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THE ROLE OF THERAPEUTIC ACTIVITIES IN THE RECOVERY OF PEOPLE TREATED FOR SCHIZOPHRENIA SPECTRUM DISORDERS

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Summary

Objectives. The aim of the study is to learn about the function of active participation of hospitalized patients diagnosed with schizophrenia who took part in the therapeutic activities and its effect on recovery. In the treatment of people with schizophrenia, the use of antipsychotic drugs is standard, but in many patients, the improvement in functioning is not fully satisfactory. It is highly reasonable to include therapeutic-based relations in the treatment process.
Methods. The research was conducted on 134 patients hospitalized at 24/7 departments who have been diagnosed with paranoid schizophrenia or schizoaffective psychosis. The level of psychopathology syndrome escalation was measured by the Positive and Negative Syndrome Scale (PANSS) S. R. Kay, L. A. Opler, A. Fiszbein and a questionnaire of the researcher's authorship that allows defining the level of a patient's commitment into therapy. Two subgroups were distinguished, based on proprietary criteria taken from examination: one with a positive effect on the health and the other that failed to succeed. The selected groups were brought into comparison according to differences between the recovery level of the patients and the frequency of participation in the therapeutic activities.
Results. The patients' attendance in therapeutic activities (occupational therapy, psychoeducation, psycho-drawing, music therapy, group psychotherapy, individual psychotherapy, patient club) among the group with positive recovery effect was significantly superior to the group with negative recovery effect.
Conclusions. Active and systematic participation in therapeutic activities was relevantly supportive of the recovery of the patients diagnosed with schizophrenia disorders.

Introduction

Schizophrenic disorders are complex mental disorders caused by biological, psychological, and socio-cultural factors. The recovery from psychosis has become an important issue in medical and social sciences in recent years. Drug treatment using

neuroleptics is effective in reducing the severity of psychotic symptoms as well as preventing the recurrence of the illness. However, a breakthrough in the treatment of mental disorders that occurred thanks to the introduction of neuroleptics over half a century ago has not lived up to the expectations of psychiatrists or patients. About 30% of patients diagnosed with schizophrenia show a weak or even no response to antipsychotic drugs [1–3]. Currently, apart from the need to improve new generation antipsychotic drugs, it becomes necessary to search for effective, non-pharmacological support for people diagnosed with schizophrenia. There is no unequivocal evidence that schizophrenic disorders are caused solely by abnormal brain functioning. In the latest edition of the American Diagnostic Manual DSM-5 [4] biological indicators of schizophrenia are not included, as, despite enormous progress in brain neuroimaging and development of genetic research, biological correlates of schizophrenic disorders have not been identified yet. Therefore, it seems justified to include also non-pharmacological forms to the treatment of schizophrenia.

Psychosocial therapy is now considered important in strengthening the subjective resources of people with mental health disorders. An increasing number of research reports and clinical experience provides evidence for the effectiveness of comprehensive treatment of schizophrenia, including pharmacological treatment combined with psychosocial support [5, 6]. Support for the view that both drug therapy and psychotherapy cause similar brain changes is becoming increasingly accepted among researchers. According to A.C. Lotterman [7], psychotherapeutic work with patients suffering from schizophrenia can be very difficult and sometimes discouraging. On the other hand, he also notes that a relationship with the therapist can make it easier for the patient to take medications systematically, as well as reduce psychotic symptoms and recover from deep social isolation.

Building a relationship with the patient and individualizing their therapeutic program remains a basic value in the recovery process [8]. Psychotherapy of people with psychosis requires great personal skills, considerable flexibility, and the ability to integrate various psychotherapeutic perspectives [5]. British researchers reviewed 34 studies to assess the impact of different types of group psychotherapy on the treatment of people with schizophrenia [9]. This meta-analysis showed that group psychotherapy significantly contributes to the reduction of negative symptoms and the improvement of social functioning in patients suffering from schizophrenia. In one study, a relationship between participation in art therapy and improvement of functioning of people diagnosed with schizophrenia was studied. There was no significant change in the overall functioning of patients using art therapy [10].

An interesting study was conducted among young Croatian patients diagnosed with schizophrenia who took part in an early intervention program. It was found that cognitive functions of people who participated in a long-term psychoanalytical psychotherapy and psycho-education classes improved significantly after three years compared to the functioning of people who participated only in psycho-education classes [11]. An exploratory meta-analysis of studies from the last 25 years (42 articles) involving patients diagnosed with schizophrenia that did not respond to antipsychotic treatment confirmed the significant importance of therapeutic activity in the recovery from schizophrenia [12]. The analysis showed that psychological support (behavioral-cognitive psychotherapy, psychodynamic psychotherapy, supportive therapy, psychosocial interventions) for refractory schizophrenia patients is effective in reducing general psychopathological and positive symptoms, while affecting negative symptoms to a lesser extent. Most studies also document the value of using group therapy.

A study conducted by Chinese clinicians among 91 patients suffering from schizophrenia revealed a significant reduction of symptoms' severity and improvement of psychosocial functioning in a group that, apart from taking drugs (risperidone), participated also in psychotherapy. The level of improvement was monitored during the period of one year [13].

Method

Study group

The tests were carried out in psychiatric clinics in Poland. Hospital wards were selected to make sure that all therapeutic activities included in the study were available to patients and conducted in a similar way in all hospital wards. The study group consisted of 134 people: 118 patients diagnosed with paranoid schizophrenia and 16 patients diagnosed with schizoaffective disorder. The patients were included in the study group based on the following criteria: 1) diagnosis of paranoid schizophrenia or schizoaffective psychosis in accordance with the ICD-10 criteria 2) hospitalization for at least the third time, which gives greater diagnostic accuracy for schizophrenia disorders than *e.g.* the first hospital stay, but no more than the tenth time (to exclude patients with residual schizophrenia); 3) logical verbal contact while completing psychological tests. Exclusion criteria were as follows: 1) alcohol or drug addiction; 2) damage to the central nervous system.

The severity of the patient's psychopathological symptoms was assessed twice by the same clinical psychologist using the Positive and Negative Symptoms Scale (PANSS) by S.R.

Kay, L.A. Opler, A. Fiszbein [14]: at the beginning of the hospital stay and on the day of discharge.

Participants were informed about the procedure and scientific purpose of the project and expressed informed consent to participate in the study.

Based on the results of PANSS, two groups of patients were selected of the overall 134 examined participants: the first group consisted of patients with a positive recovery effect (N = 41, including 36 patients diagnosed with paranoid schizophrenia and 5 patients with schizoaffective disorder) and the other group consisted of patients with a negative recovery effect (N = 22, including 20 patients diagnosed with paranoid schizophrenia and 2 patients with schizoaffective disorder).

Table 1. **Demographic and clinical characteristics of the study groups**

Variables	Group I (positive recovery effect) (N=41)	Group II (negative recovery effect) (N=22)
Gender		
male	18 (43.90%)	15 (68.18%)
female	23 (56.10%)	7 (31.82%)
Age (years) M (SD)	36.90 (7.97)	35.68 (9.02)
Place of residence		
urban	21 (51.22%)	11 (50%)
rural	20 (48.78%)	11 (50%)
Marital status		
never married	27 (65.85%)	18 (81.82%)
married	8 (19.52%)	3 (13.64%)
divorced	6 (14.63%)	1 (4.54%)
Patient's age during the first onset of the disease M (SD)	25.93 (5.31)	23.45 (6.33)
Number of hospitalizations M (SD)	5.07 (2.26)	5.36 (2.61)
Length of the current hospitalization (days) M (SD)	59.48 (36.51)	65.18 (45.45)

M = Mean; SD = Standard Deviation

Recovery from schizophrenia is a multidimensional concept that is increasingly being used in psychiatry. However, recovery criteria have still not been established [15]. The Remission in Schizophrenia Working Group, an expert group chaired by Andreasen [16], published symptomatic remission criteria based on PANSS scores together with a time criterion. According to Andreasen [16], remission can be diagnosed when 8 selected symptoms from PANSS scored no higher than 1-3 points (mild severity) for at least 6 months. The distinguished symptoms are: delusions (P1), conceptual disorganization (P2), hallucinatory behavior (P3), blunted affect (N1), passive-apathetic social withdrawal (N4), lack of spontaneity and flow of conversation (N6), mannerisms and posturing (G5), unusual

thought content (G9). As this study aims to look for symptoms that indicate the beginning of the recovery process in patients leaving hospital, the author's own, more stringent criteria were adopted compared to the remission criteria distinguished by Andreasen [16]. People with a similar initial level of severity of psychopathological symptoms were selected to experimental groups.

The positive effect of remission is considered not only in terms of the severity of psychopathological symptoms at the end of hospitalization but also the range of disease symptoms at the beginning of the treatment in the psychiatric clinic. In determining the criteria for the selection of patients to the extreme experimental groups, *i.e.* with positive and negative healing effects, an overall PANSS score of 90 points or more was taken into account at the initial stage of hospitalization. This first criterion allowed to select those patients who experienced worsening of schizophrenia symptoms and eliminate those patients who exhibited mild schizophrenia symptoms at the beginning of hospitalization.

The second selection criterion was the severity of psychopathological symptoms at the final stage of treatment, just before the hospital discharge. Generally, the score of 60 points or lower in PANSS is taken as an indicator of improvement of schizophrenia symptoms [17]. In the present study, the patients who obtained a result lower than 60 in the second PANSS measurement were selected to the group with a positive recovery effect. The next criterion was the score obtained on the 8 selected subscales of PANSS in the second measurement as distinguished by Andreasen [16]. Thus, patients belonging to the group with a positive recovery effect met all the criteria for symptomatic remission, except for the time criterion proposed by Andreasen [16]. As the average stay of patients in psychiatric clinics was less than two months, meeting the 6-months condition was not possible in this study. It is worth noting that people belonging to the group with a positive recovery effect obtained a score above 90 points in the initial PANSS measurement, as did patients in the second group (the only common criterion for both groups). On the other hand, people from the negative recovery effect group did not meet the symptomatic remission criteria; in other words, the severity of the 8 selected PANSS symptoms was above mild (between 4 and 7 points) in these patients. A score in PANSS above 60 points at the end of hospitalization pointed to the worsening of schizophrenia symptoms. Therefore, the patients who scored 60 points or more in the second PANSS measurement were selected to the group with a negative recovery effect. Table 2 summarizes the criteria used for the selection of patients to both groups.

Table 2. **Author's criteria for the selection of patients to groups with positive and negative recovery effects**

GROUP I (with a positive recovery effect) N=41	GROUP II (with a negative recovery effect) N=22
2 PANSS 8 items (P1, P2, P3, N1, N4, N6, G5, G9) max score of 3 points (remission)	2 PANSS 8 items (P1, P2, P3, N1, N4, N6, G5, G9) score within the range of 4-7 points (without remission)
1 PANSS T > 90	1 PANSS T > 90
2 PANSS T < 60	2 PANSS T > 60

1 PANSS – measurement at the beginning of hospitalization; 2 PANSS – measurement at the end of hospitalization; 1 PANSS T – total score in PANSS at the beginning of hospitalization; 2 PANSS T – total score in PANSS at the end of hospitalization;
P1 – delusions, P2 – conceptual disorganization, P3– hallucinatory behavior, N1– blunted affect, N4– passive-apathetic social withdrawal, N6 – lack of spontaneity & flow of conversation, G5 – mannerisms and posturing, G9 – unusual thought content.

Research tools

The following research tools were used: Positive and Negative Symptoms Scale (PANSS) by S.R. Kay, L.A. Opler, A. Fiszbein to assess the level of severity of psychopathological symptoms; the author's own questionnaire containing demographic data and questions to determine the degree of the patient's involvement in therapeutic classes. Patients were asked to indicate how frequently they participated in individual therapeutic activities.

The Positive and Negative Symptoms Scale is a tool widely recognized and used in scientific research; its psychometric parameters raise no objections.

Description of therapeutic activities

All patients participating in the study were encouraged to participate in therapeutic classes. The proposed forms of therapy included activity therapy, psycho-education classes, group psychotherapy, individual psychotherapy, and the patients' club. Activity therapy workshops aimed to raise and develop the patients' interests. The role of the therapist was to motivate the patients to participate in classes, engage them adequately to their capabilities at a given stage of the disease. The patients were also encouraged to discover, develop and improve their skills, as well as to attempt to establish interpersonal relations. As part of activity therapy, the participants had the opportunity to choose a variety of workshops: weaving, embroidery, painting (on easels, glass), sewing (manual and using a machine), small carpentry work,

metalwork, creating occasional decorations and toys. Psycho-education was another form of therapeutic activity offered to patients and their families. Classes were conducted in small groups. During psycho-education workshops, patients were encouraged to learn more about their disease, actively participate in drug treatment, name side effects and find ways to deal with them. They learned to recognize early symptoms of the disease (they created individual lists of warning signals) and developed strategies for dealing with difficult situations. They also acquired the ability to recognize chronic symptoms and cope with them in everyday life. In psycho-education classes, apart from the knowledge about the disease, a warm, emphatic and accepting therapist who understands the patients' needs at different stages of the illness is not to be overrated. Psycho-education is a form of help that can also be used by the patient's family and spouses. The patients were also given the opportunity to participate in individual psychotherapy. This form of psychological help is based on a therapeutic relationship. It is important that the therapist be available and accompanied the patients in difficult situations, during crisis and deterioration of their mental state, as well as during their personal, emotionally overwhelming experiences. Understanding shown by the therapist during an acute mental crisis is of great importance to the recovery process. The therapist can help rebuild the patient's sense of security at an early stage of the disease by accompanying them in suffering, offering support, providing positive experiences that help the patient overcome unpleasant symptoms of the disease. In individual psychotherapy, the therapist created a climate for naming and formulating experiences related to psychotic experiences.

Depending on their mental state, the patients could participate in group psychotherapy during hospitalization. Most often, participation in a small open group was proposed. The purpose of group meetings was to shape social skills. Patients worked on overcoming discomfort manifested in interpersonal contacts. The group had also the opportunity to receive emotional support, as well as search for solutions as to how to behave in difficult interpersonal situations, resulting from the specificity of schizophrenia. Patients were also encouraged to participate in the patients' club, where they could prepare coffee, tea, spend time together, play board games, and take part in art classes. While staying in the club, the patients were inspired to start conversations and make contact with other people.

The relationship between the frequency of participation in therapeutic classes and the degree of patients' recovery was measured by the Mann-Whitney U Test.

Results

The presentation of research results begins with the analysis of differences in means between the two groups distinguished by the level of severity of psychopathological symptoms (Table 3).

Table 3. **Differences between the mean results on scales describing the severity of psychopathological symptoms in PANSS by group membership: positive recovery effect and negative recovery effect groups**

PANSS SCALE	Group I positive recovery effect (n=41)			Group II negative recovery effect (n=22)			t (61)*	p
	M	*SD*	SD^2	*M*	*SD*	SD^2		
1PANSS P	27.59	6.00	36.00	27.95	7.88	62.09	-0.21	0.8358
1PANSS N	25.54	5.96	35.52	28.55	5.61	31.47	-1.95	0.0560
1PANSS G	54.85	8.75	76.56	56.82	11.91	141.85	-0.75	0.4581
1PANSS T	107.98	15.32	234.70	113.18	20.94	438.48	-1.13	0.2637
2PANSS P	9.63	2.51	6.30	18.82	5.47	29.92	X**	X
2PANSS N	11.31	3.20	10.24	22.27	4.51	20.34	-11.19	0.0000
2PANSS G	23.71	4.84	23.43	41.45	7.14	50.98	-11.69	0.0000
2PANSS T	44.66	8.71	75.86	82.55	14.47	209.39	-12.98	0.0000

* Assumption of homogeneity of variance was checked using Levene's test, as in other analyses.
** Relatively high differences between means were obtained with the unfulfilled assumption of homogeneity of variance.
1 PANSS P – subscale of positive symptoms, measurement at the beginning of hospitalization; 1 PANSS N – subscale of negative symptoms, measurement at the beginning of hospitalization; 1 PANSS G – subscale of general psychopathology, measurement at the beginning of hospitalization; 1 PANSS T – sum of scores of the three subscales at the beginning of hospitalization;
2 PANSS P – subscale of positive symptoms, measurement at the end of hospitalization; 2 PANSS N – subscale of negative symptoms, measurement at the end of hospitalization; 2 PANSS G – subscale of general psychopathology, measurement at the end of hospitalization; 2 PANSS T – sum of scores of the three subscales at the end of hospitalization.

The results obtained in PANSS by the two experimental groups were compared using the Student's t test. There were no statistically significant differences between the positive and negative recovery effect groups in the PANNS sum score on admission to hospital, as well as on the Positive and Negative Symptom Scale and the General Psychopathology Scale of PANSS. In this way, the author's assumption that the initial severity of schizophrenia symptoms was similar in the two groups was confirmed. Also, the Student's t test revealed significant differences between the two distinguished groups in the PANNS total score and its two components (Negative Symptom Scale and the General Psychopathology Scale) just before discharge from hospital. In the case of positive symptoms measured at the end of

hospitalization, a relatively high difference between the means was found, indicating greater severity of symptoms in the group with a negative recovery effect; yet, the result was obtained with an unfulfilled assumption of homogeneity of variance in the compared groups. The analysis of the means from Table 3 shows that the groups differed in the severity of positive and negative symptoms, general psychopathology symptoms as well as in the total score.

Next, the relationship between the frequency of participation in therapeutic classes and the degree of recovery was analyzed. The frequency of participation in various forms of therapy was measured with a four-point scale questionnaire: never (1), sometimes (2), often (3), or always (4).

Table 4. **Differences in the frequency of participation in various forms of therapy in positive recovery effect and negative recovery effect groups (Mann-Whitney U Test)**

Frequency of the patient's participation in:	Sum of ranks Group I (n=41)	Sum of ranks Group II (n=22)	U	p	Z	P	corrected Z	P
activity therapy	1510	506	253.0	0.0038	2.848	0.0044	3.018	0.0025
psycho-education classes	1484	532	279.0	0.0126	2.473	0.0134	2.915	0.0036
art therapy	1288.5	727.5	427.5	0.7368	-0.332	0.7402	-0.392	0.6949
music therapy	1290	726	429.0	0.7584	-0.310	0.7566	-0.353	0.7244
group therapy	1472	544	291.0	0.0206	2.300	0.0215	2.681	0.0073
individual psychotherapy	1545	471	218.0	0.0006	3.352	0.0008	3.492	0.0005
patients' club	1102	914	241.0	0.0021	-3.021	0.0025	-3.737	0.0002

$p < 0.05$

The Mann-Whitney U test was used to measure intergroup differences in the frequency of patient participation in particular forms of therapy. The results indicate that patients from the compared groups differed in the frequency of participation in activity therapy, psycho-education classes, group and individual psychotherapy as well as in the patients' club. Patients belonging to the group with a positive recovery effect significantly more often participated in activity therapy, psycho-education classes, individual psychotherapy, and group psychotherapy. In contrast, patients from the group with a negative recovery effect were much more active in the patients' club. It should be noted that participating only in the patients' club was not enough for an effective recovery process to take place.

Discussion

The effectiveness of therapeutic interactions in the treatment of people suffering from schizophrenia is difficult to assess as the diagnostic criteria, pathogenetic concepts of schizophrenia, and research methodology have changed over time. A review of 46 studies on the effectiveness of group psychotherapy of people with schizophrenia was published by N. Kanas [18]. However, the studies were difficult to compare because of the heterogeneous methodology. It was found that in 24-hour wards in which group psychotherapy was conducted (22 studies), the effectiveness of treatment was significantly higher than among patients who were not offered the possibility of using group psychotherapy. However, eleven studies reported no benefit of using this form of therapy. The long-term effects of metacognitive narrative psychotherapy were studied by Schweitzer and others [19]. The effects of psychotherapy were assessed two years after its completion and it was found that this type of psychotherapy improved the condition of some of the people diagnosed with psychotic disorders. The effectiveness of group therapy was confirmed in 70% of studies. Seven-year catamnestic studies conducted in Kraków in a group of people suffering from schizophrenia suggest the effectiveness of environmental treatment (psychosocial interactions, participation of families in psycho-education workshops). Fewer relapses and rehospitalizations were noted in patients taking part in environmental programs [20].

In the presented research, significant differences in the recovery effects were found between patients participating in therapeutic classes and those that did not take part in the proposed forms of therapy. The active and systematic participation of hospitalized patients in such forms of therapy as: individual psychotherapy, group psychotherapy, psycho-education classes, and activity therapy proved to improve the patients' functioning. As Lotterman [7] pointed out, accompanying patients in their treatment program reduces psychopathological symptoms as well as increases the likelihood that they will take medications systematically. The research confirmed a significant impact of group interactions on the reduction of negative symptoms among the subjects; similar results were obtained among British patients [9]. Administration of antipsychotic drugs to patients with schizophrenia disorders should be considered as important to the recovery process as active participation in therapeutic classes, not as its replacement [21]. The presented research results, as well as those published to-date [5, 6, 8, 13], indicate that the simultaneous intake of antipsychotic drugs and participation in therapeutic classes increases the likelihood of recovery after a mental crisis. Offering various forms of therapy to patients who show poor response to drug treatment supports their recovery process.

Conclusions

The inclusion of psychosocial activities to the treatment of people suffering from schizophrenia cannot be overrated. Psychological forms of support are not merely additional elements to pharmacological treatment but constitute an integral part of the process of recovery from schizophrenia. In creating therapeutic programs, special attention should be given to comprehensive treatment offered to patients, including both adequate pharmacological treatment and appropriate, individualized therapeutic interactions. It is worth noting that help should focus primarily on the patient and less on the techniques and methods used in therapy.

Research limitations

In the present study, the number of hours in which patients were involved in various forms of therapeutic classes was not controlled. It could also be interesting to analyze the relationship between the therapists' personality traits and changes in the severity of patients' psychopathological symptoms.

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