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Original Article

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Study Family History of Psychiatry Disorders in Schizophrenia Patients

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Abstract

Background: Schizophrenia is a chronic heterogeneous mental disorder that often has debilitating long-term outcomes. Our aim in this study is to survey history of psychiatric disorders in first-degree relatives of schizophrenia patients and its association with the disease clinical and demographic profile.

Methods: In this retrospective study the hospital records of all schizophrenia patients that had been admitted in Ibn Sina Psychiatric Hospital from March 2018 to March 2019 were surveyed. Histories of any psychiatry disorders in the first-degree relatives of the schizophrenia patients were searched. The patients with positive family history were compared with those with negative family history in regard to age of onset, sex, negative symptoms, substance abuse and education level.

Results: Of 250 files that were studied, 62 (24.2%) patients had family history of psychiatry disorders. Schizophrenia (10.8%), schizoaffective disorder (7.2%) and bipolar disorder (4.2%) were the most common psychiatry disorders in first-degree relatives of schizophrenia patients. Male sex, lower age at onset, substance abuse, negative symptoms, and lower education were more frequently observed in schizophrenia patients with positive family history.

Conclusions: Our study demonstrated that family histories of schizophrenia, schizoaffective and bipolar disorder were higher in family history of schizophrenia patients than normal population. Furthermore, positive family history for psychiatric disorder is associated with worse prognosis in schizophrenia patients.

Keywords: Schizophrenia; Psychiatry disorders; Family history; Bipolar disorder; First-degree relatives

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Introduction

Schizophrenia is a severe, chronic, and heterogeneous mental disorder that often has debilitating long-term outcomes. Its lifetime prevalence rate is estimated to be approximately 1% worldwide in the adult population [1, 2]. Elucidation of etiological factors of schizophrenia remains a major challenge for researchers. In the last two decades several genome-wide association studies (GWAS) have been performed to unravel genetic causes of the disease and the role of familial genetic contribution to the disease formation [3-5]. Simultaneously, hundreds or even thousands of single nucleotide polymorphisms (SNPs) were reported, which individually could explain only a small fraction of the genetic contribution to the disease; however, cumulative effect of these risk variants may offer a larger share in genetic architecture of disease [6].

Family history of schizophrenia is the most important risk factor for schizophrenia [7]. Their meta-analysis found that estimates for schizophrenia risk were eight-fold for first-degree relatives of one proband with schizophrenia compared to healthy control probands and increasing to 11-fold for first-degree relatives with two probands with schizophrenia [8].

Recent studies have shown that the family history of axis I psychiatry disorders such as bipolar disorders, major depressive disorder and anxiety disorders are higher in schizophrenia patients than normal population [9-11]. Therefore, it could be hypothesized that the definition of familial loading based on the presence or absence of psychosis in families of patients with schizophrenia should be broadened by focusing on psychiatric disorder in general irrespective of a specific diagnosis.

Several studies have shown positive family history of psychiatry disorders in schizophrenia patients is associated with poorer prognosis and outcome [12, 13]. Younger age at onset and substance abuse are reported more in schizophrenia patients with positive family history of schizophrenia [14].

Studies about family history of psychiatric disorders in schizophrenia patients in Iranian population are rare. In this research, we have surveyed the history of psychiatry disorders among siblings, parents and offspring of a sample of Iranian inpatient schizophrenia patients. Furthermore, we will survey the association between family history for psychiatry disorders and the demographic and clinical profile of the disease.

Table 1. Family History of Psychiatry Disorders in First-Degree Relatives of Schizophrenia Patients

	Number (%)
Schizophrenia patients	250 (100%)
-FHx for psychiatry disorders	188 (75.8%)
+FHx for psychiatry disorders	62 (24.2%)

FHx: family history.

Table 2. Psychiatry Disorders in First-Degree Relatives of Schizophrenia Patients

Psychiatry disorders	Number (%)
Schizophrenia	27 (10.8%)
Schizoaffective disorder	18 (7.2%)
Bipolar disorder	12 (4.8%)
Major depressive disorder	4 (1.6%)
Obsessive compulsive disorder	2 (0.8%)

Materials and Methods

Our research is a retrospective study. We surveyed the hospital records of all schizophrenia patients admitted in Ibn Sina Psychiatric Hospital from March 2018 to March 2019. Histories of any psychiatry disorder in the first-degree relatives of the schizophrenia patients were searched. The patients were diagnosed to have schizophrenia according to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria by a board-certified psychiatrist. We looked for psychiatry disorders in just the first-degree relatives like father, mother brother, sister and children. The patients with positive family history for psychiatry disorders were compared with those with negative family history in regard to age of onset of schizophrenia, negative symptoms, sex, substance abuse and education. This research was approved by Shiraz University of Medical Sciences Review Board. It was approved by Shiraz Medical School ethical committee for human studies.

Statistical analysis

Obtained data were statistically analyzed with IBM SPSS Statistics 21.0 for Windows. Chi- Square and independent t tests were used, as appropriate, to compare the demographic and clinical characteristics of the two groups. P value less than 0.05 was considered as statistically significant.

Results

Of 250 files studied, 62 (24.2%) patients had family history of axis I psychiatry disorders. Schizophrenia (10.8%), schizoaffective disorder (7.2%) and bipolar disorder (4.8%) were the most common psychiatry disorders in first-degree relatives of schizophrenia patients. Tables 1 and 2 depict the family history of psychiatry disorders in schizophrenia patients.

Patients with positive family history had worse prognosis compared to their counterparts without positive family history (Table 3).

Discussion

To our knowledge this is the first report of family history of psychiatric disorders in Iranian schizophrenia patients. In line with previous studies [7-10], our research revealed that schizophrenia is the most common psychiatry disorder in first-degree relatives of schizophrenia patients. The lifetime risk of schizophrenia in first-degree relatives of our patients (10.8%) was near the lifetime risk of schizophrenia (8.5%) in the first-

Table 3. Demographic and Clinical Data of Schizophrenia Patients

Schizophrenia	+FHx for psychiatry disorders	-FHx for psychiatry disorders	P value
Female (%)	33	55	0.000
Age onset (mean)	18.45	25.17	0.000
Substance abuse (%)	21	15	0.000
Education (% lower than diploma)	51	24	0.000
Negative symptoms (%)	20	6	0.000

FHx: family history.

degree relative of schizophrenia patients in some western studies [15]. This demonstrates that in different culture risk of developing schizophrenia in first-degree relatives of schizophrenia patients is high. The rate of developing schizophrenia was more for developing any other psychiatry disorder in relative of schizophrenia patients in our study. This shows some specification for genes in schizophrenia. Our findings did not support some previous researches demonstrating similar genetic vulnerability among psychiatry disorders [11, 16]. In line with our findings, Jeppesen et al in their cohort study found that family history of psychotic mental disorders in contrast to non-psychotic psychiatry disorders were higher in schizophrenia patients [17].

Several researches have revealed early onset cases of schizophrenia are familial variant of the adult-onset schizophrenia and are associated with more family history of the disease [18, 19]. Early-onset cases have demonstrated more enduring clinical morbidity and psychosocial disability [20, 21]. In line with these studies, we found that Schizophrenia cases with positive family history for schizophrenia had lower age at onset, more negative symptoms, more rates of substance abuse and lower education.

Negative symptoms of schizophrenia form a complex clinical constellation of symptoms that challenge both diagnosis and treatment. By definition, negative symptoms mean the absence of normal functions [22]. Negative symptoms in schizophrenia patients have been reported in familial cases more often and have been associated with poor outcome and more disability [23, 24]. Similarly, we observed schizophrenia patient with positive family history were more associated with negative symptoms and had poorer outcome.

Several studies have report that schizophrenia patients with positive family history have younger age at onset and are associated with more substance abuse [25-27]. Our results showed that schizophrenia patients with positive family history have lower age at onset, are more male, have lower education attainment and these patients abuse substance more frequently. Our findings are in keeping with the results of the previous studies.

At the end, it needs to be noted that our study is preliminary and larger studies with more patients are needed to confirm the results.

Conclusions

We found that 24.2% of our schizophrenia patients had family history of psychiatry disorders. Schizophrenia, schizoaffective and bipolar disorders were the most common psychiatry disorders in the family history of our patients. Our results showed that schizophrenia patients with positive family history were more associated with lower age at onset, male sex, substance abuse, negative symptoms and lower education.

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None to declare.

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Conflict of Interest

All authors declare no conflict of interest.

Author Contributions

All the authors contributed to study designing, data collection, data analysis and writing the manuscript. Dr. Arash Mowla is the principal investigator of this research. All authors read and approved the final version of the manuscript.

Data Availability

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

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