistics	Schizophrenia	Schizoaffective (Manic)	Schizoaffective (Depressive)
Delusions of guilt	Mean +/- SD f	2.52 0.1595	0.55 0.061 36.64*	2.31 0.034
Tangantiability	mean +/- SD f	3.25 0.516	1.65 0.498 36.64*	1.07 0.420
Pressure of speech	mean +/- SD f	0.8 0.053	2.43 0.093 256.6*	0.2 0.009
Clanging	mean +/- SD f	0.25 0.018	0.06 0.032 27.22*	0.86 0.107

* Significant

Table 8
Sans Symptoms Scores with Statistically Significant Differences between Different Groups

Sans Item	Statistics	Schizophrenia	Schizoaffective (Manic)	Schizoaffective (Depressive)
Unchanging facial expression	Mean +/- SD f	1.37 0.142	0.54 0.08 137.1*	3.03 0.129
Decreased spontaneous movements	mean +/- SD f	1.41 0.028	0.54 0.058 443.5*	3.12 0.031
Paucity of expressive gestures	mean +/- SD f	1.42 0.135	0.71 0.054 151.9*	3.09 0.105
Affective non-responsibility	mean +/- SD f	2.05 0.392	0.86 0.107 36.29*	2.54 0.118
Poverty of speech	Mean +/- SD f	1.68 0.051	0.157 0.005 181.2*	2.09 0.117
Physical anergia	mean +/- SD f	2.24 0.107	0.47 0.025 297*	3.24 0.067
Recreational interests	mean +/- SD f	3.11 0.101	1.08 0.026 110.5*	3.28 0.28
Intimacy	mean +/- SD f	3.21 0.081	0.93 0.047 195.8*	3.23 0.14
Inappropriate affect	mean +/- SD f	2.92 0.67	1.73 0.45 110.5*	0.95 0.39

* Significant

Affective flattening, avolition, anhedonia, alogia (all global ratings), and SANS total score were significantly higher in schizophrenic and depressive Schizoaffectives than in manic Schizoaffectives: No intergroup differences were found in attention (table 6).

Statistical analysis of SAPS and SANS subitems showed significant differences between diagnostic groups. Four positive symptoms were significantly more severe in only one diagnostic group. They were guilt for schizoaffective depressives, pressure of speech and clanging for schizoaffective manics, and tangentiality for schizophrenic disorder (table 7). Three symptoms of the SANS affective flattening subscale showed higher scores in depressive Schizoaffectives than in the remaining psychotic groups (unchanging facial expression, decreased spontaneous movement, and paucity of expressive gestures), while inappropriate affect was significantly more severe in schizophrenic group (table 8).

In addition, five of SANS symptoms (affective nonresponsivity, poverty of speech, physical anergia, recreational interests, and intimacy) were more severe in depressive Schizoaffectives and schizophrenics than in manic Schizoaffectives. (Table 8).

DISCUSSION

Our findings indicate that both positive and negative symptoms were relevant to differential diagnosis between schizophrenics and other psychotic patients. However, negative symptoms had a greater diagnostic value than positive symptoms. This is because SANS global ratings and SANS symptoms presented more significant intergroup differences than those of SAPS are. In addition specific diagnosis may be inferred from SAPS and SANS scores. High SANS total scores and high scores on four of five SANS subscales (affective flattening, alogia, avolition, and anhedonia) were indicative of a diagnosis of schizophrenia or depressive Schizoaffective disorder, and total positive scores were lower in depressive Schizoaffective disorder than in other psychotic groups. Differences on SAPS total scores were mainly due to high scores on bizarre behavior and positive formal thought disorder. This is concordant with reports of lower intensity of thought disorders in depressive Schizoaffective than in manic Schizoaffective patients (Cadoret et al., 1974 and Holzman et al., 1986). Notably, SAPS delusions and hallucinations, two most frequent psychotic symptoms, and the attention subscale of SANS were randomly distributed across all psychotic symptoms and had no value for differential diagnosis.

Studies on positive and negative symptoms often compare global ratings of symptoms resulting in a great loss of information. In this study we compared both global rating and individual symptoms and we found significant differences between groups. There is only one previous study on positive and negative symptoms to allow for direct comparison. Taylor and Amir (1994) studied a sample of 167 schizophrenic and 74 affective patients. Their results were in agreement with ours. They found that the diagnostic value of hallucinations and delusions to distinguish psychoses was of minimal help. Moreover, they suggested that certain symptoms (presence of affective symptoms, negative symptoms, and formal thought disorder) provide diagnostic discrimination only between psychosis extremes core schizophrenia and classic affective disorder.

Others have reported similar differ-

ences across diagnostic groups only with respect to thought disorder. Andreasen and Grove (1986) found that pressure of speech and tangentiality from the thought, Language, and communication scale were discriminant between psychotic patients. Others have also reported that thought disorders differentiated between psychotic diagnoses (Shenton et al., 1987).

When analysing SAPS and SANS symptoms, some clues for differential diagnosis could be noted. High scores in the majority of SANS negative symptoms were suggestive of two diagnostic groups: Schizophrenic or depressed Schizoaffective patients. Moreover, high scores on four of SAPS symptoms (Pressure of speech, clanging, guilt, and tangentiality), and three retardation symptoms included in the affective flattening subscale of SANS (unchanging facial expression, decreased spontaneous movements, and paucity of expressive gestures) were suggestive of only one diagnostic group.

Positive symptoms that best differentiated in the three groups were not Schneiders FRS, but the positive symptoms probably most related to affective symptomatology- pressure of speech and guilt. The nonspecifity of FRS for schizophrenia found in the present study has also been reported previously (Carpenter et al., 1973 and Grady, 1990). Therefore, our results are not concordant with a recent proposal for using FRS in the diagnosis of schizophrenia (David and Appleby, 1992). More importance can be given to negative symptoms, as suggested by Andreasen and Flaum (1992). In addition, some non-typically psychotic symptoms (such as pressure of speech) must be considered in conjunction with the negative symptoms of value in cross-sectional diagnosis of psychotic patients.

Our results should be interpreted with caution. It should be remembered that assessment of mood was explicitly excluded (except to diagnose). Not with standing this, it has been reported that when assessment of mood is combined with assessment of positive and negative symptoms, discriminant validity for diagnosis of schizophrenia with respect to affective psychoses is high (Andreasen, 1990). Therefore, it may be assumed that by exploring mood conjointly with SAPS-SANS symptoms, the value for differential diagnosis between psychotic patients would be augmented.

If these preliminary results are replicated in unselected groups of psychotic patients, the value of cross-sectional symptoms in diagnosis, including mood and positive & negative symptom assessment will be revitalized. Finally, our results may be of great help in many clinical settings in which cross-sectional diagnosis is important for clinical or therapeutic decisions (e.g., acute cases in which psychotic symptoms are prevalent and mood assessment can not be reliably made, or in which informations about periods free of psychotic or affective symptomatology cannot be obtained.

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الأعراض الموجبة والسالبة فى التشخيص المقطعى لاضطرابى الفصام والفصام الوجدانى

تمت دراسة قيمة الأعراض السالبة والموجبة للتشخيص المقطعى الفرقى على عينة تتكون من ٥٢ من المرضى الذين تم إدخالهم المستشفى بالتتابع وكان بعضهم يعانى من اضطراب الفصام والبعض الآخر من اضراب الفصام الوجدانى وقد تم تشخيص جميع المرضى طبقا للتصنيف الأمريكى "الإصدار الرابع" ثم قسموا إلى ثلاث مجموعات من المرضى: مرضى الفصام، مرضى الفصام الوجدانى، نوع الهوس ومرضى الفصام الوجدانى مع الإكتئاب واستعمل مقياسا تقويم الأعراض السالبة والأعراض الموجبة.

وقد اشارت نتائج البحث إلى الأعراض السالبة والموجبة كان لكل منهما دلالة نحو التشخيص الفرقى بين الفصام والمجموعتين الذهانيتين الأخريين ومع ذلك فقد اظهرت الأعراض السالبة فرقا أكثر دلالة من الأعراض الموجبة بين المجموعات التشخيصية.

وقد كانت أعراض معينة أشد حدة فى مجموعة تشخيصية بعينها تمثلت فى : اندفاع الكلام بالنسبة لمرضى الفصام الوجدانى نوع الهوس؛ الشعور بالذنب بالنسبة لمرضى الفصام الوجدانى نوع الإكتئاب؛ درجات عالية على مقياس الأعراض السالبة فى كل من مرضى الفصام الوجدانى "نوع الإكتئاب"؛ العاطفة الغير متناسبة فى مرضى الفصام؛ وثلاثة من الأعراض المندرجة تحت معيار التبلد العاطفى. (التعبير الوجهى الثابت؛ قلت الحركات الذاتية وندرت الإيماءات التعبيرية) بالنسبة لمرضى الفصام الوجدانى نوع الإكتئاب.