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THE ROLE OF PSYCHOLOGICAL FACTORS IN THE PROGNOSIS OF SCHIZOPHRENIA

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Abstract : *The purpose of the present research is theoretical, empirical and practical. Thus, we tried to highlight and observe the difference between the parents of children diagnosed with schizophrenia who have dysfunctional cognitive schemas and the parents who have mentally healthy children and the way in which some differences are more pronounced in the first case than in the second.*

The research was conducted on a sample of 89 people, divided into three groups: the first group comprised 29 patients with a diagnosis of paranoid schizophrenia and schizo-affective disorder, the second group comprised 29 parents of schizophrenia patients and the third group, consisting of 31 subjects, parents of mentally healthy children with no family history.

The conclusions argue that there are significant differences in terms of dysfunctional cognitive schemas among parents of schizophrenia patients and parents of mentally healthy children.

The dysfunctional cognitive schemas found in parents with schizophrenia children are even more pronounced than those of mentally healthy children; they were supported by checking the average scores obtained by each participant.

Key words: *Maladaptive cognitive schemas, Etiopathogeny, Schizophrenia.*

Introduction

This research takes as its starting point the ideas of Laing (1959, cited in Hayes and Orrel, 2003, p 35), claiming that "schizophrenia does not simply occur without any apparent cause, but because the personal lives of individuals are intolerable and that "a retreat into madness" is often the only way you can solve the contradictions they are subject to." The same author argued that psychiatry has failed to integrate in the diagnostic the stress that schizophrenics often bear and which in many cases justifies their disorders. Studies on the role of social and family factors are based on the research of Faris and Durham (1939, cited Chirita and

Papari, 2002), who reported a higher frequency of schizophrenia in disadvantaged areas of major cities. The conclusion was that factors as social and family environments full of stress, lack of organization and poor economy are believed to create a vulnerability to schizophrenia.

The present study aimed to detect as many influences as possible that are exerted on the child's mental development, starting with the early interactions that occur between parents and them, to how to raise and educate them in terms of dysfunctional cognitive schemas.

Studies at this level show the importance of family communication both on

the onset of the disease and during its evolution (Pharoah et al., 2003, cited in Jeican, 2007). Most explanations and current research are biologically determined. There haven't been found psychological factors that cause schizophrenia from other humans, however there is strong evidence that psychosocial factors play an important role in determining the severity of the disorder at people with biological vulnerability and it causes psychotic episodes (Dindelegan, 2012, p 59)

Thus, we tried to highlight and differentiate between dysfunctional cognitive schemas of parents people diagnosed with schizophrenia and those of the parents having mentally healthy people, as well as the gradualness some are more pronounced than others. From an empirical point of view, the study brings data to reinforce the idea of the existence of relationships between psychosocial variables of proximity, family and the development of schizophrenia and completes this idea with empirical data showing that high scores on certain schemas dysfunctional cognitive schemas of the parent associate with high scores of the schizophrenic child, on some dimensions of the Positive and General Psychopathology subscales (PANSS). This has some significant implications for assessing the significance of the patient's family environment. Thus, it is important to maintain a high level of beneficial relationships in the family of the schizophrenic, to improve prognosis, to avoid relapse and to provide a good environment.

Methodology of Research

The objective of this research aims to identify the extent to which psycho-social factors of proximity - family contribute to the development and maintenance of a certain type of thinking and to identify differences in the dysfunctional cognitive schemas between parents of schizophrenic patients and parents of mentally healthy people. The hypothesis that initiated this research assumes that there is a significant association between high scores obtained by parents on the subscales of the Young Cognitive Schema

Questionnaire and those obtained by their schizophrenic children, on P and G subscales of PANSS Scale.

Research Sample

The research was conducted on a sample of 55 people divided into three groups. The first group consists of 15 subjects, clinically diagnosed with paranoid schizophrenia and schizo-affective disorder. Patients were hospitalized at the Clinic of Psychiatry "Dr. Gavril Curteanu" Clinical Hospital and others were registered at the hospital and were coming to consultation. The second group consists of 15 people, comprising parents of patients with schizophrenia (one parent from each patient). The third group is the control group of 25 subjects (one from each family), parents of mentally healthy children without personal and family history.

Instruments, procedures and data analysis

Young Cognitive Schema Questionnaire - Short form.

In order to evaluate these schemas, Young and his coworkers (Young et. al., 2003) developed the schema questionnaire. The YSQ-S2 short form consists of 75 items distributed in 18 subscales representing dysfunctional cognitive schemas: Abandonment/ Instability (AB); Mistrust/ Abuse (MA); Emotional Deprivation (ED); Defectiveness/ Shame (DS); Social Isolation/ Alienation (SI); Dependence/ Incompetence (DI); Vulnerability to Harm or Illness (VH); Enmeshment/ Undeveloped Self (EM); Failure to Achieve (FA); Entitlement/ Grandiosity (ET); Insufficient Self-Control/ Self-Discipline (IS); Subjugation (SB); Self-Sacrifice (SS); Approval-Seeking/ Recognition-Seeking (AS); Negativity/ Pessimism (NP); Emotional Inhibition (EI); Unrelenting Standards/ Hypercriticalness (US); Punitiveness (PU) (Dindelegan, 2008).

To establish the fidelity of the scale 160 subjects were included, young and mature. The administration of the tools was made both collectively and individually. The questionnaire has a very good fidelity, yielding an alpha Crombach = .96. Crombach coefficients were also calculated for the



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subscales (between .68 - .90), supporting a good fidelity of subscales (Dindelegan, 2008). The first tool used to validate the YSQ-S3 questionnaire is SPIN-Social Phobia Inventory, adapted to the Romanian population by Chereji (2003, as cited in Dindelegan, 2008). YSQ-S3 subscales demonstrated a good predictive validity.

PANSS Evaluation Scale (Positive and Negative Syndrome Scale)

It is an assessment tool with seven 7 levels of intensity in the form of a formalized semi-structured interview that assesses the dimensions of positive symptoms, negative symptoms or other type of symptoms. It includes 33 items depicting: Positive Scale score (P), Negative Scale score (N) Composite Index (Scale Positive minus Negative Scale), General Psychopathology Scale (G), Supplemental Aggression Risk (S) and total score.

The investigated population is made up of people aged over 18. Cronbach's alpha internal consistency index was calculated for the entire Romanian normative sample (N=83). For the standard model, the syndrome scales (Positive, Negative and General Psychopathology) have shown adequate internal consistency, with alpha values of .83, .71 and .74; obviously the lowest inter-item correlations belong to the General Psychopathology Scale as it captures the symptoms of a wide range of psychopathology. The subscales of the pentagonal model obtained adequate internal consistency of the coefficients ranging between .60 and .78. Research on using the PANSS scale was extensive, a simple search of the number of occurrences of the PANSS in PsychINFO database (<http://romania.testcentral.ro>, 30.04.2013) presented 536 records for the period 1985-2005.

The research was conducted in the period January 1st 2013- April 25th 2013 in the Clinic of Psychiatry "Dr. Gavril Curteanu" Clinical Hospital. The average duration of each appointment was 30-60 minutes for the PANSS questionnaire and 10-15 minutes for the YSQ questionnaire.

Results of Research

After verifying the shape distribution of the scores of parents of schizophrenic children, for the 18 subscales of the YSQ: AB, MA, ED, DS, SI, DI, VH, EM, FA, ET, IS, SB, SS, AS, NP, EI, US, PU we used the Kolmogorov-Smirnov test and we obtained a z which corresponds to the values: .561, 1.07, .769, 1.01, .637, .973, .470, .707, .853, 1.38, .985, .786, .670, .712, .726, 1.12, .900, .920 and a significance level $p > .05$ on subscales AB, MA, ED, DS, SI, DI, VH, EM, FA, IS, SB, SS, AS, NP, EI, US, PU; thus, the result shows that the population distribution is symmetric for these items. We obtained a significance level $p < .05$ at the subscale ET, with the result that the population distribution is asymmetrical at this item. After verifying the shape distribution of the scores of people suffering of schizophrenia, for the 13 subscales of PANSS: G2, P1, G9, P6, G14, P3, G1, G6, G3, P5, G10, G12, G16, we used Kolmogorov-Smirnov test and we obtained a z which corresponds to the following values: 1.54, 1.94, 1.94, 1.55, 1.30, 1.46, 1.01, 1.18, .72, 1.46, 2.19, .96, 1.30 and a significance level $p > .05$ on subscales: G14, G1, G6, G3, G12, and G16; thus, the result shows that the population distribution is symmetric for these items. We obtained a significance level $p < .05$ on subscales G2, P1, G9, P6, P3, P5 and G10, with the result that the population distribution is asymmetrical at the specified items.

Table no. 1 Analysis results of the Bravis-Pearson r test

		g2	p1	g9	p6	g14	p3	g1	g6	g3	p5	g10	g12	g16
r	ED	-.27	-.033	-.059	.107	-.058	.024	.175	.294	.039	-.229	-.083	.030	-.058
	AB	-.49**	.101	.082	.102	-.128	.110	.016	.142	.055	-.080	-.105	-.173	-.211
	MA	-.151	-.164	.055	.174	-.032	-.032	-.062	.434*	.111	-.123	-.247	-.108	-.165
	SI	-.613**	.103	-.004	.299	-.099	-.116	-.111	.275	-.030	-.164	.173	.090	.134
	DS	-.058	-.221	-.485**	-.242	-.201	-.185	-.061	-.242	-.264	-.068	.006	.023	.227
	FA	-.280	-.081	-.026	.147	.093	.124	.138	.219	-.011	-.063	.012	.024	-.049
	DI	-.272	.065	-.097	-.217	.021	-.078	.063	.032	-.342	.000	.039	-.058	-.299
	VH	-.282	-.088	-.303	-.019	-.079	-.148	.070	-.136	-.177	-.014	-.173	-.135	.160
	EM	-.347	-.054	-.301	.341	.008	-.143	-.005	.131	-.044	-.060	.197	.161	.198
	ET	-.525**	-.009	.075	.174	-.180	-.267	-.035	.111	-.230	-.168	.020	.072	-.015
	IS	-.088	-.193	-.351	-.041	.095	-.291	.122	-.264	-.329	-.149	.179	-.118	.171
	SB	-.064	-.331	-.493**	-.304	-.230	-.440*	-.281	-.209	-.157	-.190	-.124	-.063	.276
	SS	-.224	.181	.104	-.022	.279	.062	.153	-.113	-.052	-.128	.512**	.225	.271
	AS	-.154	-.277	-.044	.342	.035	-.280	-.046	.200	.152	-.272	.157	-.215	.239
	NP	-.047	-.432*	-.161	.309	.207	-.265	.066	.100	-.244	-.150	.071	-.010	-.139



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	EI	-.129	.285	-.068	-.188	.177	.090	.252	-.162	-.116	.218	.122	.030	-.067
	US	.107	.156	.209	-.011	.190	.258	.077	-.068	.066	.376*	-.151	-.068	-.098
	PU	.048	.046	-.208	-.038	-.144	.126	.166	.133	.105	-.305	.018	.074	-.099

Correlations

** Correlation is significant at the 0.01 level 2-tailed

* Correlation is significant at the 0.05 level 2-tailed.



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To check if there is a significant positive correlation between the results of parents with schizophrenic children at the Young Questionnaire subscales and the results of their children at the P and G subscales of PANSS rating scale, we calculated the Pearson correlation coefficient r .

We used the Bravis-Pearson correlation coefficient r for all variables because we wanted to outline the relationship between all variables in common, without losing determination index and having a wider observation of the subscales and because the significance thresholds are far from the critical threshold of .05 and also because we knew that Kolmogorov-Smirnov test z is inexact in such cases.

Following the interpretation of Table No. 1 we see that there are significant associations between the following subscales: AB and G2, SI and G2, ET and G2, NP and P1, SB and G9, DS and G9, SB and P3, MA and G6; US and P5, SS and G10. In the case of insignificant coefficients ($p > .05$), the correlation is not linear for the respective variables.

The condition of the normality of distribution the variables Abandonment/Instability (AB) and Anxiety (G2) was verified using Kolmogorov-Smirnov z , the results of the variables Abandonment / Instability (AB) [KS $z = 1.07$, $p > .05$] and Anxiety (G2), [KS $z = 1.54$, $p > .05$], statistically significant, show that the variables aren't normally distributed. According to these results, there is a negative correlation between the subscale Abandonment/ Instability (AB) and Anxiety subscale (G2), $r(27) = -.49$, $p < .01$ we conclude: *if parents with schizophrenic children get high scores on the subscale*

Abandonment / Instability (AB), their children tend to get lower scores on Anxiety subscale (G2). While r is an expression of size effect (with reference to Cohen's criteria (1988, as cited Labar, 2008, p 83), we may say that the relationship between Abandonment/Instability (AB) and Anxiety (G2) is weak ($R^2 = 0.05$).

The condition of the normality of distribution the variables Social Isolation (SI) and Anxiety (G2) was verified using Kolmogorov-Smirnov z , the results of the social isolation variables (SI) [KS $z = 1.01$, $p > .05$] and Anxiety (G2), [KS $z = 1.54$, $p > .05$], statistically significant, show that the variables aren't normally distributed. According to the results obtained (Table No. 1), there is a positive correlation between the subscale Social Isolation (SI) and Anxiety subscale (G2), $r(27) = .613$, $p < .05$ we conclude: *if parents with schizophrenic children get high scores on the subscale Social Isolation (SI), their children tend to get high scores on Anxiety subscale (G2).*

The condition of the normality of distribution the variables Entitlement (ET) and Anxiety (G2) was verified using Kolmogorov-Smirnov z , the results of the variable Entitlement (ET) [KS $z = 1.38$, $p < .05$], statistically insignificant, show that variables have a normal distribution; the Anxiety variable (G2), [KS $z = 1.54$, $p > .05$], statistically significant, show that the variables aren't normally distributed. According to the results obtained (Table No. 1), there is a positive correlation between Entitlement (ET) and Anxiety subscale (G2), $r(27) = .52$, $p < .01$ we conclude: *if parents with schizophrenic children get high scores on the subscale Entitlement (ET), their children tend to get high scores on Anxiety subscale (G2).*



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The condition of the normality of distribution the variables Negativity/Pessimism (NP) and General Illusions (P1) was verified using Kolmogorov-Smirnov z , the results of the variable Negativity/Pessimism (NP) [K-S $z=.726$, $p >.05$], statistically significant, show that the variables aren't normally distributed and for the variable General Illusions (P1) [K-S $z=1.94$ $p <.05$], statistically insignificant, show that variables have a normal distribution. Application conditions being met, we calculated the Pearson correlation coefficient r (0.18). According to the results obtained (Table No. 1) there is a negative correlation between subscale Negativity/Pessimism (NP) and the subscale General Illusions (P1) $r(27) = -.43$ $p <.05$ we conclude: *if parents with schizophrenic children get high scores on the subscale Negativity/Pessimism (NP), their children tend to get low scores on General Illusions subscale (P1).*

The condition of the normality of distribution the variables Subjugation (SB) and Unusual Thought Content (G9) was verified using Kolmogorov-Smirnov z , the results of the variable Subjugation [KS $z = .786$, $p = .05$] and Unusual Thought Content (G9) [KS $z = 1.94$ $p <.05$], statistically insignificant, resulting in the fact that the variables are normally distributed.

The condition of linearity between Subjugation (SB) and Unusual Thought Content (G9) subscales was verified by inspection of the cloud of points. Application conditions being met, we calculated the Pearson correlation coefficient r (0.24). According to the results obtained (Table No. 1) there is a negative correlation between Subjugation (SB) and Unusual Thought Content (G9) subscales, $r(27) = -.49$ $p <.01$ we conclude: *if parents with schizophrenic*

children get high scores on the subscale Subjugation (SB), their children tend to get low scores on Unusual Thought Content (G9).

The condition of the normality of distribution the variables Defectiveness/Shame (DS) and Unusual Thought Content (G9) was verified using Kolmogorov-Smirnov z , the results of the variables, Defectiveness/Shame (DS) [KS $z = .637$, $p >.05$] and Unusual Thought Content (G9), [KS $z = 1.94$, $p >.05$], statistically significant, show that they aren't normally distributed. Application conditions being met, we calculated the Pearson correlation coefficient r (0.23). According to the results obtained (Table No. 1) there is a negative correlation between Defectiveness/ Shame (DS) and Unusual Thought Content (G9) subscales, $r(27) = -.48$ $p <.01$, we conclude: *if parents with schizophrenic children get high scores on the subscale Defectiveness/ Shame (DS), their children tend to get low scores on Unusual Thought Content (G9).*

The condition of the normality of distribution the variables Subjugation (SB) and Hallucinatory Behavior and associated delusions (P3) was verified using Kolmogorov-Smirnov z , the results of the variable Subjugation (SB) [KS $z = .786$, $p = .05$] and Hallucinatory Behavior and associated delusions (P3), [KS $z = 1.46$ $p >.05$], statistically significant, show that the variables aren't normally distributed. Application conditions being met, we calculated the Pearson correlation coefficient r (0.19). According to the results obtained (Table No. 1) there is a negative correlation between Subjugation (SB) and Hallucinatory Behavior and associated delusions subscales (P3), $r(27) = -.44$ $p <.05$, we conclude: *if parents with schizophrenic children get high scores on the subscale Subjugation (SB), their*

children tend to get low scores on Hallucinatory Behavior and associated delusions (P3).

The condition of the normality of distribution the variables Mistrust/ Abuse (MA) and Depression (G6) was verified using Kolmogorov-Smirnov z, the results of the variable Mistrust/ Abuse (MA) [KS z = .769, p = .05], statistically insignificant, show that the variables are normally distributed and Depression (G6), [KS z = 1.18 p > .05], statistically significant shows that the variables aren't normally distributed. Application conditions being met, we calculated the Pearson correlation coefficient r (0.18). According to the results obtained (Table No. 1) there is a positive correlation between Mistrust/ Abuse (MA) and Depression (G6) subscales, r (27) = - .43 p < .05; we conclude: *if parents with schizophrenic children get high scores on the subscale Mistrust/ Abuse (MA), their children tend to get high scores on Depression (G6).*

The condition of the normality of distribution the variables Unrelenting Standards (US) and Grandiosity (P5) was verified using Kolmogorov-Smirnov z, the results of the variable Unrelenting Standards (US) [KS z = .90, p > .05], statistically significant, show that the variables aren't normally distributed and Grandiosity (P5), [KS z = 1.46 p < .05], statistically insignificant, show that the variables are normally distributed. Application conditions being met, we calculated the Pearson correlation coefficient r (0.18). There is a positive correlation between Unrelenting Standards (US) and Grandiosity (P5) subscales, r (27) = .37, p < .05: we conclude: *if parents with schizophrenic children get high scores on the subscale Unrelenting Standards (US), their children tend to get high scores on Grandiosity (P5).*

The condition of the normality of distribution the variables Self Sacrifice (SS) and Disorientation (G10) was verified using Kolmogorov-Smirnov z, results of the variable Self Sacrifice (SS) [KS z = .67, p > .05], statistically significant, show that the variables

aren't normally distributed and Disorientation (G10) [KS z = .21, p < .05], statistically insignificant, show the fact that the variables are normally distributed.

The condition of linearity between Self Sacrifice (SS) and Disorientation (G10) subscales, we calculated the Pearson correlation coefficient r (0.26). According to the results obtained (Table No. 1) there is a positive correlation between Self Sacrifice (SS) and Disorientation (G10) subscales, r (27) = .51, p < .01; we conclude: *if parents with schizophrenic children get high scores on the subscale Self Sacrifice (SS), their children tend to get high scores on Disorientation (G10).*

Discussion

In conclusion, the hypothesis that there is a significant association between high scores obtained by parents at Young Cognitive Schema Questionnaire subscales and those of their schizophrenic children at P and G subscales of PANSS, is partially supported for 5 of the subscales, namely: Abandonment/ Instability and Anxiety (AB and G2), Social Isolation and Anxiety (SI and G2), Entitlement and Anxiety (ET and G2), Mistrust/ Abuse and Depression (MA and G6), Unrelenting Standards and Grandiosity (US and P5), Self Sacrifice and Disorientation (SS and G10).

Conclusion

According to our research hypothesis, the results we obtained conclude that the combination of high scores of parents of schizophrenic children, at the subscales Abandonment/ Instability, Social Isolation, Entitlement, Mistrust/ Abuse, Unrelenting Standards and Self Sacrifice with the high scores of their children at the subscales Anxiety, Depression, Grandiosity and Disorientation is due to the influence that the parent has on the child because they spend a significant amount of time together and thus the parent has a bigger authority and influence. The child who lives and grows



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around a parent who has such strong cognitive schemas can develop traits such as anxiety, due to the environment and the effects of his parent's behavior on him; he may take some thinking styles through social learning which include anxiety.

Sociocultural studies try to prove that a bad pattern of behavior in the family, an oppressive atmosphere, a hyperactive schizophrenogenic mother, along with other negative influences, all have a degree of influence on the mental development of the child (Jeican, 2007). J. Harley (cited in Birt, 2001), states that any communication within families is mutual and is characterized by behavioral manifestations. So parents with certain strong dysfunctional cognitive schemas can manifest their outcomes on the child; such behavior may be a trigger or even an accelerator factor, if the child is already suffering of schizophrenia.

The correlation coefficient obtained between the five variables/subscales was statistically significant, indicating a linear moderate relationship between the subscales Abandonment/ Instability and Anxiety (Ab and G2), Social Isolation and Anxiety (SI and G2) Entitlement and Anxiety (ET and G2), Mistrust /Abuse and Depression (MA and G6), Unrelenting Standards and Grandiosity (US and P5), Self Sacrifice and Disorientation (SS and G10). This means that whenever you increase the level of one of the subscales dysfunctional cognitive schema questionnaire of the parent (eg. Abandonment/ Instability), increases the level of one of P or G subscales of PANSS rating scale of the schizophrenic child (eg. anxiety).

The practical implications of the results obtained in this study are clinical evidence for the activity. Accurate

knowledge of possible psycho-social factors involved in the development of diseases such as schizophrenia, correcting them and creating an appropriate family environment for the patient, can have amazing effects on the approach in terms of recovery and avoiding relapse.

A number of evidence supports psycho-education in the family as one of the "best practices" for young adults with schizophrenia and their families. Because of this compelling evidence, researchers at the University of Maryland have identified that psycho-education in the family - an evidence-based practice, should be offered to all families. This and other research studies have shown reduced rates of relapse and lower rates of hospitalization. Other findings include a significant number of patients rehabilitated professionally, lower care costs and improve family welfare (Herseni and Thoas, 2006). A meta analysis of 16 individual studies found that family interventions with less than 10 sessions have no effect on reducing family problems. There are also several controlled studies that support the effectiveness of single and multiple family interventions. Family psycho-education studies were conducted outside the United States, China, Norway, the Netherlands and with a Hispanic population of Los Angeles and California (Herseni and Thoas, 2006).

This study has aimed to highlight errors that can lead to a dysfunctional family communication, in finding more practical ways where intervention should be done within the schizophrenic's family. Ienciu, Romosan and Lazarescu (2012, p 250) mention the family perspective, especially the systematic one, and talk about a new

paradigm extending the modeling schizophrenia to socio-communicative level.

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