

RISK FACTORS FOR THE OUTCOME OF CHILD AND ADOLESCENT PSYCHOTIC DISORDERS – RETROSPECTIVE STUDY

ALINA BOHUȘ¹, VIOREL LUPU², IOANA MICLUȚIA³

^{1,2,3}“Iuliu Hațieganu” University of Medicine and Pharmacy Cluj-Napoca

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Abstract: Multiple relapses characterise the course of illness in most patients with schizophrenia. Identifying the patients at risk of relapse is necessary and sometimes, it may be difficult for the clinician. This study aimed at identifying the risk factors associated with the chronic course and multiple relapses in children diagnosed with Acute Psychotic Disorder, Schizophrenia or Schizoaffective disorder hospitalized in Pediatric Psychiatry Clinic, Cluj-Napoca, between January 2005 - December 2009. It is a clinical, analytical, observational, retrospective study. The patients were divided into two groups: a group with a favourable course of disorder, without relapses under treatment and a group with chronic course, with frequent relapses under treatment. The study confirmed statistically significant correlation between the presence of family history of schizophrenia, personal history of premorbid neurological disorders and dysfunctional family, and the severe course of psychotic disorders in children and adolescents.

Cuvinte cheie:
schizofrenie,
adolescenți, recăderi,
evoluție

Rezumat: Recăderile multiple caracterizează cursul schizofreniei, la majoritatea pacienților. Identificarea pacienților cu risc de recădere e necesară, dar uneori dificilă pentru clinician. Studiul de față și-a propus identificarea factorilor de risc asociați cu evoluția cronică și recăderile multiple la copiii și adolescenții diagnosticați cu Tulburare psihotică acută, Schizofrenie sau Tulburare schizoafectivă internați în Clinica Psihiatrie Pediatrică, Cluj-Napoca, în intervalul ianuarie 2005 - decembrie 2009. Este un studiu clinic, analitic, observațional, retrospectiv. Pacienții au fost împărțiți în două loturi: un lot cu evoluție favorabilă sub tratament, fără recăderi și un lot cu evoluție cronică sub tratament, cu recăderi frecvente. Studiul a confirmat corelații semnificative statistice între prezența antecedentelor familiale de schizofrenie, antecedentelor personale de afecțiuni neurologice premorbide, și a familiei dezorganizate, și evoluția severă a tulburărilor psihotice la copil și adolescent.

INTRODUCTION

Multiple relapses characterise the course of illness in most patients with schizophrenia. Identifying the patients at risk of relapse is necessary and sometimes, it may be difficult for the clinician.

PURPOSE

The main purpose of this study was to investigate whether the occurrence of environmental risk factors (complications throughout pregnancy/delivery, family climate, negative family events – death of one parent/parents' divorce, neurological disorders, previous somatic/psychical disorders, social-economic conditions, home background) or family risk factors have an impact on the outcome of psychotic disorders with early and very early onset.

The secondary purpose was to pursue the influence of the starting age, gender, intelligence quotient, disharmonic premorbid personality features on the evolution of the disorder.

METHODS

Study design. It is an analytical, observational, retrospective study, aiming at a well-defined category of participants, namely children and teenagers with psychotic disorders.

Participants. 142 subjects, aged between 7 and 17 years old were studied. They were patients hospitalized in the

Pediatric Psychiatry Clinic, Cluj-Napoca, within 5 years, January 2005 – December 2009, diagnosed with Acute Psychotic Disorder, Schizophrenia or Schizoaffective Disorder. One patient has only been taken into account once in the total amount of patients, subsequent hospitalizations being important for the study only regarding the evolution, thus avoiding the errors of the results by repeating the patients studied.

Study inclusion criteria were as follow: children and teenagers under 18, diagnosed with Acute Psychotic Disorder, Schizophrenia or Schizoaffective Disorder according to the DSM IV-TR and ICD-10 (3,4) international criteria, by the specialist in pediatric psychiatry. In all the cases, the family gave their consent for the necessary examinations in writing.

Exclusion criteria were as follow: patients whose onset age was over 18 (even if they had a clinical record while they were still in school), patients whose psychotic symptoms were a result of direct physiological effects of some substances (drug abuse/medication) or of some general medical condition, patients with incomplete medical records for whom insufficient data were found regarding the assessed factors.

Instruments. For data gathering, a registration form was used, which comprised the risk factors and the subjects' evolution. Information about age, gender, home background, social-economic conditions, family background, family history of psychiatric disorders, history of complications throughout pregnancy or delivery, personal history of severe acute or

¹Corresponding author: Alina Bohuș, Str. Vânătorului, Nr. 21/40, Cluj-Napoca, România, E-mail: alina_bohus@yahoo.com, Tel: +0744 626976
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chronic somatic disorders, history of drug usage, of neurologic disorders, of psychiatric disorders, information on premorbid personality features, intelligence quotient and the evolution of the patients within at least 2 years. Also, we have established that the starting age of the psychotic disorder is the age when the first positive symptoms occurred.

Procedure. The subjects included in the study according to the inclusion and exclusion criteria were submitted to a psychiatric examination, somatic and neurologic examination and laboratory investigations (blood analyses, brain imagistic, urine test for the drug use) thus excluding the occurrence of some medical conditions or of the substances abuse as being the cause of psychiatric symptoms, the diagnosis being established according to the DSM IV-TR and ICD-10 international criteria for the Acute Psychotic Disorder, Schizophrenia and Schizoaffective Disorder. Hetero-anamnesis was taken from the family, who provided the information necessary for the completion of the risk factors registration form. The patients were divided into 2 groups according to their evolutions: group I (n=59) with favourable evolution under treatment without relapses and group II (n=83) with chronic evolution under treatment with frequent relapses.

The study was accomplished with the approval of ethics committee from the University of Medicine and Pharmacy, Cluj-Napoca.

Data analysis. The data obtained were introduced in a SPSS data basis (variant 13) and subsequently processed by means of a statistic package. A simple descriptive statistics of the environmental and family factors incriminated as risk factors, but also the evolution of the cases was initially carried out. Then, an inferential statistics was used in order to spot any possible connection between the individual occurrence of environment factors and the outcome of the disorder as well as their association with family risk factors and the relation to the outcome. Non-parametrical tests of the relation between the two variables, measured on category scales were carried out. The analysis procedure consisted in the use of bi-varied distribution of the subjects in contingency charts of risk factor X evolution type. Each distribution was accompanied by the square hi value of the association test and the analysis of the statistical evolution of its value. To the square hi values (χ^2) we also added the nonparametric correlation quotient ϕ , having a variation interval between 0 and 1.

Study limits. As it was a retrospective study, we could not apply certain scales to the patients in order to quantify the gravity of the disorder so as to be able to quantify the influence of the environment factors on the gravity.

RESULTS

From 142 patients included in the study, 76,8% (n=109) had early onset (before the age of 18) and 23,2% (n=33) had very early onset (before the age of 13). 59 patients (41,54%) had a good outcome of the disease under medication, with long periods of remission and 83 patients (58,46%) had a bad outcome, with multiple relapses and short periods of remission.

The risk factors incriminated in the chronic outcome with frequent relapses in patients of this study were as follow: hereditary-collateral history of Schizophrenia, personal history of neurological disorders (motor and language retardation, impaired motor coordination, visual-spatial framing difficulties) and origin from disorganized families (table no. 1).

Table no. 1. Risk factors in the case of the evolution with multiple relapses of psychoses with an early start

Risk factor	χ^2	ϕ	p
Family history of schizophrenia	9,05	0,36	<0,05
Personal history of neurologic disorders	6,99	0,36	<0,05
Disorganized family	5,74	0,20	<0,05

Other two factors analyzed (the occurrence of complications during pregnancy or at delivery and QI under the inferior limit of normality) were at the limit of the statistical significance (table no. 2).

Table no. 2. Factors at the limit of the statistical significance in relation to the evolution with multiple relapses of psychoses with an early start

Risk factor	χ^2	ϕ	p
Occurrence of complications pregnancy/delivery	3,76	0,16	=0,052
Intelligence quotient	4,75	0,18	=0,09

Table no. 3. Correlation between age of onset and disease's outcome

Age of onset	t(140)=-0.83	p>0.05
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Table no. 4. Factors which did not correlate in a statistically significant way to the evolution with multiple relapses of psychoses with an early start

Risk factor	χ^2	ϕ	p
Origin background	0.07	0.02	>0.05
Gender	0.59	0.06	>0.05
Social-economic conditions	2.11	0.12	>0.05
Premorbid personality	2.53	0.13	>0.05
Personal history type of diseases	6,99	0,35	>0,05

DISCUSSIONS

The studies in the specialized literature have obtained different results as far as the influence of the environment factors on the onset and on the subsequent outcome of the psychotic disorders are concerned.

There are many studies which argue the hypothesis that the obstetrical complications represent risk factors for the development of Schizophrenia.(5,6,7,8) Other studies have shown that the identification of pre and perinatal risk factors have a low effect.(9) In our study, the correlation of the occurrence of pre and perinatal complications on the more severe evolution of the patients was at the limit of statistical significance. Some studies have been carried out showing that the neurologic disorders (motor skills and language retard, coordination disorders, fine motor skills disorders) from early childhood have been present in a significant percentage in patients with Schizophrenia.(10) In this study we have found a significant correlation between the outcome with multiple relapses and the occurrence of neurologic disorders.

The studies have shown an unfavourable evolution of Schizophrenia if some negative life events such as severe somatic diseases, death of family members and divorce of the

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parents overlap on a pre-existent genetic vulnerability.(11) In this study, we have identified a statistical significant correlation between the presence of disorganized families (through divorce, the death of one or both parents) and the unfavourable outcome of the disease. But the occurrence of chronic somatic diseases (bronchial asthma, diabetes mellitus) or of personal history of other psychic disorders was not significantly correlated to the evolution.

The occurrence of family history of Schizophrenia in the patients in this study correlated statistically significantly to the evolution, being in accordance with the studies in the literature. In our group of patients, the onset age, the social-economic conditions and gender did not correlate to evolution in a statistically significant way. Also, neither premorbid personality features of withdrawal/relational difficulties type did not correlate to outcome, despite their occurrence in high percentage – 28% of the total of patients.

The correlation between the level of intelligence and evolution situated at the limit of statistical significance, the evolution being the more severe as the level of intelligence is lower.

There were some limits of this study and generalization should be done with caution: first of all, the quite small group of patients for such a study on risk factors. Also, data accuracy could be influenced by the fact that most of them were retrospective data, but also by subjectivity and honesty of the family upon fill-in.

CONCLUSIONS

In this study, the influence of some of the studied risk factors on the evolution of psychotic disorders in children and teenagers has been confirmed.

The risk factors were as follows: family history of Schizophrenia, personal history of premorbid neurologic disorders (motor skills and language skills retard in early childhood, coordination disorders, and fine motor skills disorders) origin in a disorganized family.

At the limit of statistical significance there were the history of pregnancy/delivery complications and the level of intellectual development, factors which should be taken into account in the future studies. Generalization of data should be done cautiously due to the study limits presented previously.

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