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Family and peer resources in relation to psychological condition in patients with paranoid schizophrenia

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Summary

Aim of the study: The main objective of this study was seeking for the predictive role of social resources in maintaining the psychological condition by adults suffering from paranoid schizophrenia.

Subject or material and methods: The study group comprised 201 individuals, 95 females and 106 males, aged between 18 and 54, diagnosed with paranoid schizophrenia and being treated in psychiatric rehabilitation wards. The following instruments were used: clinical interview, a survey created the study, to measure life experience and coping with adverse life situations and their subjective outcomes for the social functioning, The Family Strengths Scale, The Perceived Social Support Scale, The Berne Questionnaire of Subjective Well-Being, The Positive and Negative Syndrome Scale, The Mood Scale, and The General Health Questionnaire. The correlation analysis and the path analysis were used.

Results: The results confirmed that family resources significantly and directly influence a decline in perceiving the psychological condition of patients with schizophrenia. Life experience intensifies disease indicators adverse to healing. More significance was discovered in the case of support from father and comrades. The higher support from comrades was significantly related with lower self-assessed mental health.

Discussion: The present study suggested that indicators of family and social support also mediate the intensity of indicators of healing and attenuation of disease indicators, and the source of support is highly important for the course of the disease.

Conclusions: The educational and psychotherapeutic actions aimed at enhancing beliefs concerning the role of family and peer support in the healing process should be included in the long-term treatment of patients with paranoid schizophrenia and their families.

schizophrenia, family, peer, psychological well-being, life experience

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INTRODUCTION

The role of family and social resources, including family and social support from peers in coping during the course of psychiatric rehabilitation in schizophrenia, is a research domain, whose analysis is vital for improving treatment

effectiveness and maintaining symptom progression. In line with psychological and medical knowledge, the level of health and illness is determined not solely by the individual's psychological resources and deficits, but also family and social health resources [1]. Scholarly interest in studies concerning the role of family factors in the origin of schizophrenia has shifted the direction of explorations in recent years from a perspective where family is a source of disorders (disease) to a point of view which treats it rather as a source "supportive for healing" of a patient with schizophrenia, including the assumption that the victim of the disease is both the patient and their family [2,3]. Apart from the buffer hypothesis, another groundwork supporting the multi-layer understanding of the relationship between family and social support and the course and treatment of schizophrenia is the family burden theory [2,3].

The concept of family burden denotes a result that mental illness exerts on individuals functioning with a patient suffering from a mental illness. While the objective, measurable health outcomes, are usually treated as objective burden, the subjective family burden describes the level of burden experienced by family members and is considered to be a category of distress [4-7]. In line with the family burden theory, the perception of schizophrenia and ways of coping with its course (i.e., psychiatric symptoms) and treatment are circular in nature, causing mutual relationships between experiencing the disease by a patient and experiencing it by family members [2,6,8-13].

Literature provides research results portraying patients with paranoid schizophrenia as differing in their risk factors (proneness to becoming ill), internal (personality) and external (family and social) resources as well as their course of the disease [14-16]. As it is claimed in the literature, levels of various risk and protective factors (i.e., personal, family and social resources) in patients can be understood as a potential source of shifting from remission towards prodrome states [17]. Authors of contemporary studies concerning the model of determinants and treating schizophrenia focus with increasing frequency not solely on risk factors for developing psychopathology, but also on the issue of protective factors – that is, resources occurring in the family and social setting and shaping the psychological condition of an individual suffering from schizophrenia [18-27]. Risk factors (e.g., lacking or insufficient family and/or social support) pose a threat to adapting positively to one's environment when faced with disease and treating it, while family and social resources reduce the level of negative influences exerted by risk factors in the development and treatment of schizophrenia [20-24,26,28].

Social support for a patient with schizophrenia involves objectively existing and accessible social networks (including family and peer setting). The model of the presented study was based on the assumption that the mentioned issue involves parents, i.e. the direct caretakers of the ill adults, who often do not support themselves on their own and function as adults within their family of origin. Also peer setting (i.e., comrades and friends) is a social network providing support for an individual with schizophrenia. As it is cited in literature, possessing positive interpersonal interactions or behaviors which are experienced by the individual in the situation of their chronic mental illness plays a regulatory role for emotions, thinking and behavior, which fosters better coping with consequences of the disease [29-30]. A network of family and social relationships is both a source and resource of social support for the individual both in the acute phase and chronic schizophrenia, lasting up to many years [17]. The role and significance of family and social support in a difficult situation has been confirmed by numerous study results, pointing to a significant role played by various forms of social and family support in improving the functioning and treatment of individuals suffering from post-traumatic stress [1] for the improvement of functioning in the situation of a chronic mental illness [19-21,24-26,29].

Apart from the descriptions of study results confirming the significance of broadly defined family and social support in the environments of patients with mental illnesses, which can be found in literature, studies involving a verification of the significance of father and mother figure and the role of comrades and friends of an individual with paranoid schizophrenia have proven to be empirically explored to a small degree. On the other hand, caretakers, i.e. parents:

mother, father, siblings and the individual's comrades-friends create their closes social setting, enhancing the control of coping with symptoms of the psychosis and, in turn, significantly supporting the process of psychiatric rehabilitation of patients with schizophrenia [19].

The psychological function of family and social support was explained by numerous theories, including the buffer hypothesis, according to which "the perceived and received social support in situations of strong stress serves as a buffer for the threat of pathology as it reduces the occurring stress tension and allows overcoming difficulties [1]. Perceived social support may influence the appraisal processes in the course of stress, shifting them from loss and threat to challenge [1]. Perceived social support is related to a lower level of experienced everyday stress and fosters undertaking effective forms of coping, while family support from the dear ones or possessing a network of social support cause the individual to be less prone to experiencing negative events [31].

Summarizing the characteristics and definitions of social support cited above, the authors of the presented study assumed that social support from comrades and family support from mother and/or father is a type of social interaction in a situation of chronic mental illness involving conveying or exchange of emotional, information, material or other goods between the giver and recipient of the help, which is experienced and declared by a subject diagnosed with schizophrenia [1]. The exchange is efficient when the type and magnitude of the support provided is relevant to the recipient's needs (in this case – the needs of an individual with schizophrenia). Owing to its importance for the positive course of treatment, measuring the mutual relationship between family resources (the positive beliefs of an ill individual concerning trust and loyalty in their family, experienced support from both mother and father), experienced support from the environment, e.g. comrades and friends, and the psychological condition of individuals with paranoid schizophrenia merits in-depth psychological explorations.

Having considered the presented results obtained by other researchers, the theoretical model of variables adopted in the presented study assumed that the subjects' positive beliefs concerning trust and loyalty in the family are an important family resource supporting the psychological condition in the course of treating individuals with paranoid schizophrenia. The variable was labeled as *positive beliefs* concerning trust and loyalty in the family – Family Strengths (MSR).

Secondly, the study model assumed that positive life experiences related to a lack of traumatic event experience and absence of high intensity of difficult situations in the course of the previous 12 months of a subject's life are another vital resource supporting the psychological condition of subjects with paranoid schizophrenia in the course of their treatment. The 12-month period of possible occurrence of difficult situations is the most popular and commonly accepted time frame, during which an individual naturally demonstrates adaptive or maladaptive behaviors, requiring family and social support, after experiencing a difficult situation (particularly a traumatic event). Another variable considered to be a family resource was defined as life experience – difficult situations (traumatic events) experienced within the past 12 months. Considering this variable to be a family resource was based on the assumption that young individuals suffering from schizophrenia are often constantly taken care of and financially supported (fully or partly) by their parents in conjunction with not leading a completely self-reliant family and personal life in their young age. Therefore, most diverse everyday life situations faced by these individuals and their ways of coping with them often involve the family environment. The research model of the presented study assumed family resources (positive beliefs concerning trust and loyalty in the family and stressful life situations during the past 12 months) to be a variable that directly influences the psychological condition of subjects with paranoid schizophrenia, or the abovementioned variables may indirectly influence the psychological condition of the subjects through the quality of the experienced support from mother and father and the experienced social support from comrades. A novelty in the presented research work is including an analysis of the potential multi-layer influence of the explanatory variables (environmental resources) on the psychological condition of subjects with paranoid schizophrenia in the study model.

The main aim of the presented article was to verify the assumption concerning the predictive role of family resources (in the form of internalized beliefs concerning trust and loyalty in the family, perceptions of life experience connected with difficult situations occurring in the family environment) and perceived family support (including support from mother and father) and perceived social support (from comrades and friends) in maintaining the psychological condition by young people suffering from paranoid schizophrenia. The study verified the relationship between family resources, social resources and the level of psychological condition in the course of suffering from and treatment of schizophrenia. The assessed indicators of the psychological condition in the sample were the following: assessed frequency of hospitalizations in the subjects' lives to date, assessed psychiatric symptomatology (negative and positive symptoms and the involved emotional and cognitive deficits) self-assessed mental health and assessed positive/negative mood (including depressiveness). Higher levels of the presented components of family and social resources were expected to significantly predict a better psychological condition and more effective recovery course in patients with paranoid schizophrenia.

Specifically, the research objective was to seek answers to the following research questions:

1) Do positive beliefs concerning trust and loyalty in the family held by patients with paranoid schizophrenia and perceptions concerning life experience connected with the occurrence of difficult situations in the family setting explain the level of psychological condition in the course of treating schizophrenia, and to what degree?
2) Does family and social (comrades') support explain the level of psychological condition in the course of suffering from paranoid schizophrenia, and to what degree?
3) Does family support (from mother and father) and social support (from comrades) moderate the influence of the difficult (stressful) situations experienced in the past 12 months by individuals with schizophrenia on their level of psychological condition, and to what degree?

MATERIALS AND METHODS

Procedure

The study was conducted in the years 2013-2016 in three psychiatric rehabilitation wards located in a psychiatric clinic gathering patients with schizophrenia from the whole country of Poland. The purpose sampling method was adopted.

The study involved the following, independent (explanatory) variables:

1) *life experiences – difficult situations*, defined as the various stress situations assessed by the individual as unfavorable for their everyday functioning and related to lacking influence on the occurring situation, low rating of possibilities to cope with the situation efficiently and evaluating it negatively for the context of the subject's further life.
2) *positive beliefs,* concerning trust and loyalty in the family.
3) *family and social resources*, defined as family support (from mother and father) and social (peer) support, experienced by the individual in the form of experienced family and social relations, supporting the adaptation process and the health potential in a patient with paranoid schizophrenia.

The following sociodemographic variables were also controlled for: age, gender, education, source of income, family type, family's economic situation, parents' education and living conditions. The mentioned data was obtained from medical records (clinical interview).

The dependent (explained) variable identified in the study model was:

1) *psychological condition*, defined as the level of overall psychophysiological efficacy, currently existing in a patient with schizophrenia and manifesting itself through the following: subjective assessment of one's own mental health, mood (including depressiveness), assessment of the experienced physical ailments and the intensity of psychiatric symptomatology (i.e., positive and negative symptoms, cognitive and emotional deficits).

The explained variable was verified through measuring the following indices: hospitalization index (i.e., the total number of hospitalizations

due to symptom exacerbation and necessity of treatment), psychiatric symptomatology index (i.e., the level of current disease symptoms–positive and negative, the individual's subjective assessment of their own mental health, assessment of mood and depressiveness).

Participants

The sample comprised a total of 250 patients with paranoid schizophrenia, aged between 18 and 62. The following criteria for sample inclusion were adopted: individuals subjected to psychiatric rehabilitation, hospitalized in the mentioned psychiatric clinics, with a documented diagnosis of paranoid schizophrenia F20.0 (32), whose psychological state was defined as stable and allowing them to fill out the questionnaire set solidly, as defined by a medical practitioner. Exclusion from the sample was based on the following criteria: individuals, in acute psychosis, patients hospitalized in the mentioned psychiatric clinics diagnosed with schizophrenia in conjunction with substance abuse, diagnosed with other mental disorders or with no diagnosed mental disorder. Initially 250 individuals diagnosed with paranoid schizophrenia (F20.0 based on ICD10 [32]) were subjected to the study procedure.

In order to increase the reliability of the answers provided and to create opportunity to explain potential doubts concerning the meaning of certain questions, subjects filled out the questionnaires in the presence of a research team member. Individuals who resigned from participation in the study during the course of completing the questionnaire were excluded from the study. As a result of that, the procedure was completed by 201 subjects (95 females and 106 males) aged between 18 and 54, diagnosed with paranoid schizophrenia and being treated in psychiatric rehabilitation wards during the course of completing the study.

Compliance with ethical standards

The subjects received thorough information concerning the aim, course and conditions of participation and signed an informed consent form. All the participants were informed about the voluntary nature of participation in the study and the confidentiality of the obtained data. Each of the subjects personally consented to performing the study procedure. The procedures that were carried out in hospitals took place in each case after obtaining consent from the medical personnel. All the research procedures were performed in line with the 1964 Declaration of Helsinki with further amendments concerning studies with human participants. The Research Ethics Committee also approved the study.

METHODS

In order to measure the explanatory variable the following methods were used:

- The Family Strengths Scale (MSR), developed by Olson, Larsen, and McCubbin [33] in the Polish adaptation by Jelonkiewicz, Kosińska-Dec and Zwoliński [34], which is used to measure the variable of positive beliefs concerning trust and loyalty within the family. The scale demonstrated a high reliability coefficient (Cronbach $\alpha = 0.83$);
- In order to measure the variable labeled as life experiences – difficult situations, the research team adopted a survey created specifically for the purposes of the study. It was designed to measure life experience and coping with adverse life situations and their subjective outcomes for the social functioning of patients with schizophrenia. The subjects selected the occurrence of 14 difficult situations defined in line with literature as traumatic events during the course of the previous 12 months of their lives. The higher the number, the higher the intensity of the influence of the experienced situation during the course of the previous 12 months on the subject's self-assessed quality of life.
- The Perceived Social Support Scale (Berlin Social Support Scales-BSSS) in its Polish version by Jelonkiewicz, Kosińska-Dec, and Zwoliński [35,36]. Items number 2 and 5 in the instru-

ment were based on the Berlin Social Support Scales by Łuszczyńska, Kowalska, Schwarzer & Schulz [37], while items 4, 6 and 10 were based on the Scale of Social Support by Kmiecik-Baran [38]. The scale measures a patient's self-assessment of the type and intensity of the experienced support (information, emotional, instrumental and value-laden support) from certain social groups. For the purposes of the presented study, the number of social groups was restricted to a group of close ones (parents: father, mother and comrades-friends). The whole support scale demonstrated high reliability (Cronbach $\alpha = 0.95$), which is also true for support from fathers (Cronbach $\alpha = 0.95$), from mothers (Cronbach $\alpha = 0.92$) and from comrades (Cronbach $\alpha = 0.90$).

In order to measure the dependent (explained) variable the following measures were used:

- data from clinical interview – i.e., data from medical records (age of becoming ill, year of initial hospitalization, number of psychiatric hospitalizations, duration of the psychosis);
- The Berne Questionnaire of Subjective Well-Being (BSW) in its Polish adaptation by A. Kwiatkowska. A modification of the translation (approved by A. Kwiatkowska) was done by Mroziak, Jelonkiewicz, Kosińska-Dec and Zwoliński [35,36]. The used version of the questionnaire demonstrated a reliability of Cronbach $\alpha = 0.66$. The questionnaire comprised 28 items and allowed examining the level of experienced somatic complaints, level of the experienced depressiveness in terms of emotions, thoughts and behaviors concerning oneself, others and negative thoughts concerning the future and negative self-esteem;
- The Positive and Negative Syndrome Scale (PANSS) by Kay, Opler and Fiszbein, which is a clinical measure used to identify the presence and intensity of psychopathological symptoms in schizophrenia [39-41]. PANSS allows a clinical practitioner to assess positive, negative and general symptoms as well as to calculate a total score. High scores indicate the level of psychopathological symptoms' intensity. The scale was carried out by trained researcher. The instrument demonstrated good reliability (Cronbach $\alpha = 0.85$);
- The Mood Scale by Wojciszke and Baryła [42]. The MS was modified by Jelonkiewicz, Kühn-Dymecka and Zwoliński [36]. It measures positive and negative mood and the proportion of positive to negative mood; it also allows assessing the proportion of positive and negative mood in a subject. The scale has demonstrated good reliability, both for the Positive Mood Scale (Cronbach $\alpha = 0.86$) and Negative Mood Scale (Cronbach $\alpha = 0.89$);
- The General Health Questionnaire (GHQ) by Goldberg [43] – the Polish adaptation of the GHQ-12 scale by Makowska and Merecz [44] was used to measure mental health. The general score allowed a description of the sense of the psychological condition in subjects. The whole instrument demonstrated good reliability (Cronbarch $\alpha = 0.87$).

Statistical methods

The STATISTICA and SPSS PC software packages were used to statistically analyze the results of the study. The description involved numeric and percentage frequencies, means and standard deviations. The Kolmogorov-Smirnov test was used to verify the normality of the results' distribution. For all calculations, the adopted borderline level of statistical significance was 0.05.

At the first stage, the sample was described based on the intensity of all the examined variables. The second stage of statistical analysis involved measuring the strength of relationships between all the variables using the Pearson r correlation coefficient. The final element (i.e., concluding the ones aimed at providing answers to research questions) of the statistical analyses was performing path analysis (Structual Equa-

tion Model) in order to confirm the fit of the theoretical (research) model to the data collected.

RESULTS

The sociodemographic characteristics of the group

The clinical and sociodemographic portrayal of the sample of patients with paranoid schizophrenia is presented in Table 1 and Table 2.

The mean age of becoming ill in the sample was 21.6 (spread: 17-40), the mean duration of the disease was 10 years (spread 1-41). The mean number of hospitalizations was almost 5 (spread 1-40). The group of patients was homogeneous in terms of the average duration of each hospitalization. (Table 1).

Table 1. Clinical variables in patients with paranoid schizophrenia (N=201).

Study variables Index Value		
Age of becoming ill (years)	M Min-max	21.6 17-40
Duration of the disease (years)	M Min-max	10.07 1-41
Number of hospitalizations	M Min-max	4.84 1-40

The mean age in the sample was 28.9 (spread: 18-62). The percentage of male patients with schizophrenia in the sample was slightly higher than females. Most of the study participants completed high school (53.7%) and higher education (35.3%), while 73.6% of the subjects lived with their parent(s) and had not autonomised (Table 2).

Table 2. Sociodemographic portrayal of the sample (N = 201).

Sociodemographic variables		%
Gender	Female Male	47.3 52.7
Age	Mean Min-Max	28.97 18-62
Education	Elementary Vocational High school University	8.5 2.5 53.7 35.3
Source of income	Permanent job Permanent/temping job/ parents/annuities Temping job Temping job/parents/ scholarship Parents/other people Parents/annuities/social aids Scholarship Annuities Allowance/social aids/ annuities	10.4 16.0 3.5 ——— ——— ——— — 27.9 14.5 1.0 20.9 5.0
Living conditions	With both parents/ One parent With someone else Alone	50.7 22.9 13.4 10.9
Siblings	Only child One sibling Two siblings Three or more siblings	14.9 50.2 19.4 15.4
Parents' education	Father – elementary school – incomplete high school – high school – university – higher than university Mother – elementary school – incomplete high school – high school – university – higher than university	6.5 14.4 35.8 39.3 2.5 9.0 8.5 38.3 43.3 0.5
Family economic situation	Very bad/bad Rather bad Tolerable Rather good Good/very good	3.5 9.0 33.8 28.9 24.9

Characteristics of dependent variable in the participants

Data presented in Table 3 reveals that mean scores in all the scales used to measure the components of psychological condition were situated around the middle of the potential spread of the scale: for PANSS – 3.52 points (spread: 1.93-7.0), for GHQ – 2.32 points (spread: 1.0-4.0), for SWB – Somatic Complaints – 2.42 points (spread: 1.0-4.6); BSW – Self-Esteem – 3.48 points (spread:

1.3-5.0); BSW – Depressiveness – 2.75 points (spread: 1.0-5.0), for MS– Positive Mood – 3.95 points (spread: 1.5-7.0); MS– Negative Mood – 3.91 points (spread: 1.0-7.0). For the variable of self-assessed mental health (measured with the GHQ scale), the mean score was within the borderline of results (for the Polish sample) within norm (0-16 points). Although this result is interpreted to be within norm, based on the mean score it can be observed to be near the lower range borderline, which may suggest a generally low level of positive health experienced by the subjects (i.e., level of focus, feelings of happiness and playing a useful part, ability to face one's problems, make decisions, enjoy everyday activities etc.).

Table 3. Mean scores for indices of the dependent (explained) variable: psychological condition in patients during the course of suffering from schizophrenia (N=201).

Study variables Psychological condition	Index	Value	SD
Psychiatric symptomatology (PANSS)	M Min-max	3.52 1.93-7.0	1.33
Self-assessed mental health (GHQ)	M Min-max	2.32 1.0-4.0	0.68
Experiences psychological and physical general sensation (BSW) Somatic complaints Self-esteem Depressiveness	 M Min-max M Min-max M Min-max	 2.42 1.0-4.6 3.48 1.3-5.0 2.75 1.0-5.0	 0.75 0.88 0.73
Mood level (MS) Positive mood Negative mood	 M Min-max M Min-max	 3.95 1.5-7.0 3.91 1.0-7.0	 1.07 1.18

Note: psychiatric symptomatology index (PANSS) – level of current disease symptoms, assessed in terms of deficits and cognitive distortions, dysphoria, disorganization, self-disorders, depression, catatonia and lack of insight (distribution), subjective assessment of somatic ailments, self-assessed mental health, assessed mood and depressiveness of the subject. MS (Mood Scale) – assessed proportion of positive to negative mood in a subject.

Characteristics of the independent variable in the participants

In order to address the research questions at the subsequent stage of the statistical analyses, a percentage distribution was calculated for the difficult situations (including traumatic events) experienced by the subjects during the previous 12 months of their lives (Table 4).

Table 4. Life experience – difficult situations and traumatic events – frequencies of occurrence of adverse difficult situations in the sample of patients with paranoid schizophrenia in the period of 12 months prior to the study (N=201).

Life experience (difficult situations and traumatic events)	Number of subjects who declared presence of the situation (N=201)	
	N	%
sit. 1: I have experienced excessive pressure for success from others	83	42.0

sit. 2: I have failed to achieve a goal important to me	83	42.0
sit. 3: I have experienced failure, disease	106	53.8
sit. 4: I have had continual health problems	129	65.5
sit. 5: I (have) experienced tension or stress for a longer period	38	19.3
sit. 6: an emotional relationship important to me has ended	65	33.0
sit. 7: for a longer period I was/have been in a heated conflict with a person important to me	35	17.8
sit. 8: compared with other families, the economic situation of my family has deteriorated	18	9.1
sit. 9: one of my parents has lost a job; my parents have stopped living together	15	7.6
sit. 10: one of my dear ones has become seriously ill	64	32.5
sit. 11: one of my close family members has died	63	32.0
sit. 12: it has happened that someone mocked, humiliated, mortified me	84	42.6
sit. 13: I have been seriously threatened with physical violence	32	16.2
sit. 14: another unfavorable situation has happened to me	43	21.4

Note: sit. 1-14 – list of potential situations defined in literature as difficult, including those labeled as traumatic events.

The data presented in Table 4 reveals that individuals with paranoid schizophrenia have most commonly experienced the following difficult situations in the course of the previous year: "I (have) experienced tension or stress for a longer period" (sit. 5); "I have had continual health problems" (sit. 4); "it has happened that someone mocked, humiliated, mortified me" (sit.12), and the following: "I have experienced excessive pressure for success from others" (sit.1) and "I have failed to achieve a goal important to me" (sit. 2). Other important and relatively frequently occurring difficult situations were those connected with losing a dear one or that person becoming ill (sit.10 and 11). Therefore, it can be noted that patients with paranoid schizophrenia who have experienced difficult situations concerning mainly adapting to the disease, experiencing a sense of social non-acceptance (mocking, shame and sense of humiliation), excessive social pressure for achievements and losing a dear person in the course of the previous 12 months of treating the psychosis.

With regard to the subjective assessment of beliefs concerning mutual trust and respect among family members, pride and loyalty towards the family as well as competence and efficiency in dealing with life situations held by patients with schizophrenia, the obtained total MSR score was also within the borderline of average scores. The results suggest that the subjects possessed an average level of beliefs concerning mutual trust and loyalty in the families in which they functioned on a daily basis (Table 5).

Table 5. Mean scores for indices of the MSR results (N=201).

Study variables Positive beliefs	Index	Value	SD
Family Strengths (MSR) total score	M Min-max	39.17 17-60	8.02

Note: MSR (Family Strengths scale) – general score is used to assess the subject's positive beliefs concerning mutual trust and respect in the family, pride and loyalty towards the family and competence and efficiency in dealing with life issues.

Table 6 presents mean scores for the intensity of family and social support experienced by patients with paranoid schizophrenia.

Table 6. Perceived family and social support in a group of patients with paranoid schizophrenia (N=201).

Variables	M	SD
BSSS – perceived support from father	39.47	15.38
BSSS – support from mother	46.63	12.49
BSSS – support from comrades	36.90	12.01

Note: BSSS – Perceived Social Support Scale, Polish version by: Mroziak, Jelonkiewicz, Kosińska-Dec, Zwoliński (2005).

Mean scores for perceived support from parents (both mother and father) and comrades were diverse. The subjects experienced a highest level of support from their mothers, which was followed by fathers. The lowest rated type of perceived support was peer support (from com-

rades). Having considered the age of the subjects [28] it may be noted that they were young adults, yet mostly remaining under the care of parents or residing in 72% with either both or one parent (Table 2).

Characteristics of the relationship between variables

In order to extend the portrayal of mutual relationships between the variables within the model, the subsequent stage of the statistical analysis involved calculating Pearson correlation coefficients so as to measure the strength and direction of the relationships between environmental resources (family support – from mother and father and social support – from comrades) and the difficult situations experienced in the previous 12 months of the subjects' lives. The results of the statistical analysis are presented in Table 7.

Table 7. Environmental resources and life experiences in relation with indicators of psychological conditions in a sample of patients (P) with schizophrenia (N=201).

Patients with paranoid schizophrenia	MSR	Number of difficult situations
Support from father	.501***	-.225**
Support from mother	.392***	-.045
Support from comrades	.188*	-.062
Number of hospitalizations	-.139*	.221**
Psychiatric symptomatology	.217**	-.144
Self-assessed mental health	-.358***	.263***
Experienced somatic complaints	-.370***	.424***
Experienced depressiveness	-.382***	.323***
Positive mood	.337***	-.243**
Negative mood	-.335***	.347***

**p<0.05; **p<0.01; ***p<0.001.*

Note: MSR – Family Strengths Scale; Psychiatric symptomatology – PANSS; Self-assessed mental health –GHQ; Positive/negative mood – MS; Depressiveness and somatic complaints – Polish adaptation of the BSW scale; Support from mother, father, comrades – BSSS.

Data presented in Table 7 reveals that beliefs concerning mutual trust and respect among family members, pride and loyalty towards the family and competence and efficiency in dealing with life matters held by the subjects significantly and positively correlated with several variables, particularly with support from mother and support from father; it also correlated positively with support from comrades and – also positively – with the level of positive mood. The results suggest that the higher the convictions concerning mutual trust and respect, pride and loyalty in the family held by subjects, the higher the support from mother, father and comrades and more positive mood of a patient with paranoid schizophrenia. Higher support from father and mother and from comrades was associated with a lower frequency of reported difficult and stress situations experienced in the 12 months prior to the study.

A negative relationship was identified between the subjects' beliefs concerning mutual trust, respect, pride and loyalty in the family (MSR) with the following variables: number of hospitalizations, depressiveness and negative mood. Stronger beliefs concerning mutual trust and respect among family members, pride and loyalty towards the family and regarding competence and efficiency in dealing with life issues in the family were associated with a lower number of psychiatric hospitalizations, higher depressiveness and negative mood in the sample.

An analysis of the strength of the correlation between the variable of life experience (adverse life situations – difficult and traumatic events experienced in the 12 months prior to the study) and other variables in the model revealed that more difficult situations experienced in the preceding 12 months were associated with a higher level of the following: number of psychiatric hospitalizations, depressiveness, negative mood, experienced somatic complaints and experienced sense of mental health in patients with paranoid schizophrenia. Additionally, higher number of hospitalizations was observed to be associated with a lower intensity of positive mood. An interesting issue is the demonstrated significant, negative relationship between the experienced number of difficult situations and decreasing support from father. It suggests that the lower the support from the father of an individ-

ual with paranoid schizophrenia is, the higher the number of experienced difficult situations in the patient's daily life (and conversely). Support from mother and comrades were not significantly related either with beliefs concerning mutual trust and family loyalty or with the number of experienced difficult situations in the subjects' everyday life over the course of 12 months prior to the study.

The results of the statistical analysis presented so far provided only partial answers to the formulated research questions. In order to obtain a full answer to the questions and to reveal which family and social resources served as predictors that significantly explained (directly and indirectly) the psychological condition of patients with paranoid schizophrenia, path analysis was conducted. Thereby, the adopted theoretical model of the explanatory (family and social resources) and explained variables (psychological condition in the course of paranoid schizophrenia) was verified in an empiric manner. Figure 1 presents the obtained results of the structural equations' model.

Results of the path analysis presented in Figure 1 allowed the research team to adopt the following assumptions:

1) family resources (i.e., positive beliefs concerning trust and loyalty in the family – the so-called family strengths), significantly and directly influence a decline in perceiving their psychological condition (i.e., influence decreasing their level of focus, feelings of happiness and playing a useful part in what they are doing, being able to face their own problems, make decisions and enjoy everyday activities). Moreover, positive beliefs concerning family trust and loyalty significantly and directly influence decreasing depressiveness and negative mood and significantly influence increasing positive mood in patients diagnosed with paranoid schizophrenia. Patients' positive belief concerning trust and loyalty significantly correlate through the proxy of support from mother with a decline in the number of psychiatric hospitalizations. Also, interestingly, positive beliefs concerning family trust and loyalty significantly and positively correlated with an increase in psychiatric symptomatology through the proxy of support from father.
2) life experience intensifies disease indicators adverse to healing such as the following: number of hospitalizations, somatic complaints, depressiveness and negative mood. Indicators of family and social support also mediate the intensity of indicators of healing and attenuation of disease indicators. However, it needs to be noted that the source of support is highly important for the course of the disease. Support from mother was demonstrated to exert a significant yet weak influence on decreasing the number of psychiatric hospitalizations in subjects. More significance was discovered in the case of support from father and comrades – both of these types significantly influence decreasing psychiatric symptomatology.
3) Support from comrades also directly influences positive mood (higher support was related with higher positive mood in patients with schizophrenia). Moreover, support from colleagues was significantly negatively related with depressiveness (the higher the support, the lower the depressiveness). Interestingly, higher support from comrades was significantly related with lower self-assessed mental health, describing level of focus, feelings of happiness, ability to face one's problems, make decisions and enjoy everyday activities. Thus, the influence of peer relationships was demonstrated to be significant for the assessment of general psychological condition in the sample.

DISCUSSION

The results of the presented study confirmed the significant relationships between family resources and support from comrades and factors describing psychological condition of patients with paranoid schizophrenia. Interestingly, higher beliefs concerning mutual trust and respect among family members, pride and loyalty towards the family and competences and efficiency in managing life issues was associated with higher psychiatric symptomatology and higher self-assessed perceived mental health in subjects. The mentioned result may be explained in the following manner: patients with paranoid

schizophrenia, who possess a certain level of cognitive distortions perpetuated in the course of the disease, may display more overtly their own emotional and cognitive difficulties and psychiatric symptomatology (involving productive symptoms and other disorders within the personality structure, including cognitive ones) when faced with a situation in which beliefs concerning high trust in their family are exposed. The result may also be sample-specific; therefore, further studies of the mentioned relationship should approach it with caution. The literature of the past few years presented other researchers' conclusions that confirmed the significant influence of family and social support on the psychological and social functioning of adult patients with schizophrenia [18-27].

The presented work demonstrated a significant influence of positive beliefs concerning trust and loyalty in the family and the influence of perceived family support from father on psychiatric symptomatology (positive relationship) and a significant influence of support from mother on the number of psychiatric hospitalizations (negative relationship). The higher the support from mother, the lower the number of psychiatric hospitalizations, and the higher the support from father, the higher the declared psychiatric symptomatology in patients with paranoid schizophrenia. The result may suggest that a lacking sense of emotional anchorage and sense of security resulting from a father's stable attitude becomes a source of more frustration of emotional and social needs of the ill adult child. It may result in an enhanced negative evaluation of everyday life experiences and a sense of not handling daily life situation. Thus, as the results may show (similarly to some of the quoted studies) that mothers appear to be strongly involved and devoted to caring for the ill close family member [2]. Owing to their own experienced emotional states (e.g. guilt), they may deny the need for hospitalization more than fathers do or be more involved in the process of the adult child's treatment within the home environment. When it comes to fathers, on the other hand, the more they are perceived by their own ill adult child as supportive, the more often they notice psychiatric symptomatology in their close ones. The result may also suggest that a lacking sense of emotional anchorage and sense of security resulting from a father's stable attitude becomes a source of more frustration of emotional and social needs of the ill adult child. It may result in an enhanced negative evaluation of everyday life experiences and a sense of not handling daily life situation. A hypothesis that cannot be discarded is that patients themselves more quickly identify various psychopathological symptoms when feeling emotional support from fathers then they do towards supportive overprotective mothers. Some study result reports in literature point to the influence of cognitive distortions and a system of delusions on the emotional state and interpersonal relationships in a family with individuals suffering from paranoid schizophrenia [13,44].

The results of the presented study identifying a significant relationship between family resources (ill individual's beliefs concerning trust and family loyalty and perceived family support) and psychological condition and the dynamics of the course of schizophrenia, which find their explanation in the theory of family burden. It highlights the circular relationship between the psychological burden (distress) of the illness among family members and the psychological functioning of an individual with schizophrenia [4-7].

In line with the mentioned theory, some contemporary researchers note that experiencing family support and circular relationships between family and social resources of an individual with schizophrenia, and the psychological and social resources of each of the family members remain related with the course of schizophrenia, its treatment and the psychological condition of the patient [4-9,11-13]. The results of the presented study suggest that subjects who possess a higher level of internalized cognitions concerning mutual trust and loyalty among family members (and, therefore, a higher level of feeling secure within the family) are more ready to explicitly explore their negative emotional states, e.g. depressiveness in the face of their social settings. As Awad and Vorugant [7] note, usually higher intensity of productive symptoms or negative and the behavior disorders resulting from them are related with a higher sense of disease burden in the patients' caretakers. Many researchers note that social resources involving positive interpersonal relationships (within fam-

ily and social surroundings) play a regulatory role for emotions, thinking and behaviors of patients with mental illnesses in the situations of a chronic disease [29,30]. Some researchers indicate that lower perceptions of support from one's closest family may be connected with viewing the patients' own parents as less warm and more rejecting [45]. The presented study revealed a similar result, confirming the significance of perceptions of an attitude of trust towards parents as a potential predictor of the psychological condition of patients with schizophrenia. Taking into account a configuration of the relationships between the variables presented in Table 7, it may be inferred that an enhancement in subjects' sense of mental health in the situation of increasing number of difficult situations in their current autobiography combined with a decreasing positive mood and increasing negative mood and depressiveness may result from the functioning of defense mechanisms, for example denial, repression, rationalization or cognitive distortions accompanying the symptomatology of paranoid schizophrenia.

Apart from the demonstrated influence of family resources, another issue pointed to in the presented research work was the significant relationship between perceived social support from comrades and psychological condition in the course of schizophrenia. The significance of social support for an individual with schizophrenia and their family in the course of coping with the disease was suggested by the study results obtained by Chien Wai-Tong and colleagues [46], Duckworth and colleagues [20], Landon and colleagues [23], Magliano and colleagues [47,48], Ramirez and colleagues [49] Sawant and colleagues [24] and Umara and Uzma [27]. Bülbül and Eliüşük [50] studied a sample of 150 families with a patient diagnosed with schizophrenia and obtained results that indicated a significant negative relationship between the perceived social support and a sense of hopelessness in the patients' families.

The most commonly occurring difficult situations in the studied sample were connected with the following: chronic excessive stress connected with health problems, excessive stress related with feeling social non-acceptance (mocking, shaming), stress connected with social pressure on achieving successes and a situation of mourning. These result are consistent with numerous studies presented in literature, demonstrating vast evidence pointing to a significant role played by stress (difficult situations) in generating symptom relapses in schizophrenia and increasing the risk of its relapse [51,52].

LIMITATIONS

There are certain limitations to the presented study. The results concern young adults diagnosed with schizophrenia (mean age: 29). The mean duration of the disease (10.7 years) is symptomatic for a long-term course of the disorders. The results of the study may be generalized solely onto individuals diagnosed with schizophrenia with experience of a many-year-long disease course. No individuals with a short disease history or experiencing a crisis caused by their first psychotic episode participated in the study. The main methodological limitation was the sample heterogeneity. Sample inclusion was based, among others, on the criterion of patient's consent rather than random sampling. Nevertheless, the procedure of convenient sample is allowed in clinical studies. Owing to the diversity of the adopted variable measures based on self-description (which were necessary to carry out the research procedure), interpretation of the presented results requires caution.

CONCLUSION

In summary, it needs to be highlighted that family and social support from the peer environment are significant predictors improving the psychological condition of patients with paranoid schizophrenia. The presented study confirmed that the difficult situations experienced by the subjects in the previous 12 months of treatment (prior to the study) were significantly, directly and positively related with the number of psychiatric hospitalizations and with the level of somatic ailments, intensity of negative mood and depressiveness in the sample. However, no mediating role in the mentioned significant relationship between the experience of difficult situations and psychological condition was found for family and social support as was the case for the variable defined as positive be-

liefs concerning family trust and loyalty. In order to foster this psychological condition in the course of treatment and prevent relapses of the disease, educational and psychotherapeutic actions aimed at enhancing beliefs concerning the role of family and peer support in the healing process should be included in the long-term treatment of patients and their families. On this account, in dedicated therapeutic programs offered in the course of the whole long-term process of psychiatric rehabilitation it seems to be justified to perform therapeutic actions directed at correcting the appraisal of perceived stress, enhancing and broadening the psychoeducation of the family and the patient and fostering the awareness of the importance of family and peer support as vital predictors of recovery and preventing relapses in young adults suffering from paranoid schizophrenia.

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