Analysis of socio-demographic data from a group of children and adolescents diagnosed with psychosis, admitted to hospital Obregia over a period of 10 years

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ABSTRACT:
Neuropsychological development of children is a complex process, influenced by family factors, environmental and socioeconomic factors which have a huge impact, especially in the early years. Thus, exposure to certain risk factors and early social and family experiences influence child development and can promote the development of vulnerable structures that predispose to early onset of mental disorders. Individual risk factors (family members’ mental disorders, which are risk factors both genetic and environmental, disturbances factors acting pre and post-natal) and environmental factors play an important role in triggering the disease and in terms of its outcome, the association of several risk factors can alter prognosis.

Clinical material and method:
This paper aims to make an objective analysis of socio-demographic and individual characteristics (history of mental illness family history, school route and intellectual level) to a group of children and adolescents diagnosed with psychosis.

We analyzed a sample of 132 patients diagnosed with psychosis, aged between 9 and 17, hospitalized in the Psychiatric Clinic of Child and Adolescent Psychiatric Hospital „Prof. Al. Obregia” in Bucharest, during a 10 years period that had their first admission during 1998-2007.

The diagnosis was based on the DSM IV-TR criteria and the data were provided by the caregivers during patient hospitalization. We have not considered eligible for the study the children with IQ <50, chronic somatic disease, epilepsy or other neurological disorders.

Interpretation of results was made based on descriptive analysis of variables and parametric correlation Bravais - Pearson.

Results and conclusions:
In the group of patients considered, were observed statistically significant associations (p <0.01) between socio-demographic parameters followed (socioeconomic status, intra-familial relations, degree of urbanization of the region).

The combination of these predictors, with certain individual characteristics (family history of mental illness, school route, intellectual level), could influence the vulnerable „field“ on which disease onset occurs and can influence the picture debut.

Understanding and early identification of risk factors involved in triggering psychotic disorders should be a key objective in developing prevention strategies. Improving social relations, family and academic could act as protective factors, sanogenetic.

Key words: risk factors, socio-economical status, family, adolescent

REZUMAT:
Dezvoltarea neuropsihică a copilului este un proces complex, influențat de factori familiiali, de mediu și socio-economici, factori care au un impact uriaș în special în primii ani de viață. Astfel, expunerea la anumite factori de risc și experiențele sociale și familiale timpurii, pot influența dezvoltarea copilului și pot favoriza dezvoltarea unei structuri vulnerabile care predispune la un debut precoce al tulburărilor psihiice. Factorii de risc individuali (tulburări psihiice ale membrilor familiei, care reprezintă factori de risc atât genetici dar și de mediu, factorii perturbatori ce acționează pre și post-natal) și factorii de mediu joacă un rol important, atât în declanșarea bolii cât și în ceea ce privește prognosticul acesteia, asocierea mai multor factori de risc putând modifica prognosticul bolii.

Key words: risk factors, socio-economical status, family, adolescent

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Lucrarea și-a propus ca obiectiv să facă o analiză a factorilor socio-demografici precum și a unor caracteristici individuale (antecedentele heredo-colaterale de boală psihică, ruta școlară, nivelul intelectual) la un lot de copii și adolescenți diagnosticați cu psihoză.


Diagnosticul a fost stabilit pe baza criteriilor DSM IV-TR iar datele au fost cele furnizate în timpul anamnezei de către apărăntătorii pacienților. Nu am considerat eligibili pentru studiu copiii cu IQ <50, boli somatice cronice, epilepsie sau alte afecțiuni neurologice.

Interpreterea rezultatelor a fost făcută pe baza analizei descriptive a variabilelor și a corelației parametrice Bravais - Pearson.

Rezultate și concluzii:
În lotul de pacienți considerat s-a observat o asociere semnificativă statistic (p < 0.01) între parametrii socio-demografici urmăriți (statutul socio-economic, relațiile intrafamiliale, gradul de urbanizare a regiunii).

Asocieră acestor factori predictori cu anumite caracteristici individuale (antecedentele familiale de boală psihică, ruta școlară, nivelul intelectual) ar putea influența „terenul” vulnerabil pe care are loc debutul bolii, putând influența și tabloul de debut. Înțelegerea și identificarea timpurie a factorilor de risc implicați în declanșarea tulburărilor psihiotice ar trebui să fie unul dintre obiectivele principale în elaborarea strategiilor de prevenire. Îmbunătățirea relațiilor sociale, familiale, și academice ar putea acționa ca factori protectori, sanogenetici.

Cuvinte cheie: factori de risc, statut socio – economic, familie, adolescent

WORK HYPOTHESIS
A variety of sociodemographic, historical, and clinical correlations of work have been identified for persons with schizophrenia. Poor social skills have been understood as a core characteristic of schizophrenia, from its first conceptualization as a disorder. From an individual perspective, high costs are associated with unemployment in schizophrenia, such as living in poverty with an increased vulnerability to victimization (Lieberman et al., 2006). Among persons with schizophrenia, the predictors of better social skills include demographic characteristics such as being female (Mueser et al. 1990; Usall et al. 2002); At the environmental level, poorer social functioning is related to participation in less intensive rehabilitation programs and higher levels of ambient family stress (Miklowitz et al. 1983; Lieberman et al., 2006).

Interest in the spatial distribution of schizophrenia and the possible influence of the urban environment date back to the early twentieth century. The association described, between poor inner city areas and higher rates of hospital admissions with a diagnosis of schizophrenia, stimulated research on possible risk factors for schizophrenia related to the social environment and the debate on the relationship between socioeconomic position and risk of psychosis. (Gattaz et Busatto, 2009) Krabbendam and Van Os (Krabbendam et Van Os, 2005) conducted a meta-analysis of results from 10 such studies, all from developed countries, and found that on average the risk of schizophrenia in urban areas was about twice the risk in rural areas. The increased incidence of schizophrenia in urban areas could not be attributed to confounding or selection bias, such as distance from psychiatric services. The authors argued that mechanisms behind this association are not clear, but possibly involve gene – environment interactions. A systematic review of studies from developed countries (March et al., 2008), have investigated the spatial distribution of psychosis. They identified 20 studies examining the incidence of psychosis according to urbanicity and 24 studies comparing the incidence of psychosis between neighborhoods. Overall, urbanicity was associated with about a two fold increase in the incidence of schizophrenia, as compared to less-urbanized or rural areas.

Our paper supports the idea that while the total costs of care for patients who develop psychosis in childhood and adolescence may be influenced indirectly by intervention on sociodemographic factors in both the prodromal period (prevention) and after disease onset, respectively during treatment. Better socio-professional integration of patients and their family members, creating a harmonious family environment and an early identifying adolescents at risk, can lead to a significant decline in costs that would require social support for those with a family and socio-professional integration deficit.

PURPOSE
The present paper purposed to examine the demographic, socioeconomic and clinical factors related to a specific pattern of development in children with psychosis. We have searched the correlations between these factors and also describe our lot of patients.
CLINICAL MATERIAL AND METHOD:

We analyzed a sample of 132 patients diagnosed with psychosis, aged between 9 and 17, hospitalized in the Psychiatric Clinic of Child and Adolescent Psychiatric Hospital „Prof. Al. Obregia“ in Bucharest, in a period of 10 years who had their first admission during 1998-2007.

Patients were diagnosed with schizophrenia or affective psychosis (bipolar disorder, schizoaffective or unipolar major depression). The diagnosis was made according to ICD 10 and DSM IV criteria, using the psychiatric interview and K-SADS semi-structured interview.

a) Inclusion criteria:
- subjects ranged in age from 9 to 17 years (up to 17 years and 11 months, one day less than 18 years) after the onset of psychosis
- had at least one hospitalization in the Department of Psychiatry Child and Adolescent Psychiatric Hospital „Prof. Al. Obregia“ in Bucharest and stay in the clinic records;
- met criteria for ICD 10 and DSM IV-TR for the diagnosis of psychosis, schizophrenia or psychosis, affective respectively;
- had an IQ over 50
- careers consent to participate in the study, after having been explained and understood purpose of the study and clinical protocol

b) Exclusion criteria: 
- Were excluded subjects with moderate and severe mental delay and those with chronic somatic disease, epilepsy or other neurological disorders;

c) Description of the variables analyzed:

In this group of patients included in the study we analyzed the following clinical and sociodemographic variables and correlations between them:

- Age
- Sex
- Place of residence (urban or rural)
- Type of family which includes the subject: 1.organized, 2.disorganized or 3.institution / foster care
- Family environment: 1.harmonios or 2.tension (arguments, violence, alcohol)
- Socio-economic status of the family: 1.very good and good (at least middle income), 2. low (minimum income) or 3.poor (social assistance for socio-economic);
- Family history, where we considered the following categories: 1. insignificant, 2. psychosis of one or both parents, 3. Psychosis of others relatives, 4. Parent’s other mental illness
- Intelligence quotient (IQ): 1. IQ greater than or equal to 70, 2. 70 <IQ <50
- Kindergarten: 1. attended kindergarten at least 1 year, 2. did not attend kindergarten
- Preschooler route (premorbid) with the following: 1. normal school, with good and medium results 2. normal school, initially with good or medium results and then poor results, 3. normal school, with bad results and / or repeat years 4. special school 5. dropout school.

Note that all socio-demographic, family history and on family background data, as socioeconomic status, school route / premorbid functioning and medical history were obtained from families members, especially parents, of hospitalized patients registered in our clinic.

RESULTS

a) Descriptive statistics

We analyzed group of 132 subjects aged 9 to 17 years, with a mean age of 14.8 (SD-1.944) of which 65 (49.2%) were male and 67 (50.8 %) female. (Fig. 1)

Fig.1. Gender repartition

73 patients (55.3%) live in the urban areas and 59 (44.7%) in rural areas. (Fig. 2)

Fig.2. Type of areas
80 patients (60.6%) come from organized families, 48 (36.4%) from families broken by divorce or death of one parent, and 4 (3%) from a care institution (a topic is in foster care and three subjects were in foster care). (Fig. 3)

Fig. 3. Kind of family/ caregivers

For 79 subjects (59.8%), family environment (i.e. one in foster care) was - according to the patient and his parents - harmoniously, and in 53 (40.2%) family environment was tense. We felt tense family environment that environment with many disputes between family members, domestic violence, manifested on the subject or between other family members, educational measures inconsistent with punishment excessive, disproportionate, frequent consumption of alcohol by one of the parents. As shown, a very high percentage of subjects (40.2%) there was a tense family environment.

In terms of socio-economic status: 58 (43.9%) had a very good /good socio-economic status (i.e. higher income or the existence of a stable home and a stable job for at least one parent), 55 (41.7%) a low socio-economic status (low income, there is a home without a steady income security) and 19 (14.4%) a poor socio-economic status (unstable home, lack of means of subsistence, social assistance due socio-economic).

We analyzed the family history and found the following psychiatric conditions: insignificant (without psychiatric disorders of parents, siblings or extended family members - ascendants or collaterals of grade II or III) for 83 (62.9%) of subjects, psychosis of one or both parents in 20 (15.2%), psychoses of other family members (listed above) for 10 (7.6%), other chronic mental illness with fatal for 19 (14.4%) of subjects. (fig.4)

In terms of intelligence quotient (IQ), 124 subjects (93.9%) had normal level of IQ (>70) and 8 subjects (6.1%) had IQ < 70, but not below 50, since we excluded subjects with moderate or severe delay. Excluding the subject was made because of their very large differences in terms of evolution, prognosis, treatment response, quality of life, (re) integration of social and school, independent of the type of treatment used. Thus, we would like to specify that data QI posed to describe the study group. Studies of incidence and prevalence of psychosis onset in this age group shows the presence of mental delay in a significantly higher percentage compared to patients whose psychosis begins in adulthood. We also mention that measurement of QI was made after the first flare remission. We had no data on the premorbid IQ than a few patients with a history of psychiatric disorders, whereas in Romania is not a routine of IQ determination, so we could determine and measure any cognitive impairment compared with premorbid intellectual level.

Analyzing the distribution of cases according to IQ and type of regional area (Fig. 5), we observed that patients with a lower intellectual level are coming largely from urban areas (75%) compared with those whose intellectual level was normal (only 54% in urban areas). This can be considered an argument in support of gene-environment theory, degree of urbanization participating at disorder onset together with individual characteristics.

Scholar route:
Kindergarten: 83 subjects (62.9%) attended kindergarten at least 1 year and 49 subjects (37.1%) did not attend kindergarten, which could lead to the assumption that a large enough percentage have had adjustment prob-
lems which not allowed the integration of the community or could not be integrated into the community due to socio-cultural issues, economic or otherwise. In any case, those subjects that were not in kindergarten was certainly because of deprivation of a favorable context for the development, of adaptive skills and emotional and social skills, so useful for later social and school.

School route to onset (premorbid): With regard to school route premorbid period, 41 subjects (31.1%) attended normal school, with good or average to onset psychosis study, 47 subjects (35.6%) attended normal school, with good or medium initially and then have a period of decline in school performance by 3-6 months before the onset of psychosis (from premorbid or prodromal period), 29 subjects (22.0%) attended normal school but with poor results in school and repeat one or more academic years, 8 subjects (6.1%) attended special school, and 7 subjects (5.3%) were dropout school before the onset of psychosis.

b) Statistically significant correlations between the studied factors

Applying the parametric Bravais-Pearson correlation we found statistically significant correlations between the variables considered.

Thus, social status strongly significant correlates with the family atmosphere (Fig. 6), with the premorbid school route, and with the family history of mental illness, but in all 3 cases P-value <0.001 (significant at 0.01).

The atmosphere in the family is statistically significant correlated with family history of mental illness (p = 0.003) and also with the children’s evolution during kindergarten and school (p <0.001).

Employment in kindergarten and school route in the prodromal period are statistically significant correlated with family atmosphere in our group of children. (p = 0.001, respectively p = 0.004). A weaker correlation, but present and clinical important, is that which is observed between school performance and family history of mental illness, where p = 0.023 (p <0.05).

We couldn’t establish a correlation between intelligence and school route, but we want to emphasize that we have no information on a previously intellectual level, so we could determine and measure any cognitive impairment compared with premorbid intellectual level. From careers we found out that a quite large percentage of patients (37.90%) recorded a decrease in school performance compared to the previous level. (fig.7)
Fig. 6. Familial atmosphere vs. Social status

Fig. 7. Premorbid scholar route vs. IQ
DISCUSSION. CONCLUSIONS

- Our results show that association between socio-demographic parameters (economical status of families with adolescent’s psychosis, degree of urbanization of the region, the type of family) and individual features (family history of psychiatric disorders, scholar route of patient before disease’s onset, IQ level) can be considered at risk in triggering mental illness.
- School performance / school route is a factor correlated both with socio-demographic parameters and with child’s intellectual level; it is considered a part of a predictive picture for the child’s mental status decline.
- In this paper we could not establish statistically significant correlations between the onset of psychosis and sex, although the percentage of girls was sensitive higher than that of boys, similar to other findings from international literature.
- Understanding and early identifying the risk factors involved in triggering adolescent’s psychotic disorders should be one of the main goals in developing preventive strategies, and in improvement of social, familial, and academic relationships, that could delay the disorder’s onset.
- A real efficient intervention is based first of all on prevention. Although we cannot influence the genetic information, we do can influence the environmental factors, the psychosocial and education-al strategies considering familial factors associated with risk for psychiatric diseases.

REFERENCES: