

## EVALUATION OF WORRY IN PATIENTS WITH SCHIZOPHRENIA AND PERSECUTORY DELUSION COMPARED WITH GENERAL POPULATION

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**Abstract:** Anxiety and worry may be the key emotions involved in the formation of delusions of persecution, though other affective processes (depression, anger) may have some contribution. Prospective and retrospective clinical studies conducted have shown that in most cases, symptoms of anxiety, worry, depression and irritability preceding the positive symptoms with 2-4 weeks.

**AIMS:** The study was based on the assumption that people with schizophrenia have delusions of persecution show high levels of worry. The research objective was to assess the presence of worry and measure its severity in these patients.

**METHODS:** The study was prospective and naturalistic in which paranoid schizophrenic patients selected were evaluated in a single psychiatric visits at enrollment during 1 January 2011 and 31 December 2011. 120 patients were analyzed in terms of demographics, age of onset of mental illness, duration of illness, severity of delusional ideation, the presence of worry and antipsychotic treatment. The results were compared with a control group consisting of 60 healthy subjects, selected from the medical staff and the hospital auxiliary.

**RESULTS:** The study included 120 patients with schizophrenia paranoid, 84 women (70%), 36 men (30%) women with a mean age of 36.07 years (SD 6.53) and 37.12 years (SD 2.98) in men.

Age of onset of mental illness was lower for men (21.23 vs 22.36,  $p = 0.24$ ). Proved to be statistically significant during the study, which was higher for women ( $p = 0.001$ ) compared to men. It was a significant difference in worry for patients with schizophrenia and delusional ideation persecution, which was higher than control group (51.98 vs 34.70,  $p = 0.0001$ ).

**CONCLUSIONS:** Study results shows that the worry is present in clinically significant levels in the group with schizophrenia compared with controls. Concern has an important impact by contributing to the distress associated with delusions in delusional conviction and severity of delusions of persecution.

**Key words:** schizophrenia, worry, delusion of persecution.

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## 1. Introduction

Many authors consider psychosis as a consequence of complex and multifactorial elements, involving biological, psychological and social factors [12].

Cognitive models of delusions accept the part of biological processes but emphasize the contribution of psychological mechanisms, involving emotional and reasoning processes, to the development and persistence of psychosis [1], [7], [12], [13]. In schizophrenia, persecutory delusions are the most common type of delusion, affecting more than 80%, [16] which conducted to the most theoretical attention [1], [10].

It is assumed that anxiety and worry are key emotions involved in the formation of delusions of persecution, though other processes affective (depression, anger) may have some contribution. In most cases the content of delusional ideation is consistent with the patient's emotional status. Prospective and retrospective clinical studies conducted have shown that in most cases (60-80 %) symptoms of anxiety, worry, depression and irritability 2-4 weeks preceding the positive symptoms, often accompanied by minor changes in the cognitive [6], [9].

## 2. Aims

The study was based on the assumption that people with schizophrenia have delusions of persecution show high levels of concern. The research objective was to assess the presence of worry and measure its severity in these types of patients.

## 3. Methods

The study was prospective and naturalistic and paranoid schizophrenic

patients selected were evaluated in a single psychiatric visit at enrollment. The first phase of the study was to select cases by a screening of patients with paranoid schizophrenia hospitalized in Psychiatry and Neurology Brasov 1 January 2011-31 December 2011. During this period, each patient aged 18-45 years who met criteria for ICD-10 and DSM-IV-TR for paranoid schizophrenia, was informed of the opportunity to participate in a study to assess concerns and its impact on suicidal delirium of persecution. Of the eligible patients who met the diagnostic criteria, 120 were willing to participate in the study and signed informed consent (group S). Were analyzed demographics, age of onset of mental illness, duration of illness, severity of delusional ideation of persecution, the presence of worry, antipsychotic treatment.

The results were compared with those of a control group consisting of 60 healthy subjects and psychiatrically had significant somatic valuation date, selected from the medical staff and the hospital auxiliary.

## 4. Investigation instruments

PANSS scale was developed by Kay et al. [15] to measure the severity of psychopathology in adults with schizophrenia, schizoaffective disorder, and other psychoses the positive and negative symptoms are present. Scale is based on the theoretical construct of positive and negative symptoms. It comprises 30 items that were borrowed from the Brief Psychiatric Rating Scale and the Psychopathology Rating Scale. Items were selected so as to cover only those symptoms which are conceptual lack of ambiguity, which differ slightly from each other and may be considered the

primary features that are derived from other psycho-pathological changes. In addition, selected items covering the whole spectrum of functional disorders, namely cognitive, emotional, social and communication. Each item is defined in detail and is rated on a scale comprising seven anchors according to severity from absent to severe, and these anchors are also defined to improve confidence. The scale includes three subscales:

- subscale positive symptoms (scale P) with 7 items: delusions, conceptual disorganization, hallucinatory behavior, excitement, grandiosity, suspicion or persecution, and hostility;
- subscale negative symptoms (N scale) with 7 items: blunting of affect, emotional withdrawal, poor reporting, apathy/social passivity, difficulty in abstract thinking, lack of spontaneity and fluency in conversation, and stereotyped thinking;
- general psychopathology subscale (scale G) 16 items: somatic concern, anxiety, guilt feelings, tension, mannerisms and postures, depression, slowness of movement, lack of cooperation, unusual thought content, disorientation, disturbance in attention, lack disease awareness (insight), disorders of will, loss of impulse control, preoccupation and social withdrawal.

It is used in current clinical practice for assessing severity, to identify target symptoms and to assess relapse or rehabilitation, as well as research and psychopharmacological studies. To increase confidence measure PANSS scale, Opler et al. [20] have developed a semi-structured interview that allows the interviewer to assess the topic organized and orderly collect information that then

lead to the listing of each item of the PANSS scale. This interview is given in the second part of the evaluation meeting after the first hand information and general discussion.

PSYRATS (The Psychotic Symptom Rating Scales) developed by Haddock et al. is divided into two subscales: one measures auditory hallucinations and other measures delusions. Each subscale measures the presence and severity of some psychotic symptoms in different ways. Subscales are useful for measuring the positive symptoms of schizophrenia treatment outcomes and can be used to determine how the symptoms vary over time after using the treatment. PSYRATS be completed by a clinician using a structured interview. All items are ranked from 0-4, according to general criteria [3].

Questionnaire Penn State (Pennsylvania State) is a tool Evaluation 16 items developed by Meyer et al. [17] to measure the characteristics of pathological worry. The questionnaire has good psychometric properties (validity and confidence) and is sensitive to the changes of therapeutic intervention and identify individuals with generalized anxiety disorder. Each item is rated on a scale of 5 steps from 1-5. Such scale can give a score from 0 to 80. Receiver Operating Characteristic Analysis method is considered that a score of 65 represents a point where PSWQ has the highest sensitivity to the higher specificity [11]. Testing multiple factorial designs, Olatunji et al. [19] found that the scale shows two factors: excessive worry and absence of worry and excessive care factor (items no. 2, 4-7, 9, 12-16) strongly correlated with factors such as negative affect and pessimism of other instruments evaluation.

## 5. Statistical analysis

Statistical analysis of data was based on the test *t* (Student) which supports a hypothesis if the sample observed differ materially from expected results, or conversely, refuses hypothesis if the difference is significant, analysis of variance (ANOVA), discriminate function analysis and logic and multiple regression method. Additional statistical analyzes included test (chi square) to interpret the relationship between categorical variables. For statistical significance was used as the threshold value of  $p < 0.05$ .

## 6. Results

### 6.1. Demographics and clinical characteristics

The study included 120 patients with paranoid schizophrenia, 84 women (70%), 36 men (30%) with a mean age of 36.07 years in women (SD 6.53) and 37.12 years (SD 2.98) in men. Age of onset of mental illness was lower for men (21.23 vs. 22.36,  $p = 0.24$ ).

Education was higher for women ( $p=0.001$ ) in terms of number of years, statistically significant.

*Group analysis*

Table 1

Variables	Mean	Mean	Valid	Valid	S.D.	S.D.	F-ratio	p
	F	M	N	N	F	M		
Age [years]	36.07	37.12	84	36	6.53	2.98	4.79	0.2
Education [years]	13.14	11.66	84	36	2.60	0.95	7.40	<b>0.001</b>
Age of onset [years]	22.36	21.23	84	36	12.17	13.62	1.36	0.24
Duration of illness [years]	13.70	15.76	84	36	10.65	10.28	1.07	0.83
PSWQ	53.34	48.77	84	36	12.75	10.48	1.47	0.19
PSYRATS-D	22.13	21.68	84	36	10.36	8.46	1.49	0.18
PANSS	88.57	91.66	84	36	32.17	37.62	1.36	0.24

Psychotic symptoms at the measurement date had relatively high scores on the PANSS scale, contained an average of 88.57 (SD 32.17) for women and 91.66 (SD 37.62) for men. Maximum values recorded were 110 for men and 99 for women.

Delusional ideation was assessed by persecution subscale for (PSYRATS-D). Averages were 22.13 (SD 10.35) for women and 21.68 (SD 8.46) for men. Worry assessed by using the Penn was lower for men than for women (48.77 vs.53.34,  $p=0.19$ ).

### 6.2. Treatment

All 120 patients enrolled were treated with antipsychotics to date. Of all patients, the majority received treatment with atypical antipsychotics (75.83%). The largest share they had olanzapine-treated patients (30.83%), followed by haloperidol (24.17%) and clozapine (11.6%). Average dose used in patients with schizophrenia and delusions of persecution were 6.98 mg / day for haloperidol, quetiapine 557.14 mg/day, 392.85 mg/day for clozapine, 13.37 mg/day for olanzapine 13.33 mg/day

for aripiprazole, 4.3 mg/day of risperidone and 440.9 mg/day amisulpride.

Duration of hospital stay was longer for patients with PSWQ score > 22, regardless of sex, while being correlated with PANSS scores > 110 ( $p < 0.05$ ).

### 6.3. Comparative analysis with control group

Analysis of the results obtained with schizophrenic lot (Lot S) and the control

group is shown in Table 2. The average age in the two groups was relatively equal (36.35 vs. 34.73,  $p = 0.08$ ). There was a significant difference in the number of years of study, which was higher for the control group (15.83 vs. 12.70,  $p=0.0001$ ).

Also a significant difference in terms of concern for patients with schizophrenia and delusion of persecution, which was higher than control group (51.98 vs 34.70,  $p=0.0001$ ).

*Comparative analysis of results*

Table 2

Variables	Mean	Mean	Valid N	Valid N	S.D.	S.D.	p
	Lot S	Lot C	Lot S	control	Lot S	control	
Age[years]	36.35	34.73	120	60	5.71	7.56	0.08
Education [years]	12.70	15.83	120	60	2.34	2.44	<b>0.0001</b>
PSWQ	51.98	34.70	120	60	12.26	7.54	<b>0.0001</b>

## 7. Discussions

Evaluation of worry with PSWQ showed the presence of a high level of worry in the group with schizophrenia. 16-39 interval scores which defines mild worry were found in 46 patients (38.33%), between 40-59 moderate worry) there were 58 patients (48.33%) and 60 (severe worry) 46 patients (36.33%). If you appreciated the value of the cut-off point=45 which defines the difference between worry, normal, and that clinically significant when a number of 83 (69.16 %) patients with schizophrenia within the range indicating clinically significant concern.

Comparative analysis of the control group showed significant differences in the average level of concern in patients with schizophrenia compared to healthy controls (51.98 vs. 34.70,  $p=0.0001$ ).

Delusional ideation persecution assessed using PSYRATS-D scale showed the

presence in the group with schizophrenia values greater than 15, the value indicated by the authors as the cut -off limit between normal and pathological scores revealed by our study averaging 21, with no gender differences. The result is significant in idea that treatment of worry in patients with delusions of persecution could reduce the intensity of psychotic symptom. The hypothesis that worry would be a factor playing a role in maintaining psychotic phenomena, regardless of the intensity of the psychotic symptoms are relatively new. Psychotic patients and those with anxiety disorders showed significantly higher levels of worry compared with healthy control groups according to Morrison and Wells [18].

The results suggest that about two thirds of patients with delusions of persecution experiencing pathological levels of concern (63 %) and that worry is

associated with distress in delusional beliefs.

These results are consistent with previous studies [5], [8], [18], [21] and the observation that anxiety and concern specifically, can impact the maintenance of delusional ideation in accordance with the model proposed by Freeman et al.

Identification of delusional ideation correlation between persecution and anxiety can cause the development and improvement of therapeutic methods, the most studied being psychotherapeutic interventions, particularly cognitive-behavioral therapy added to antipsychotic treatment [4], [14]. It has been shown that is a common concern in patients with delusions of persecution and is associated with the highest levels of delusional ideation, as a predictive factor for persistent symptoms.

The findings of our study, the first of its kind in Romania, highlights the importance of assessing worry in people diagnosed with schizophrenia and having delusions of persecution in terms of the impact it has on the phenomenology of psychotic. It is possible that the approach concerns the treatment of these patients will lead to lower levels of emotional distress associated with delusions and subsequently reducing the delusional belief and concern.

Future randomized studies will assess worry, both in terms of pharmacological and psychotherapeutical approach may prove the existence of this model in the generation and maintenance of delusions of persecution ideation in patients with schizophrenia.

The present study had some limitations including relatively small numbers of cases, not randomized.

## 8. Conclusions

Study results shows that the worry is present in clinically significant levels in the group with schizophrenia compared with controls.

Concern has an important impact by contributing to the distress associated with delusions in delusional conviction and severity of delusions of persecution.

Psychological processes underlying the concerns highlighted in individuals diagnosed with schizophrenia may be different from those present in subjects who reported concern in the absence of pathological diagnosis.

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